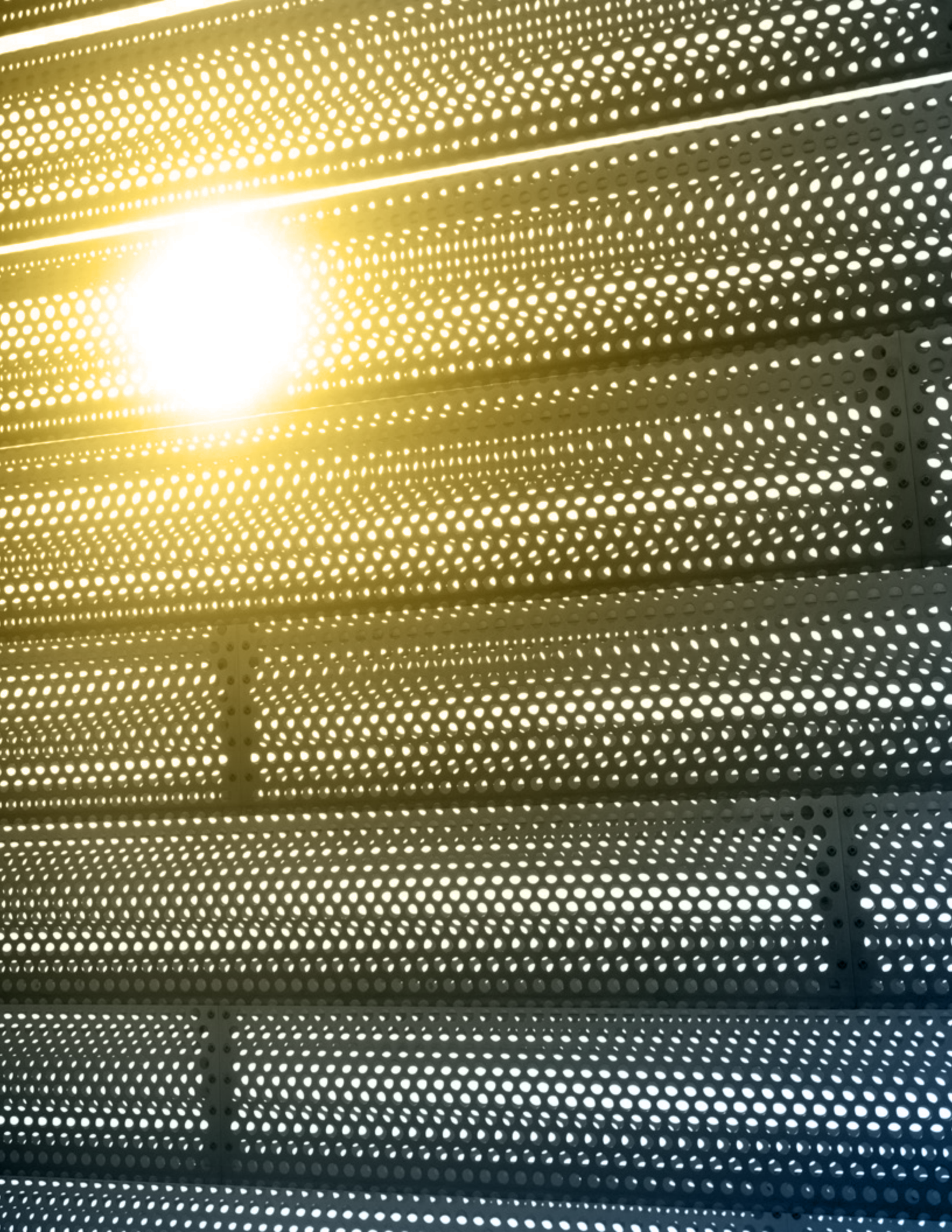




TO BOLDLY GO
A STRATEGIC VISION FOR UC DAVIS

UCDAVIS



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EXECUTIVE SUMMARY

THE UNIVERSITY OF CALIFORNIA, DAVIS contains an extraordinary breadth of disciplinary expertise that has grown and been nurtured over the decades. One of our enduring strengths is the community's commitment to collaborate and cooperate in research and education. Our success will rest heavily on our ability to leverage this great strength, identify priorities and build academic excellence.

UC Davis' strategic plan, "To Boldly Go," outlines the aspirations and methods for guiding the university to new heights of distinction over the next 10 years. The plan draws on our responsibility as a public land-grant university and maximizes our opportunities as a driver of innovation and economic growth for the public good.

This document is the product of extensive input and discussion from UC Davis stakeholders around the world, including faculty, alumni, students, staff and donors. The university received more than 900 ideas about how it can grow stronger as a model of academic excellence, social mobility, diversity and leadership in addressing some of the world's most pressing issues.

After analyzing all of the feedback, the Steering Committee identified five major goals to frame the plan.

Goal 1: Provide an educational experience that prepares all of our students to address the needs and challenges of a diverse and changing world.

- ▶ UC Davis must evaluate its teaching methods and subject matter for undergraduate and graduate education. Experiential learning outside the classroom through fellowships, internships and

international experiences should be increased to better prepare students for careers. Consideration should also be given to a wider range of classroom experiences, including online and technology-enhanced courses.

Goal 2: Enable and support research that matters at the frontiers of knowledge, across and between the disciplines, in support of a healthy planet and the physical and societal well-being of its inhabitants.

- ▶ UC Davis will leverage its interdisciplinary partnerships, identify the most promising areas of future research, create new research spaces and focus on investments to support these areas. Increased dialogue and coordination will be critical in advancing this goal. Advances in data science and "research matchmaking" may facilitate deeper partnerships between campus units and external organizations, including government and industry.

Goal 3: Embrace diversity, practice inclusive excellence and strive for equity. Make UC Davis a place of excellence for learning and working by supporting a culture that values the contributions and aspirations of all our students, staff and faculty; promotes wellness and a culture of sustainability; and cultivates the open interchange of ideas.

- ▶ The vice chancellor of Diversity, Equity and Inclusion will lead the effort to ensure best practices in all facets of campus diversity. Initiatives would explore ways to expand free expression,



multicultural engagements and diversity in recruitment of students, staff and faculty. Greater emphasis would be placed on addressing students' financial and mental health needs and improving both the physical campus environment and sense of shared purpose.

Goal 4: Support our community, region, state, nation and world through mutually beneficial and impactful partnerships that reflect a firm commitment to our mission and increase the visibility and reputation of the university.

- ▶ UC Davis must increase its visibility among policymakers, industries, grassroots organizations and other stakeholders. Scholarship on issues of public concern will be key, and developing a formal UC Davis program in Public Policy is recommended. UC Davis can further leverage its proximity to the state Capitol by serving as a primary advisor for policymakers. UC Davis Health can also build on its many beneficial relationships throughout Northern California.

Goal 5: Create an intellectual and physical environment that supports the development of

an innovative and entrepreneurial culture that extends the benefits of our research activities beyond the boundaries of the university.

- ▶ As one of the world's top public research universities, UC Davis must build on its programs that support innovation and entrepreneurship. Consideration should be given to creating incubator spaces that house collaborative and innovative projects. Aggie Square in Sacramento offers significant opportunity to advance this goal by connecting UC Davis with the region's entrepreneurs and business leaders.

NEXT STEPS

"To Boldly Go" is a living document that will result in broader discussions about how to achieve and sustain these five goals. A new committee or working groups will be established to develop an implementation plan, in consultation with the Academic Senate and other campus constituencies, and to track and report progress using a series of metrics and benchmarks outlined in the appendices.

TIMELINE

FOR STRATEGIC PLANNING PROCESS

THE DEVELOPMENT OF THIS PLAN occurred over the period from October 2017 to September 2018. The first draft of the plan was based on input received from October 2017 to June 2018, at which time a preliminary draft was released for public comment. The final plan was developed after consideration of feedback provided from June to September 2018. Major milestones in the process are described below.

October 2017

November 2017

March 2018

Planning began with a retreat on Oct. 10, 2017, that was attended by campus leadership and representatives of internal and external stakeholder groups. This retreat included three planning exercises focused on a consideration of future trends that might impact the university over the coming decade, a SWOT (strengths, weaknesses, opportunities, threats) analysis, and small group discussions of a set of critical questions facing the university. Key findings of the SWOT analysis included:

Strengths:

- ▶ New leadership with Chancellor
- ▶ Diversity of student population
- ▶ Collegiality and excellence of faculty and staff
- ▶ Commitment to the public good and big issues that matter
- ▶ Great location between state Capitol and Silicon Valley

Weaknesses:

- ▶ Housing availability and cost
- ▶ Lack of faculty diversity
- ▶ Aversion to risk and change
- ▶ Aging physical infrastructure and lack of interdisciplinary space

Opportunities:

- ▶ Better leveraging location in the Central Valley
- ▶ Intellectual capital – ability to focus on health care and climate change as examples
- ▶ Leveraging technology in delivery of education (e.g. online)
- ▶ Workforce development

Threats:

- ▶ Private competitors moving into education market
- ▶ Lack of public transportation in region and I-80 congestion
- ▶ Insufficient state and regional support for university
- ▶ Failure to be creative enough to adapt to future

Also noted at the retreat were important areas the university must address over coming years, including economic inequality and increasing polarization, changing workforce needs due to demographic changes and technology requiring lifetime learning, and the future impact of artificial intelligence.

Following the October retreat, Chancellor May in November charged a 22-member Steering Committee to design and assist in an inclusive process for seeking input from the entire university community, and to help in the review of that input and its organization into a strategic plan. The chancellor co-chaired this committee with Faculty Advisor to the Chancellor and Provost Ken Burtis; additional members of the Steering Committee included:

- ▶ Kia Aliakbar, Chair, ASUCD Committee on Committees
- ▶ Nicole Baumgarth, Professor, Pathology, Microbiology & Immunology
- ▶ Eddie Bell, undergraduate student, Managerial Economics
- ▶ Lars Berglund, Interim Dean, School of Medicine, Professor of Medicine
- ▶ Anthony Bulaclac, MBA student, Graduate School of Management
- ▶ Fadi Fathallah, Professor, Biological & Agricultural Engineering; AVP Global Affairs
- ▶ Dave Furlow, Professor, Neurobiology, Physiology & Behavior; Assoc. Dean UE
- ▶ Rachael Goodhue, Professor & Chair, Agricultural & Resource Economics; Chair, Davis Division of the Academic Senate
- ▶ Joel Hass, Professor, Mathematics
- ▶ Leah Hibel, Associate Professor, Human Development & Family Studies
- ▶ Alissa Magorian, Executive Assistant, Enrollment Management
- ▶ Pat Randolph, Academic Coordinator and Lecturer, Biological Sciences
- ▶ Susan Rivera, Professor and Chair, Psychology
- ▶ Mabel Salon, Director, Community Relations
- ▶ Rich Shintaku, Director, Diversity & Inclusion
- ▶ Elizabeth Spiller, Dean, College of Letters & Science; Professor, English
- ▶ Cecelia Sullivan, President and CEO, PTI Solutions
- ▶ Roy Taggug, graduate student, Sociology; President, GSA
- ▶ Dana Topousis, Chief Marketing and Communications Officer
- ▶ Deborah Ward, Health Sciences Clinical Professor, Betty Irene Moore School of Nursing
- ▶ Maisha Winn, Professor, Education
- ▶ Jason Wohlman, Associate Vice Chancellor, University Development

June 2018

August 2018

October 2018

From November to March, the Steering Committee met as a group to design the process and to review input as it was collected. Members of the committee worked individually or in groups to facilitate and receive input from over 50 meetings with specific constituencies including students, staff, faculty, alumni and external stakeholders, in both small group and open town hall formats. Input was also solicited through the To Boldly Go website, which received almost 900 comments by the end of March, ranging from short suggestions to lengthy proposals, from criticisms of current practices to optimistic ideas for future actions, and from immediate action items to long-term visions of the future. The online submissions were reviewed by the members of the steering committee, who also contributed their own input, shared input from community meetings, and discussed the major themes emerging from all of the input received.

Beginning in August, the final version of the report was developed for release in late September. It is important to note that although the report itself is final, the actual process of strategic planning will be dynamic and ongoing, as the campus moves forward in addressing the goals put forward in the plan while continuing to respond to both new ideas and changing conditions.

From March to June, a draft version of the strategic plan was developed with the assistance of the Steering Committee. In early June, this draft was posted online, and the To Boldly Go website was again used for soliciting feedback about the draft from the community; 150 comments were received. The draft was also communicated to the Academic Senate, not for a formal review but to provide an opportunity for the members of the Academic Senate standing committees, either individually or as a group, to provide input from their perspective. Feedback was also solicited from other specific constituencies, often in response to input received.

Next steps, beginning immediately, will include development of an implementation plan, in consultation with the Academic Senate and other campus constituencies as appropriate. In many cases this will require either the charging of new work groups or the action of existing groups including the standing committees of the Senate to review the goals proposed in the strategic plan and to consider possible plans of action.

OUR MISSION: UC Davis is dedicated to academic excellence and scholarship in service to the public good. As a land-grant research institution, UC Davis takes a holistic approach in addressing the most critical issues faced by the region, state and the world. The university embraces the principles of diversity, inclusion and equity to sustain a culture of mutual respect.

OUR VISION: UC Davis aspires to empower our lifelong learners to be agents of their own career success, our transdisciplinary community of scholars and innovators to be influential in addressing the most significant societal challenges, and our staff professionals to be motivated to perform at the highest standards, all to enable the university to serve the public good, improve the quality of life, and act as an essential resource for the state, the nation, and the world.

INTRODUCTION

UC DAVIS IS A REMARKABLE INSTITUTION. In just 11 decades, it has developed from the University Farm of the University of California into a powerful comprehensive research university with unparalleled disciplinary breadth over 10 schools and colleges, including two ranked first in the nation, as well as the region's only academic health center, UC Davis Health, a nationally ranked leader in health care education, research and patient care. With its commitment to academic excellence and scholarship in service to the public good, UC Davis is uniquely positioned to be an international leader in addressing the most pressing problems facing humanity over the coming years.

It is important to affirm and reaffirm the vision and values that all of us who comprise UC Davis uphold. It is also appropriate, periodically, to reflect more deeply on our institution and to articulate more specifically how we will advance our vision and values. Such a deeper and structured reflection has resulted in this strategic plan.

Our university must be bold in envisioning our future; this plan has thus been titled "To Boldly Go." The plan is forward facing, and like all such plans, builds on the UC Davis of today, including both our original campus in Davis as well as the UC Davis Health campus in Sacramento. One of the greatest strengths of UC Davis is the extraordinary breadth of disciplinary expertise that has grown and been nurtured over the decades, in an academic environment characterized by low barriers between colleges, schools and departments

and a historical willingness to collaborate and cooperate in research and education. Our success over the next decade will rest heavily on our ability to leverage this great strength, working together in old and new ways to build academic excellence and achieve our goals, directing existing campus resources to our highest priorities when possible, and finding new sources of support when necessary.

This plan is focused at the level of the whole university and is not intended as a substitute for the academic and strategic plans of our diverse and complex schools, colleges, departments and centers; it is instead a plan to capitalize on their strengths and to encourage partnerships between them in addressing future challenges.

The UC Davis of today is a university that — after decades of direct state investment that made the entire University of California the envy of the world — must now face new realities. The UC is still preeminent, and UC Davis among the largest and strongest of the UC campuses. Our strategic plan acknowledges the reality that our aspirations for the future, both immediate and more distant, can be realized only if we find ways to strengthen the base upon which we build our future.

In this rapidly changing world, the campus must continuously adapt and evolve if we are to remain at the forefront of public education, and we must always be prepared to add new approaches or move on from older approaches as necessary. Change is constant, but our mission endures.



GOALS

GOAL 1. Provide an educational experience that prepares all of our students to address the needs and challenges of a diverse and changing world.

GOAL 2. Enable and support research that matters at the frontiers of knowledge, across and between the disciplines, in support of a healthy planet and the physical and societal well-being of its inhabitants.

GOAL 3. Embrace diversity, practice inclusive excellence and strive for equity. Make UC Davis a place of excellence for learning and working by supporting a culture that values the contributions and aspirations of all our students, staff and faculty; promotes wellness and a culture of sustainability; and cultivates the open interchange of ideas.

GOAL 4. Support our community, region, state, nation and world through mutually beneficial and impactful partnerships that reflect a firm commitment to our mission and increase the visibility and reputation of the university.

GOAL 5. Create an intellectual and physical environment that supports the development of an innovative and entrepreneurial culture that extends the benefits of our research activities beyond the boundaries of the university.



GOAL 1 ►

Provide an educational experience that prepares all of our students to address the needs and challenges of a diverse and changing world.



EDUCATION IS UNDERGOING rapid and extensive changes across the nation and around the globe. UC Davis must be attentive and nimble in its efforts to ensure that students enjoy an educational experience that is empowering and provides the best possible preparation for their future lives and careers. We must pay close attention to both how we teach and what we teach; and to both how our students learn and how well they learn.

Our undergraduate curriculum, consisting of general education and major requirements as well as electives, forms the foundation. It is the responsibility of the faculty that comprise the Academic Senate. They are responsible for ensuring that our curriculum thoroughly prepares our undergraduate students to be informed citizens in a rapidly changing world with solid preparation in one or more fields. Knowledge in each field, and their various interfaces, is constantly expanding, so faculty are constantly revising course and major content so that UC Davis students can fully reap the benefits of studying at a premier research university, where their faculty instructors are pushing the boundaries of the known every day. When it comes to our general education requirements, comparable opportunities for updating present themselves. How can we best teach critical thinking in a world flooded with the flotsam and jetsam of social media? How can we best instill ethical principles and a deep commitment to diversity, inclusion, equity, human rights and social justice? Can we do more to foster creativity as well as the ability to work as part of a team? Then there is a growing host of literacies to master, from information to sustainability. These and similar questions are on the minds of faculty as they evaluate curricular matters.

In addition, there is rising interest among our students and their families in educational opportunities beyond the classroom and experiential learning. These may include research experiences, participation in engaged scholarship, internships with industry, part-time employment, international experiences, involvement in student organizations, volunteer community service and other activities that lead to the development of life skills that optimally prepare students for success after graduation, no matter what their career aspirations.

Our focus on the success of our students must begin at the



moment of admission, through orientation and their initial introduction to the rigors of the research university, continuing all the way through graduation and their postgraduate careers as alumni. Finally, we can assist our alumni to close the loop of their own UC Davis experience by encouraging and enabling them to pursue lifelong learning themselves and to help mentor future generations of our students.

UNDERGRADUATE EDUCATION

UC DAVIS ATTRACTS and enrolls enormously talented and motivated students, and will continue to seek new ways in which we can bring to campus the most outstanding students from every background. We are proud of our reputation as an engine for social mobility. We have made great strides in understanding more deeply the degree to which our first-year students' previous educational institutions — high schools for entering freshmen, community colleges for transfer students — have or have not prepared them to approach and complete our rigorous undergraduate curriculum.

Over the next decade we will continue to seek approaches to pedagogy, advising, and student support that enable more students to achieve their educational, professional, and personal goals, and successfully complete their degree programs in a timely fashion, in alignment with UC systemwide goals to significantly improve the four-year graduation rate. This will reduce total costs and improve outcomes for currently enrolled students, while creating an opportunity for additional students to benefit from a UC Davis education.

Our pedagogy and infrastructure must be optimized to provide the best possible learning environment for all of our students, using data-driven approaches that help us align teaching methods with appropriately designed classroom space and effective, well-supported assessment of student outcomes. Achieving this goal will require a persistent and focused effort that will combine many approaches and require the coordinated efforts of many individuals and groups across campus, including staff, faculty and administrators from the schools and colleges, Student Affairs, and the



Active-learning classroom at the Betty Irene Moore School of Nursing

Office of Undergraduate Education. To achieve this goal, we will:

- ▶ **Take bold steps to close gaps in academic outcomes for students from underrepresented, first-generation and socioeconomically disadvantaged backgrounds.** Multivariate analysis of the academic performance of student demographic groups reveals significant and persistent gaps in academic outcomes between groups in our university today. We must develop and implement innovative and targeted approaches in academic support and pedagogic practice, with a goal of improving the outcomes for all of our students and closing the gaps. Many approaches to improving the retention and successful graduation of our undergraduates were noted in the [2017 report of the Student Retention Advisory Committee](#). Subsequently, UC Davis has joined with many other leading universities in both the [Transformation Clusters Initiative](#) of the Association of Public & Land-Grant Universities (APLU) Center for Public University Transformation, and the [American Talent Initiative](#) to cooperate in finding sustainable solutions to address this issue. An additional work group has been formed to focus on addressing the gaps in preparation existing before students arrive at UC Davis.
- ▶ **Apply evidence-based approaches to improvement of learning outcomes.** To achieve the goal of improving learning outcomes for all students, faculty are constantly exploring and adopting innovative approaches to pedagogy, including methods that promote active learning. The availability of analytical tools that can quickly reveal the impact of new approaches on learning outcomes facilitates experimentation with pedagogy and the ability to make evidence-based decisions about teaching practices. Support for faculty interested in such methods is available through the [Center for Educational Effectiveness](#) (CEE) in the Office of Undergraduate Education, which works to support high-quality teaching and learning by prioritizing pedagogical innovation and promoting key shifts in the way we approach teaching at UC Davis. Faculty who have already tested new approaches, including those whose research is focused on pedagogy in specific disciplines, are also an important resource. Given the key role of outcomes assessment in achieving this goal, it is important that the level of support available (e.g. the number of assessment specialists) be in

alignment with increasing needs.

It is important to underscore that many of these innovations instituted in order to advance student learning do not call for entirely new forms of pedagogy. In many cases they involve adjustments to and adaptations within traditional modes, from lecture and discussion section to lab session and studio critique. All of these have their place in the range of classroom experiences students should not only experience but should learn to derive benefit from. What is required is a focus on using appropriate pedagogy in each circumstance and an awareness on the part of instructors that elements that have often been previously unquestioned — for example, the way a syllabus is constructed or the use of a grading curve — need to be thought through critically and with an eye to the students we have in our classrooms today.

- ▶ **Optimize classroom design and capacity for the future.** Enrollment growth has provided both a need and an opportunity to build new classroom space on campus with the future in mind. Classrooms will be built to accommodate new and experimental approaches to teaching, with maximum flexibility incorporated into the design to allow for active learning. The Betty Irene Moore School of Nursing provides a stellar example of such space, and there are currently plans, at various stages of realization, for a new large lecture hall (California Hall) and new classroom buildings (Walker Hall; the Teaching and Learning Center) that are designed to accommodate these styles of teaching. Additional space for laboratory courses is also needed, as well as space for office hours and other teaching support functions. As we contemplate future needs for classroom space, consideration should also be given to the potential impact of online and technology-enhanced course delivery methods on classroom space requirements.
- ▶ **Enhance the quality of the student academic experience in the classroom.** Several strategies are proposed to ensure that our students have the opportunity to benefit from meaningful classroom interactions with faculty in both

large and small class formats despite recent enrollment increases under the 2020 Initiative:

- ▷ Faculty hiring will continue with a goal of achieving a student-faculty ratio that permits all students to enjoy the best possible instructional environment, recognizing that achieving this goal will require substantial resources and that current ratios differ across the campus.
 - ▷ Strategies to facilitate the participation of professional school faculty in undergraduate education will be encouraged where appropriate opportunities arise, bringing exciting curricular possibilities and additional teaching capacity. Current examples include the major in Global Disease Biology (partnership between the College of Agricultural and Environmental Sciences and the School of Veterinary Medicine), and minors in Education (School of Education) and Technology Management (Graduate School of Management).
 - ▷ Hybrid and online courses can potentially increase the time that faculty are able spend in high-value interactions with the students during class time, by reducing the amount of class time spent on lecture-based content delivery.
- ▶ **Support student success by providing better tools for administrative management of the curriculum.** Students interface with the curriculum in choosing courses, determining a schedule, registering for classes, and checking on progress to completing degree requirements. Student success depends on the technology underlying each of these interfaces, and major improvements are urgently needed to ensure our ongoing ability to serve students' needs due to aging of current systems. Over the coming years, the goal will be to finish upgrades for the Banner system, the course catalog (which should have much greater functionalities than the current version), the course scheduling system (which is struggling under current loads), the Degree Audit system (which if done well should reduce some workload for

advisers and enhance student success), and processing for graduation, which currently impacts some students who need verification of graduation to apply for jobs.

- ▶ **Create a state-of-the-art library and learning center to support student learning.** As UC Davis' student population grows, the need for modern study spaces co-located with academic support services is essential, and the centrally located Peter J. Shields Library is ideally positioned to support this need. Reconfiguration and renovation of Shields Library will continue to provide on-site access to needed physical collections, while also adding new multimedia and technology resources, immersive learning and research environments, and more spaces for independent and group study. An academic commons would feature flexible co-working spaces designed to support the many ways that students study today — whether “working alone, together,” or collaborating on class projects, or getting help from teaching assistants or library experts. Shields Library could also provide a point-of-service for a variety of campus entities that offer complementary student academic support (e.g., writing, tutoring, undergraduate research support), academic information technology services, and advice on data management.

By thinking creatively and progressively about the library's multifaceted role in advancing the university's mission, the university has an opportunity to enhance its support of student learning without detracting from the library's enduring support of faculty scholarship and research in all disciplines; moreover, many of the potential improvements are equally desirable to faculty and researchers.

- ▶ **Support curricular flexibility and student preparation for future careers.** A constant challenge for the faculty is ensuring that the curriculum offered at UC Davis meets the needs of our changing world, whether through support for and updating of existing courses and majors, or through creation of new courses and majors. The past five years have been a

time of rapid change, in part driven by the influx of students under the 2020 Initiative. Several existing large majors have grown dramatically, including Computer Science (up 160 percent from 2012 to 2017), Statistics (up 317 percent), and Managerial Economics (up 91 percent). Further, we know that there is strong interest on the part of students (enrolled and prospective) for areas related to these such as data science (possibly in multiple tracks) and business, to name but two examples. In recent years, faculty have also created, in response to new frontiers of knowledge as well as career opportunities, several quickly growing interdisciplinary majors such as Global Disease Biology, Cognitive Science, Sustainable Agriculture and Food Systems, and Marine and Coastal Science, and there is rising interest in other new fields such as robotics. Leveraging existing strengths and experience with interdisciplinary majors provides opportunities to develop unique curricula.

All of the above are strongly aligned with career opportunities, and we should take the opportunities to add such majors seriously. Our efforts should be rooted in student-centric principles, ensuring that the curricula we offer remain academically rigorous while addressing student interests, reflect societal needs in ways that optimize student success in finding rewarding careers after graduation, and prepare students for life-long learning so that they will have the flexibility to adapt in times of change. As we do, we need to reflect on our own processes and ensure that we address curricular needs in a timely fashion while maintaining academic quality and rigor. We are particularly challenged when majors are proposed that cross college and/or school boundaries. Innovation in the delivery of the curriculum as well as curricular development involve time and the investment of significant faculty effort and a commitment to the support of these efforts by the administration. As we strengthen our capacity in this way, we will rely on the deep tradition of shared governance.

- ▶ **Enhance experiential learning.** Preparation of



UC Davis job fair

students for future success can be significantly improved through high-impact experiences beyond the classroom, including research, internships outside of the university, and community or national and international activities. To enable more students to benefit from such experiences, UC Davis will increase efforts to ensure student access and participation in experiential learning as well as in impactful extracurricular and intercultural activities and experiences irrespective of their socioeconomic circumstances, while providing sufficient advising and guidance to help students effectively balance and integrate their academic and experiential learning.

Career-oriented internships are a particularly valuable experience for college students, and UC Davis is fortunate to have the top internship program in the UC system, housed in the [Internship and Career Center](#). Internships provide students with a professional network (also an effective means of meaningful alumni and donor engagement), confidence in career choice (an effective retention tool) and transferable skills (a competitive edge). With

particular attention focused on the role of a college education in upward social mobility for many of our students, attention to career outcomes has never been more relevant. Career and professional development services can complement academic disciplines, and help students translate and apply what they learn in classrooms to the world beyond UC Davis. The following actions are proposed:

- ▷ The physical and staff infrastructure of the Internship and Career Center have not grown in proportion to increased enrollment (including international students) and increased demand. Current and future needs should be explored and resources sought to bring capacity into alignment with need. The current space is not reflective of the caliber of UC Davis, and does not make a positive impression with employers visiting campus. This may be an opportunity for philanthropic funding.
- ▷ Consideration should be given to providing all students with a course experience

like that provided in the [Career Discovery Group](#) program, given the positive impacts demonstrated on student success.

- ▷ Consideration should be given to allowing internship units to count toward degree requirements. Currently, very few majors count internship units toward the degree, which may disadvantage students who depend on paid jobs to help pay for college.
- ▷ With an increased number of international students on campus, and an increasing number of domestic students who seek opportunities overseas, Global Affairs and the Internship and Career Center will partner in developing a more robust set of programs to help students find international internship opportunities.
- ▷ Domestic and international alumni represent a critical resource. As friends of the university and potential mentors with real-world experience, network connections and wisdom to share, alumni should be linked to our current students in a much more comprehensive manner. Such experiences create a pipeline of future mentors, as those who experience the benefits of this assistance now will be likely to “pay it forward” in the future once they leave the university and move into their own careers.
- ▷ Students need access to real-world field and laboratory research experiences that can provide experiential learning related to complex problems. The [Course-based Undergraduate Research Experiences \(CUREs\)](#) program is one way of providing groups of students with hands-on experience in cutting-edge technologies that are part of ongoing research projects on campus in a scalable way, thereby increasing the reach of individual, faculty-mentored undergraduate research.
- ▷ Students would benefit greatly from opportunities in addition to the formal academic curriculum to develop skills and competencies appealing to potential employers and internship sponsors. Continuing and Professional Education (formerly the University Extension) has experience in doing this for nonmatriculated students, and can be a resource in helping, possibly in conjunction with the Library and/or the Internship and Career Center, develop and deliver these non-credit bearing but impactful learning experiences, recognized where appropriate by certificates or transcript notations. An additional approach would be to provide student access (or global campus access) to the [Lynda.com](#) (LinkedIn) video library of technical courses, which provide training in skills relevant to students in many disciplines and might be used by students individually or by instructors as an augmentation to courses. Some colleges may choose to develop [cooperative education](#) opportunities for students in certain majors.
- ▷ Exposure to innovation and entrepreneurship should be available as part of the undergraduate experience. There are some outstanding opportunities already available (e.g., the [TEAM lab in Biomedical Engineering](#)), but the extant facilities require sustainable support to expand, and more “maker spaces” in different disciplinary areas are needed to allow a broad range of students to participate. Undergraduates will also have new opportunities to participate as researchers and interns in local research incubators.
- ▷ Faculty, the Office of Engaged Scholarship and Engaged Learning, the Internship and Career Center, the Undergraduate Research Center, Global Affairs, academic and residential advisors, peers and alumni will need support in expediting broad student involvement in engaged learning opportunities within and beyond the curriculum. This could include promoting community-based student learning experiences by increasing opportunities



Global Education for All

for students to build appropriate skills to participate in community engagement; developing experiential learning curricula in leadership development, cross-cultural understanding, and global learning to improve outcomes; providing resources and incentives for faculty to support student learning in community settings; and establishing a cross-campus locus of student coordination and support for community engaged learning.

- ▶ **Engage all undergraduate students in global learning.** Humanity’s most urgent challenges are inherently global in scope — from responding to transnational migration and slowing the spread of international public health epidemics to addressing economic disparities around the world, fostering safety and security, and developing environmentally sustainable solutions for the planet’s future. UC Davis has a responsibility to prepare our students to live and work in this highly interconnected and interdependent world. We need civically engaged community members who can think critically and communicate effectively about resources and opportunities in global and local contexts, as they are often intertwined. We need employees and entrepreneurs who are prepared to navigate across different cultural, political and regulatory environments, and we need caring, curious, globally minded leaders who understand issues in cross-cultural contexts and work collaboratively to resolve them. Global learning will prepare our students to

develop skills, knowledge, networks and attitudes that will help them thrive in these roles. It is imperative that we provide our students many and varied opportunities to learn about the multiple cultures and histories around the world. For many this will involve the study of languages other than English, which should be strongly supported. The campus [Global Education for All](#) initiative, which links collaborators across the university, is one important means to support this goal.

- ▶ **Develop a strong first-year program for student success.** UC Davis offers a broad array of experiential opportunities for new students. To achieve our goal of having every student be able to access and enjoy the benefits of these high-impact activities, a coordinated first-year approach should be explored. This will require that the full complement of existing programs of this type be assessed with respect to impact, overlap, and opportunities for synergy, so that investments can be optimized and leveraged. This could provide the basis for an integrated, first-year experience that would combine academic advising with the most impactful aspects of current programs such as [Career Discovery Groups](#) (College of Agricultural and Environmental Sciences), the COHORT program (College of Biological Sciences), the [LEADR](#) program (College of Engineering), [first-year seminars](#), the [First Year Aggie Connections](#) program (Student Academic Success Center), and [living-learning communities](#) (Student Housing). One approach



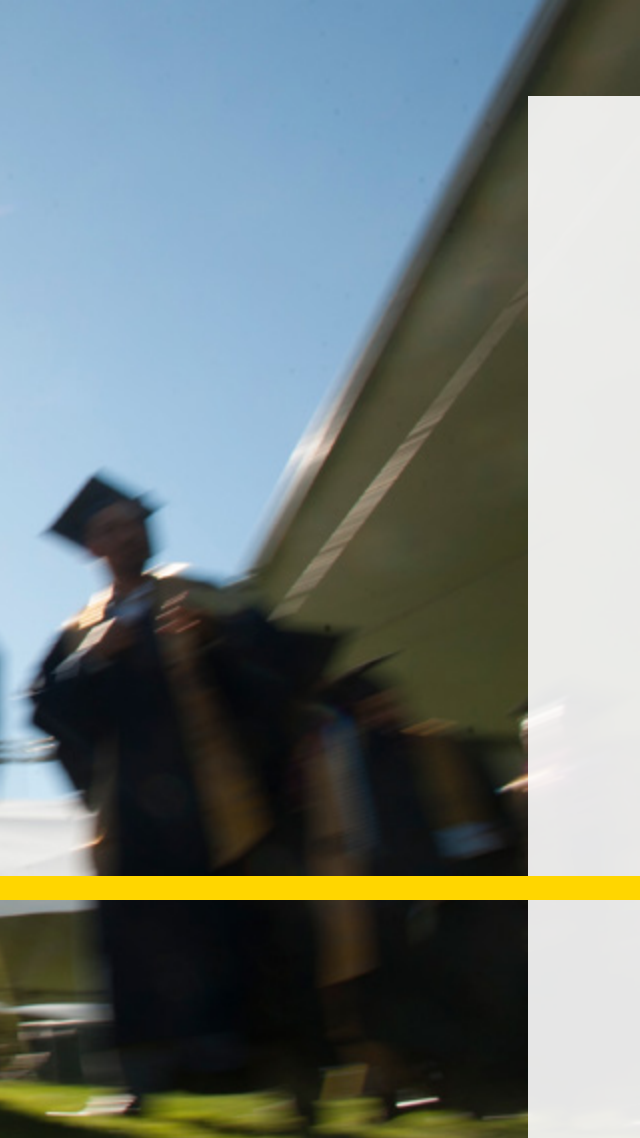
might include an integrated common first-year series of seminars including a fall quarter welcome to the research university, followed by a winter and spring experiential learning seminar and cross disciplinary “Big Issues” seminar.

- ▶ **Continue to evaluate the possible roles of online education at the undergraduate level.** The value of online instruction at the undergraduate level continues to be a topic of considerable debate among faculty at UC Davis, but its use is increasing at many highly ranked universities, and it is important that continued attention be given to possible benefits under specific circumstances. Online courses designed to ensure adequate preparation for unit-bearing courses could replace workload courses and be available before the fall quarter, reducing delay in time to graduation and improving student success. Likewise, online versions of impacted courses might allow students unable to enroll in regular versions to progress toward their degree without delay. Learning analytics are

possible in some cases that allow determination of which concepts are most problematic, enabling assistance to be provided in a targeted manner. With an increasing number of nontraditional students, asynchronous online courses can provide access to courses that might not otherwise be available. Finally, future trends suggest movement toward a lifelong learning model in which students would return for additional coursework later in life, which could be easier in an online format. The discussion of possible options should continue, and careful attention paid to advances in this area by peer institutions.

GRADUATE AND PROFESSIONAL EDUCATION

GRADUATE EDUCATION IS A CORE MISSION of UC Davis and the primary means by which the scholarship and expertise of its faculty are passed on to succeeding generations and transmitted beyond the university to the benefit of society at



large. Furthermore, education of graduate and professional students is one of the major contributions of the university to the economic prosperity of the region and state, bringing the expertise, skills and passion for research students acquire at UC Davis to their careers in existing fields, and sometimes in catalyzing the creation of entirely new fields.

Graduate students and postdoctoral fellows are also major drivers of research and scholarly activity at UC Davis, and the quality of both is inextricably linked to the quality of our research. Graduate students also play a critical role in undergraduate education as they develop their own skills in teaching and mentoring, both through their contributions as teaching assistants and their role as mentors in experiential learning opportunities in research. Postdoctoral fellows in turn mentor graduate students and undergraduates who work with them in laboratories and on other projects overseen by faculty.

The extensive constellation of research areas represented at UC Davis and the long campus history of interdisciplinary research in fields

that are critical to addressing the most pressing issues facing society ensure that our graduate students will develop both depth and breadth of disciplinary knowledge and be uniquely qualified to serve society as innovators and leaders over the coming decades.

GRADUATE ENROLLMENT AND SUPPORT.

Given the quality of our faculty and graduate programs, and considering the many unique opportunities for interdisciplinary graduate education that UC Davis affords, our graduate enrollment should reflect the value and impact that our students bring to the world. Desired graduate enrollment is often stated as a ratio in reference to undergraduate enrollment, and often in comparison to peer institutions, but differing proportions of master's and doctoral students and varying representation of different disciplinary areas between universities necessitate a more nuanced determination of appropriate enrollments for UC Davis, focusing on the issues of student support and career options, as well as on the needs of society and the

university. Graduate enrollments will vary between disciplines and over time in response to many factors, including emerging fields and economic trends. In achieving desired levels of enrollment, we will be guided by our goals of fully utilizing the capacity of the university and its faculty to both train and financially support our graduate students, as well as ensuring that the students we graduate are well positioned for success in their postgraduate careers. In this effort, it is important to remember that some of our graduate students and postdoctoral scholars will enter careers outside of academia, and we must ensure that our students have access to external internships and similar opportunities to prepare for such careers (e.g. the [DEB program](#)).

Graduate student support depends in complex ways on the availability of extramural research funding in different fields, the availability of university and philanthropically supported fellowships, and the opportunities for employment as teaching assistants, and differs between master's and doctoral programs. Every possible effort should be made to identify additional funding sources to support growth in graduate student enrollment in the many disciplines where UC Davis can play an important role in filling society's needs. Financial support packages that are competitive with peer institutions worldwide are necessary to attract top students to our programs, and essential for creating conditions under which our students can give full attention to their studies and research. The campus is committed to creating an environment in which our students are competitively supported, through development and commitment of resources in support of stipends, research and teaching positions. Graduate Council, Graduate Studies, graduate mentors, graduate students and the provost must work together to align enrollment and support with campus goals.

The following strategies are proposed:

- ▶ **Determine appropriate enrollment levels.** Undertake a comprehensive effort to determine whether current graduate enrollment in each program is appropriate, using graduate program review and other information where available. This will include a comprehensive review of student support to determine whether levels are sufficient and competitive with peer institutions, an evaluation of whether students are achieving successful career outcomes, and any other parameters relevant to enrollment in individual programs.
- ▶ **Ensure appropriate diversity in our graduate student population.** The diversity of our graduate students should reflect the diversity of the population of California, and our enrollment efforts should reflect this goal.
- ▶ **Increase offerings of master's degrees.** Given the unique strengths of UC Davis and its ability to train students who will play an important role in supporting the regional and state economy, the creation of new or larger master's degree programs should be encouraged where appropriate, while recognizing that given current workloads, appropriate new investments in faculty and staff must be made to support these programs, many of which will be self-supporting degree programs.
- ▶ **Develop online master's degrees.** We should explore the potential for using new approaches to learning, such as online degree programs, to reach student populations such as working professionals who may lack a desire for or access to traditional degree programs. Advances in technology have facilitated an increased use of online delivery mechanisms across the nation in higher education. This still nascent approach has disrupted and potentially revolutionized both the pedagogy and business models of universities elsewhere and offered faculty a new way to teach students. Peer institutions have developed highly successful online degrees at the M.S. level with significant enrollments, including of working professionals, with affordable tuition and high completion rates; this is a trend that UC Davis cannot ignore. The first online MBA at UC Davis is [under development](#) at the Graduate School of Management, and planning for other master's degrees is underway in the Betty Irene Moore School of Nursing and the College of Engineering. There are many similar opportunities in other colleges and professional schools that can be seriously considered, potentially leveraging the expertise of Continuing and Professional Education to develop the platforms required to deliver the curriculum developed by the faculty. By providing accessible education that caters to professionals focused on acquiring advanced knowledge in the workplace, online degrees possess significant potential to enhance the impact, reach, visibility and financial stability of the university.



► **Improve graduate student financial support.**

Financial support is a key issue of concern to many graduate students. Davis has a relatively high cost of living, and current stipends are insufficient in some cases to address those costs, particularly for students with families. This issue can be addressed from either of two directions, including:

- ▷ Increased funding. Funding sources must be identified to bring income for all graduate students to competitive levels. Strategies to address this issue include prioritizing a major effort to raise philanthropic funds for multiyear graduate education scholarships, consideration of reallocation of campus revenues toward graduate student support, and use of funds that result from creation of revenue-generating degree programs as a new source of funding for Ph.D. students in some disciplines in support of our educational and research missions.
- ▷ Affordable housing. Construction of additional graduate student housing designed and/or subsidized to be available at rents compatible with the income of our students is underway. The current project under construction at [Orchard Park](#) will include

at least 200 affordable two-bedroom apartments for students with families, and any future projects should consider affordability as a key aspect of project design. Indeed, the university must consider affordability, including living expenses, for all graduate students in the context of the regional housing market.

- **Graduate program organization and course delivery.** Excellence in graduate education requires a strong curriculum of graduate courses. Several challenges, both recent and longstanding, have been noted for the impact they have on meeting curricular goals. Two distinct and parallel ways of organizing graduate education have evolved at UC Davis: departmentally based graduate programs and cross-campus graduate groups organized by discipline. Each model has benefits, but one aspect of the graduate group model has presented a long-standing challenge: Graduate group chairs lack the authority to independently assign teaching, depending for this on departmental chairs, who may face conflicting priorities. In many cases, this issue is resolved through cooperative approaches, but in others, particularly when the graduate group spans multiple departments and even schools and colleges, challenges arise. Also, in some



Walker Hall redevelopment project rendering

cases faculty hiring in areas required by the graduate group to cover curricular needs may not align fully with departmental hiring plans. Furthermore, the current campus budget model provides significant funding on the basis of undergraduate student credit hours, which creates a possible incentive for some chairs to assign faculty to teach undergraduate rather than graduate courses.

A review by Ernst & Young of the budget model and budget allocation process has provided an opportunity to revisit not only the formulae for allocations based on teaching activity, but more broadly, how monies are distributed at all levels, including within colleges and schools, and how undergraduate and graduate teaching needs might be best addressed in the model. The Graduate Council of the Academic Senate has recently provided recommendations for revisions of the current campus budget model that might assist in resolving the issue by further incentivizing the teaching of graduate courses.

- ▶ **A new home for Graduate Studies and graduate students.** Our graduate student population is dispersed, and students have long expressed a desire for space where they can come together and help each other in addressing issues of common interest. On the Davis

campus, a new physical home for graduate students, professional students and postdoctoral scholars is being created in the heart of campus through the [Walker Hall redevelopment project](#). In addition to providing space for student activities and the Office of Graduate Studies, the building will house state-of-the-art classrooms that can serve as living laboratories in which graduate students can test new approaches to pedagogy. The need remains to determine how best to additionally support our many graduate students on the Sacramento campus, and work has already begun to move us toward accomplishing that goal.

- ▶ **Support graduate and professional student intercultural and global learning.** Our students' ability to be effective leaders, teachers and problem-solvers will in part depend on their ability to collaborate across cultures and understand global systems that shape issues of concern to them. All graduate and professional students should have access to intercultural and global learning opportunities that reflect their aspirations, facilitate their ability to engage effectively with diverse populations, and enable them to apply their skills and generate knowledge to address regional and global challenges.



GOAL 1 METRICS:

- ▶ Student academic success, including degree completion and time to degree, for all demographic groups
- ▶ Postgraduation outcomes including career and additional degrees
- ▶ Graduate student enrollment and degrees awarded
- ▶ Student and faculty headcount; student-faculty ratio
- ▶ Status of classrooms: seats available and quality of space
- ▶ Training and career development grants and awards
- ▶ Percentage and diversity of students participating in global education experiences
- ▶ Percentage and diversity of students (undergraduate and graduate) participating in community-based learning before graduation



GOAL 2 ►

Enable and support research that matters at the frontiers of knowledge, across and between the disciplines, in support of the health of the planet and the physical and societal well-being of its inhabitants.

RESEARCH AT UC DAVIS is a thriving enterprise that involves thousands of faculty, professional researchers, support staff, postdoctoral fellows and undergraduate and graduate students, creating new knowledge and answering questions that inform and improve lives. One of the most remarkable aspects of UC Davis is the breadth and excellence of our research programs, including agricultural, biological, engineering, physical, and social sciences, the arts and humanities, veterinary and human health, management, law, and education. All of these occur on a vast campus, spread across multiple sites in Davis, Sacramento and elsewhere in California from the coast to the Central Valley to the Sierras.

The breadth of this research enterprise is a great strength, making possible an unparalleled diversity of interdisciplinary research opportunities. Our breadth also presents several challenges. These include efficiently identifying and leveraging interdisciplinary partnerships when the people involved are spread across multiple programs and places; and also identifying the most promising areas of future research and focusing investments to support these areas, while still continuing to support existing programs that are important to our mission.

Significant campus investments and dialogue will be needed on an ongoing basis to identify the areas of research that will best position the campus for the future and that should receive the highest priority for investment. Among the highest priorities is the hiring of outstanding and diverse faculty in disciplines aligned with the university's mission, including both hiring of young scholars at the cutting edge of their fields, as well as strategic hiring when appropriate of mid-career faculty who can bring leadership and strength to emerging disciplines. Resources must be identified or generated to ensure that we are prepared to support these areas of research with innovatively designed facilities and well-coordinated academic support mechanisms.



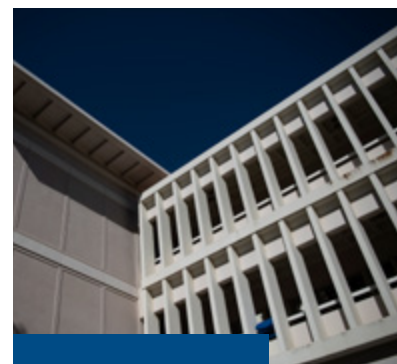
STRENGTHENING THE FOUNDATION OF OUR RESEARCH ENTERPRISE

The major new investments that will be made to ensure that UC Davis continues as a leading research university will require a strong foundation. With a portfolio of research buildings constructed over the past 80 years and contributing significantly to the large (>\$1 billion) accumulated deferred maintenance backlog, and with research space operating in many cases near full capacity, growth in new research areas must be balanced with intentional and strategically placed investments in the existing research infrastructure. Both are essential; the university must continue to be at the leading edge of new and exciting fields of research, but this is only possible if the health of key existing research programs is sustained.

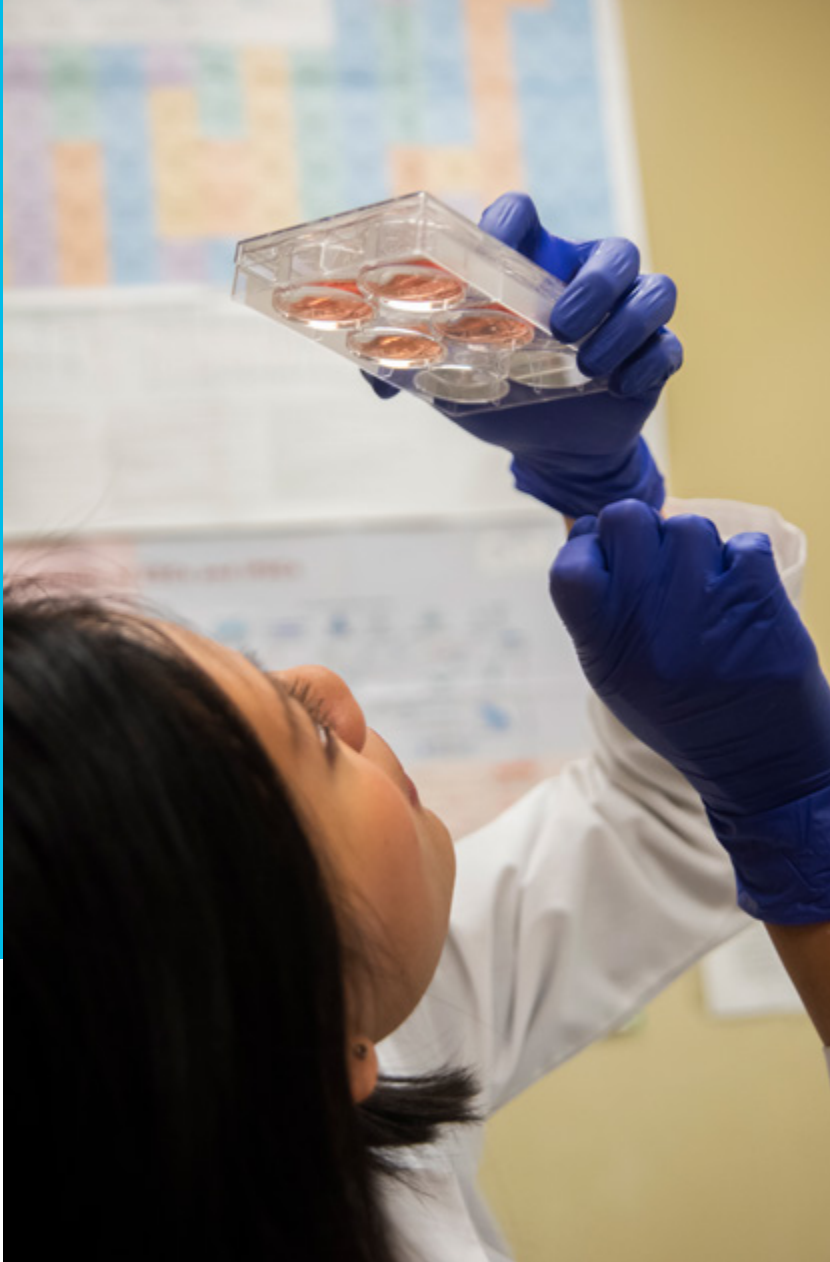
Identify the highest priority capital needs to strengthen infrastructure. Extensive planning over several years has identified the highest priority foundational investments needed to stabilize

our existing research infrastructure. However, with needs exceeding current resources, this represents only the first phase of the process, and over the coming years, it will be critical to continue to evaluate and prioritize additional foundational investments. The current environment around funding major capital projects is complex due to the transition from an era in which the state was the major source of funding for these projects to one in which philanthropy, public-private partnerships and limited campus resources will play an increasing role. The process of determining which and how many of the proposed “base-building” investments move forward must be done in full consultation not only with faculty and research staff, but also with Development and Alumni Relations (DEVAR) and the Office of Government and Community Relations to ensure that every opportunity for developing outside funding in support of these projects is pursued and maximally leveraged.

Strengthen research support services. Increased



Chemistry Building
built in 1965



research productivity calls for well-coordinated investments in core facilities and services, including shared equipment cores such as those included in the [Campus Research Core Facilities \(CRCF\)](#) program overseen by the Office of Research, as well as other cores across campus. A recent example of significant investment in shared research support is the new [cage wash facility](#), but an even larger investment will be needed to provide a new animal care facility commensurate with one of the nation's largest and most diverse animal research and teaching programs.

There is no doubt that investments in shared resources that serve multiple users are a more efficient use of limited resources than duplicating

expensive facilities for individual researchers; however, considerable communal effort is required to ensure that the cores meet the needs of researchers and that there is a stable and sufficient funding base to provide the most current technologies.

Research computing, data management and cybersecurity play an increasingly important role in the campus research enterprise. Meeting the future needs of campus researchers in this area will require a strong partnership between the research community, the Academic Senate Committees on Research and Information Technology, and administrative units including the Office of Research, Information and Educational Technology, and the University Library. No single one of these units can cover the entirety of research computing since it encompasses hardware, systems, data and policies that are inextricably connected. It will require all of these units working together to provide the deep expertise that will be needed to manage both the computing systems (whether basic, mid-range or very high-performance) and the wide range of data that must be stored as well as the tools needed for its secure use and access by everyone from non-experts to high-end users.

ACHIEVING THE NEXT DECADE OF RESEARCH EXCELLENCE

The world's most pressing issues (e.g., cancer, climate change, sustainable food and energy systems, migration, poverty, aging populations, inequality) are inherently interdisciplinary. Innovative solutions arise through collaboration of experts from multiple disciplines and from multiple communities, including universities, industries and governments. UC Davis, with its great strengths of breadth across many disciplinary areas and culture of interdisciplinary research, is well-placed to make fundamental contributions.

To leverage fully the power inherent in our breadth, we need to implement a new and higher level of coordination among our many programs and maintain flexibility in academic organization as we adapt to changing needs facing the university in the future. Coordination requires comprehensive efforts to connect scholars with

similar interests but different perspectives or skills, and the financial, physical and administrative support to grow these partnerships. Perceived disincentives that reduce departmental enthusiasm for participation in projects that are housed in research centers or involve collaborations with multiple campus partners must be eliminated. There will be hard choices to be made in consultation with stakeholders in balancing new investments and current programs, but there is no alternative to moving forward boldly if we are to remain a top public land-grant research institution into the future. Inspiring new programs with impactful goals will attract the funding partners necessary to move forward this decade, and the campus must be ready to move quickly and effectively to capitalize on these opportunities. Through the creation of physical spaces and funding mechanisms for interdisciplinary partnerships, we will leverage our strengths to address the real and complex challenges facing our region, state, nation and world.

Coordination and recognition of new research opportunities. UC Davis is already known as a university with relatively low barriers for partnerships between faculty from different departments and colleges, often but not always in the context of research centers and organized research units (ORUs) and supported by the interdisciplinary nature of many of our graduate programs. For example, our National Cancer Institute-designated Comprehensive Cancer Center is a paradigm for high-impact interdisciplinary collaborations, clinical care and community outreach that can serve as a model for how to leverage the power inherent in our breadth and to achieve a high level of coordination among our programs. Nonetheless, there is little doubt that many opportunities are missed; researchers may be unaware of potential overlaps in interest with researchers elsewhere on campus, or may lack support to pursue new opportunities. Strategies to address this challenge could include:

- ▶ **Creating a support system to help campus researchers recognize new possibilities for collaboration and initiate partnerships.** The Library and the Office of Research can partner in developing a comprehensive database of



campus research expertise that will support increased opportunities for collaborative projects. Developing this initiative campuswide will include enhancement of researcher profiles and collaboration platforms, as well as identification of physical spaces that could be used in initial phases of planning and developing collaborative groups.

Advances in data science now allow for meaningful connections to be made quickly in a virtual setting. Once a relational database of UC Davis' scholarly work has been created, intentional and personalized communications could be used to identify and catalyze interactions between researchers who might productively collaborate but who are not aware of each other's work and interests. Automated programs or human "research matchmakers" would identify and introduce researchers from across campus with common interests in emerging problems. As an example, cognitive psychologists, ethicists, social movement sociologists, agricultural economists, civil engineers, environmental law scholars and climate researchers might form a team to more effectively address important questions regarding more energy-efficient communities.

Recognition and introduction of researchers with related interests is only a first step, and mechanisms to incentivize groups to follow through with in-depth exploration of common interests and collaborative research projects, potentially including space for pilot projects and seed funding, would be critical to realizing the full benefits of this approach. It is important to note that such a database could also be very useful in helping external partners in industry, government, etc. identify campus partners for productive collaborations.

- ▶ **Providing seed funding, with the potential for continuing support, through the Office of Research.** The initial phase of developing research partnerships would be facilitated with seed funding in the expectation that such projects would catalyze the acquisition of new extramural funding for subsequent phases. This will require identifying a sustainable and ongoing source of revenue, and further consideration of the ways in which current budget practices involving distribution of indirect cost recovery funds impact interdisciplinary research centers. However, it is critical that funding be identified and dedicated to this purpose to maintain momentum and enthusiasm for interdisciplinary collaborations across campus. For example, just as disciplinary clusters receive staff assistance for communications, hiring, grant writing, purchasing, etc., interdisciplinary groups will need access to similar shared resources. Project support should sunset after a reasonable time period to ensure continued availability of support for newly emerging partnerships.

New space for interdisciplinary collaboration.

Currently, most space is designated specifically for departments and colleges. This approach can constrain interdisciplinary work by creating arbitrary physical barriers that sometimes impede the flow of information. To take on the grand challenges of the future and to be able to react quickly to new and emerging areas of interest, it is imperative that UC Davis create new research spaces, which will serve as a home for solving the most important problems of the day and will foster a culture of constant innovation, rather than becoming the permanent home of any particular discipline. To provide such an environment, the campus must secure the resources needed to construct new interdisciplinary research buildings with this purpose in mind, and develop new governance processes to manage and support an interdisciplinary and problem-focused building that serves the entire university rather than one school or college.

This represents an exciting new direction for the university; thinking about academic research

space in a new way focused on shared interest in a problem rather than in a specific disciplinary approach or department (one example is the [Charles Perkins Centre at the University of Sydney](#)). This approach to research could catalyze further thoughts about the education of students around interdisciplinary preparation to work on complex problems rather than the more focused approach of traditional majors.

Planning and construction of a major new building will be a long-term process. One way of accelerating and testing some of the approaches involved would be to begin with creation of some quickly realizable and relatively low-cost spaces, located around campus, providing opportunities to pilot, promote and facilitate experimental approaches to interdisciplinary research outside of traditional spaces on campus. One very rapid way of doing this initially will be to develop launch spaces in the University Library, of which the Data Science Initiative space already in operation is an example. A next stage would be to construct small interdisciplinary buildings that could simultaneously provide a home for tightly focused interdisciplinary groups while providing an opportunity to experiment with ideas about design and program for the eventual large interdisciplinary building.

Inherent in the concept of these new facilities is that the focus of the programs housed there could evolve over time, as new teams of researchers emerge with ideas for collaborative projects, and new challenges emerge. There is no shortage of ideas for innovative ways to use new interdisciplinary space; some proposals include:

- ▶ **Brain and Decision Science:** An innovative space that would bring together academic programs at the intersection of the sciences of human intelligence and artificial intelligence, to include psychology, cognitive science, data science, informatics, neurosciences and decision sciences. A related concept is Neuro-X: a center for innovative, multidisciplinary investigation at all levels of nervous system function, from artificial intelligence to molecular neuroscience, from biology to psychology to engineering.





- ▶ Fiat Lux: A nexus of innovation in the agricultural, environmental, biomedical and social sciences at the center of campus, focused around light.
 - ▶ World Food Center: A center devoted to the promotion of innovative, sustainable and equitable food systems through partnerships among the research, educational and outreach resources of UC Davis and consumers, public and philanthropic entities, and the agricultural, marine and food industries.
 - ▶ Academic Drug Discovery: A center that would provide medicinal and analytical chemistry support as well as cellular and behavioral phenotyping for early stage drug discovery efforts.
 - ▶ Environmental Health and Justice: A campuswide research/outreach integrated initiative that would link environmental health (of land, air and water) to human health involving human ecology, law, medicine, public health sciences and engineering. One might think of this as the intersection of One Health and One Climate, or to use a phrase the U.N. and other organizations have adopted, Planetary Health.
 - ▶ Disparities and Social Justice: A center that will take the lead in studying and understanding the causes and consequences of growing disparities in the social, health, and economic sectors, and engage justice activism, advocacy, art and politics to alleviate these global problems.
 - ▶ X-Lab: An innovative experimental physics program for high-risk research unconstrained by disciplinary boundaries.
 - ▶ Diversity Science Initiative. This initiative would organize multiple campus experts into a coherent universitywide program that would maximize interdisciplinary interaction, education, and research into how people create, interpret, and maintain group differences among individuals, as well as the psychological and societal consequences of these distinctions.
- There is no doubt that an organized call for proposals will add significantly to the list above, and the next step will be to organize a formal process to think about the initial themes for a building that can be the basis for generating donor interest.



The “Smart Farm”
Big Idea

Important components of a successful proposal would include attention to the university’s mission of research and educational excellence, and serving the public good. As such, these collaborative projects would not just provide innovative opportunities for cutting-edge research, but would also provide hands-on experiential learning opportunities for undergraduate and graduate students. Problem-focused studies emphasize for students the value of collaborative work, teach students how to communicate across disciplines and perspectives, and provide clear connections to experiential learning (e.g., internships) and life-long careers. Further, each project would optimally connect with industry, communities and/or policymakers.

It is important to remember that the success of new interdisciplinary research programs is predicated on the continued success of and partnership with the underlying disciplines. As noted above, we must continue to invest in the infrastructure (capital and otherwise) supporting these core disciplines for the good of all.

New sources of support for research. UC Davis has reached record levels of extramural research funding from a diversified portfolio of sources: federal, state, foundation, corporate and philanthropic. However, continuing to build on this

foundation requires a continuous search for new funding opportunities, as we adjust to changing priorities and needs. Over the next decade, we will redouble our efforts to effectively support campus researchers in their efforts, with a particular focus on several strategies.

► **The “Big Ideas” campaign.** Exciting interdisciplinary research themes have been selected in the first round of competition that will be a major focus of campus development activities over the coming years. A call for proposals for the second round of “Big Ideas” is underway. Bold and ambitious proposals put forward will have the potential to garner generous support from current donors as well as donors who are new to UC Davis, attracted by the great strength we have in these areas. Our work in One Health is one example; another is our long-standing preeminence in creativity in visual arts as showcased in exhibits at the recently opened [Jan Shrem and Maria Manetti Shrem Museum of Art](#) that we hope can inaugurate an “Arts Renaissance” at UC Davis. In many cases, the “Big Ideas” are in support of concepts described elsewhere in this strategic plan, representing the inevitable intersection of campus priorities with the need to identify new funding sources.

► **Expand endowed faculty support.** At the heart of world-class universities are world-class faculty. Endowed faculty positions are decisive tools for attracting and retaining stellar faculty who will generate innovative research, educate future leaders and advance the academic enterprise. Securing philanthropic support for additional endowed faculty lines, across the disciplines, will play a significant role in the university's second comprehensive fundraising campaign.

► **Diversify extramural funding.** UC Davis has reached all-time record levels of extramural funding from public and private sources, but opportunities still exist for growing and increasing the diversification of our research portfolio. The Office of Research will work with campus researchers to further develop our funding streams from industry engagement, international partnerships, and federal agencies underrepresented in our portfolio such as the Department of Defense (nonclassified research, including DARPA and ARPA-E programs), as well as continuing efforts to increase the number of large multi-investigator program grants beyond current levels.

► **Increase support for grant preparation.** Investments in the [Interdisciplinary Research Support](#) unit of the Office of Research have had a high return on investment and could provide a template for further investments in units to support the output and success rate of applications for additional categories of extramural support.

► **Enhance opportunities for industry collaboration.** Significant benefits in research support, and educational and experiential opportunities for students could result from increased partnerships with industry, but the complex nature of such relationships will require a well-supported infrastructure that manages issues such as sponsored research, intellectual property, technology licensing and philanthropic investments. In addition to supporting these relationships, it will be important for the campus to cultivate new relationships through the coordinated efforts of the campus offices that engage with industry partners.

► **Increase revenue from development of intellectual property.** A consequence of increasing research partnerships with industry and supporting faculty entrepreneurship will be new revenue from licenses and patents. Although difficult to predict, this has been a significant source of revenue in some disciplines on campus, and increasing the effectiveness of our support for faculty in such efforts could be a productive investment.

RAISING THE VISIBILITY OF BROAD AREAS OF RESEARCH EXCELLENCE ACROSS THE UNIVERSITY

PUBLIC APPRECIATION of the great strength and span of UC Davis' research efforts in certain disciplines can be maximized by coordinating and better publicizing the activities of researchers with common interests who often reside in different academic units, including departments, centers and ORUs. Efforts have begun to address this issue: for example, the creation of the Coastal and Marine Sciences Institute, which aims to catalyze and foster innovative partnerships for discovering, understanding, and communicating science for effective stewardship of ocean and coastal environments in California and beyond; and the recently re-launched World Food Center, which mobilizes the research, educational and outreach resources of UC Davis, in partnership with consumers, public and philanthropic entities, and the agricultural, marine and food industries, to promote innovative, sustainable and equitable food systems. By drawing attention to and coordinating the efforts of researchers across campus, these united groups are better able to synergize research efforts, increase access to larger scale funding opportunities from federal, philanthropic, and industrial sources, and increase the visibility of our strengths by drawing attention to the depth and breadth of our expertise in these areas.

Next steps to advance this process include:

► Identifying all potential clusters of research excellence.



- ▶ Choosing leadership for the clusters and working with these leaders to implement the process of coordination.
- ▶ Formalizing campus support for these clustered groups, which in some cases may involve consolidation of resources already dedicated to individual programs.
- ▶ Devising communications strategies to take advantage of these broad clusters.

The undisputed and often historic primacy of UC Davis in certain areas — including agriculture and its many disciplines, the environmental sciences, veterinary medicine, to name the most prominent — is noted, in both internal and external communications, with such frequency that there is little time or space to recognize the excellence in humanities and the social sciences broadly speaking, not to mention some of the fundamental sciences. This is compounded by several other factors, from the relative ease of explaining the value of transformational or applied discoveries compared to fundamental research in all fields, and the relative unfamiliarity the public has with grasping the research agendas of the humanities and arts.

Next steps to address this challenge include:

- ▶ Working in partnership with Strategic Communications to ensure public recognition of the totality of the research strengths of UC Davis that are made more visible through these efforts.
- ▶ Engaging in targeted programs to raise the awareness and appreciation of communicators with the research agendas and broader significance of work in the arts, humanities, social sciences, law, education and management.
- ▶ Elevating professional and public visibility with highly publicized research conferences focused on important social challenges, which would connect like-minded scholars from all disciplines potentially galvanizing new collaborations. These conferences would serve to solidify the region's perception (e.g., policymakers, community members, public and private sectors) of UC Davis as a leader and "go-to" source for information on these topics, not least because the university draws on its diverse disciplinary strengths and the insights and energy that emerge from the dialogue among researchers in widely disparate fields.



GOAL 2 METRICS:

- ▶ Research activity, including extramural awards by source, expenditures and publications
- ▶ Research space, including improvements in both quantity and quality of space
- ▶ Major faculty awards and recognition
- ▶ Growth in interdisciplinary research projects



GOAL 3 ▶

Embrace diversity, practice inclusive excellence and strive for equity. Make UC Davis a place of excellence for learning and working by supporting a culture that values the contributions and aspirations of all our students, staff and faculty; promotes wellness and a culture of sustainability; and cultivates the open interchange of ideas.

UC DAVIS BELIEVES that achieving our aspirations in teaching, research and service depends on the strength of a diverse and inclusive culture that creates access and supports success for our students, staff and faculty. From recruitment to commencement for our students, and from hiring to retirement for our faculty and staff, we are committed to finding and implementing effective strategies for continuous improvement in addressing these goals.

IMPLEMENT THE 2017 DIVERSITY AND INCLUSION STRATEGIC VISION

The campus has recently completed a [Diversity and Inclusion Strategic Vision](#) that presents a broad plan of action with goals for the coming years, including a comprehensive set of recommendations and accountability metrics. The recommendations in the Diversity and Inclusion Strategic Vision plan cover most of the strategies that UC Davis will implement to address these goals over the coming years, and include the following:

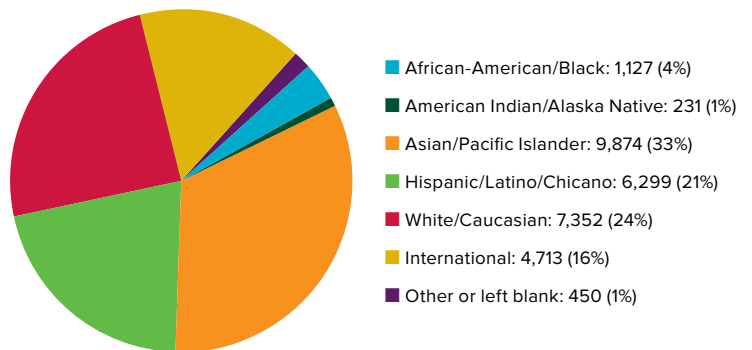
- ▶ Identify, attract, retain and graduate a diverse student body
- ▶ Identify, attract and retain a diverse faculty and staff
- ▶ Advance a climate that fosters inclusive excellence



- ▶ Promote diversity and inclusion in all of our research, teaching, public service, and training on campus and in neighboring communities.
- ▶ Ensure accountability to diversity and inclusion efforts on campus and in serving neighboring communities

The vice chancellor for Diversity, Equity and Inclusion will provide leadership for this effort. This newly created position includes responsibility for overseeing implementation of the strategic vision and ensuring sharing of best practices in all dimensions of campus diversity, equity and inclusion efforts. A task force has also been established to coordinate UC Davis' planning to become a federally designated Hispanic Serving Institution, or HSI. Recommendations on UC Davis' HSI vision, goals and metrics will guide the next steps in this process.

RACE/ETHNICITY — UNDERGRADUATES, FALL 2017



SUPPORTING OUR CAMPUS COMMUNITY

We are committed to fostering a stronger sense of shared purpose and well-being throughout the entire university community. To support this goal we can:

- ▶ Create new programs to educate students about the nature and benefits of freedom of speech and free exchange of ideas. Diversity is desirable in all aspects, including diversity of opinion, and it is our goal to create a culture where students, staff and faculty uphold, defend and advance free speech rights and are able to express thoughts and opinions even when those are unpopular or controversial.
- ▶ Provide more opportunities for staff, students and faculty to develop stronger support networks and familiarity with each other through organized events that bring people together from across campus and across the causeway. Examples could include social/cultural events, educational events where people share about their work, research and service, and organized community service learning projects.
- ▶ Encourage a culture of wellness on campus. One way to do this would be to leverage the expertise of the schools and colleges to offer public presentations on wellness topics (e.g., the extremely popular [Mini-Medical School](#), which could be extended to healthy pets and even healthy plants, in the spirit of One Health). Such events, both in Davis and Sacramento, will support the health and wellness of the entire university community, and would be a great opportunity to build community across the causeway and in neighboring communities. Another opportunity is to continue to build out a robust set of activities and programs that all university citizens — students, faculty, staff — could access, and to continue to develop the [Healthy UC Davis program website](#).
- ▶ [Address the mental health needs of undergraduate and graduate students](#) by ensuring that a full range of mental health and crisis services are readily accessible to students, and that these services are provided in a timely, confidential and culturally sensitive manner.
- ▶ Enhance the physical environment to better accommodate students, staff and faculty with physical challenges and disabilities.
- ▶ Expand the availability of convenient and affordable child care at the Davis and Sacramento campuses for students, staff and faculty. One strategy proposed would be to explore a student-run business model to contain costs while providing student employment.
- ▶ Improve the physical environment to improve safety, convenience and morale. Even if the campus backlog in deferred maintenance can't be tackled all at once, the campus will undertake a comprehensive project to “refresh” older spaces across campus to further contribute to a positive and productive environment for learning and work.
- ▶ Strengthen relationships and collaborate with local, community, regional, state, national and global partners to build outreach and recruitment pipelines to the rest of the world.
- ▶ Encourage a [culture of sustainability](#) and take pride in our identity as a green campus by continuing our pursuit of setting the global standard for environmental sustainability practices among higher education institutions through the actions of staff, students and faculty; from new building design, to staff and faculty participation in regional policy discussions, through engagement programs such as the [Aggie Green Pledge](#).
- ▶ Reduce our carbon footprint through updated waste streams, creative upcycling of post-consumer materials and an increased reliance on renewable energy. By updating our transportation infrastructure in collaboration with the city of Davis, we can improve the accessibility and safety of biking to and throughout the UC Davis campus in order to minimize reliance on personal vehicles.



UC Walks

SUPPORTING OUR UNDERGRADUATE STUDENTS

UC Davis is committed to promoting the success of its growing population of students from historically underrepresented and socioeconomically disadvantaged communities as well as those who belong to the first-generation of college students in their families. [Reports from task forces charged to review affordable student housing, food security and mental health care](#) have been recently completed, and include reviews of existing programs along with recommendations for further action.

In addition to recommendations adopted from these reports, we will pursue the following strategies:

Addressing affordability. With respect to the total cost of attendance, tuition is not always the most relevant variable, particularly for students in the lowest socioeconomic groups, since the [UC Blue and Gold Opportunity Plan](#) covers all tuition and fees for eligible California residents whose total

family income is less than \$80,000 a year. However, rising tuition is still a challenge for students from middle income groups (both domestic and international), and the additional costs of housing, food and books remain a challenge for students seeking to avoid graduating with a large debt burden. Strategies to address this issue include:

- ▶ Explore avenues for growing philanthropic support for student scholarships in conjunction with the university's upcoming second major comprehensive campaign, with the long-term goal of widening the paths of educational opportunity and access.
- ▶ Redouble campus planning efforts to increase the supply and affordability of housing for undergraduate and graduate students.
- ▶ Develop and implement strategies to reduce food insecurity among our students, in addition to programs like [The Pantry](#) and others mentioned on the [Aggie Compass](#) website.



- ▶ Encourage the development and use, where appropriate, of free, open-access text books, through increased campus financial support or release time for faculty willing to invest in creating such resources, and/or through promoting the awareness and use of existing open access resources such as [LibreTexts](#), founded and directed by a UC Davis faculty member.

Support for student communities. Students from specific underrepresented, marginalized and underserved communities benefit from access to [spaces and people dedicated to their success, support and enrichment](#). The university is committed to ensuring that these resources are available to our students and will continue to look for ways to better meet their needs.

Cultural awareness and inclusion. Efforts should be made to incorporate wherever possible into both the undergraduate and graduate curricula and extracurricular experiences ideas that support cultural awareness and inclusion. With the university's growing international and underrepresented minority population, it is important for all students to develop the skills to work with a diverse group of individuals, who may have different behaviors based on their cultural background and current family dynamics.

Summer transition program for transfer students. While many of the surrounding community colleges operate on a semester system, UC Davis operates on a quarter system. Students

transferring to the university from community colleges often experience a challenging transition during their first quarter at UC Davis. Instead of exploring research and internship opportunities, many are overwhelmed with the brevity of the quarter system and its associated requirements (e.g., closely spaced midterms). Transfer students would benefit from a robust transition program scheduled prior to the start of their first official academic year.

Supporting access and success for veterans. Efforts will be made to improve recruitment and success of veterans as UC Davis students. Approaches will include the building of strong relationships between the admissions office with counterparts in local community colleges with high veteran populations, consideration of ways in which to increase recognition of educational experiences that veterans have already finished at the time of application (for example providing the opportunity to test out of a class/course/subject of which they demonstrate sufficient proficiency based on prior experience in the military), and creation of a webpage dedicated to veterans on the UC Davis Admissions site.

Creation of a central testing center for accommodating student needs. There is a substantial need for a comprehensive, centralized service that can address the large and growing need for students taking tests with academic accommodations. The campus recognizes this need and has already established a task force to identify a solution.

SUPPORTING OUR GRADUATE AND PROFESSIONAL STUDENTS

We will enhance support for programs that increase the recruitment particularly of African American, Chicanx/Latinx, Native American, low-income and first-generation graduate and professional students. Specific strategies include:

- ▶ Support and expand the new “[ENVISION UC Davis](#)” program to increase the diversity of the pool of graduate students and prospective faculty.
- ▶ Institute a more robust program for sharing best practices in recruitment of graduate and professional students from diverse backgrounds. For example, the “Neuroscience Initiative to Enhance Diversity” associated with the NIH T32 grant-supported Training Program in Basic Neuroscience has demonstrated particular success.
- ▶ Explore factors that impact the acceptance of underrepresented minority students into the graduate and professional programs, such as the increased use of “holistic review” to offset possible effects of unconscious bias in screening applications and the role of the GRE and other standardized test scores in admission decisions. For example, the School of Nursing applied relevant educational research to determine that the GRE had no predictive value for student success and has not used this requirement in their admission process. UC Davis is leading a consortium (with UCLA and USC), supported by a \$1.2 million grant from the Andrew Mellon Foundation, to develop new methods for the graduate admissions process that will increase equity and inclusivity.
- ▶ Support the [Mentoring at Critical Transitions](#) program in the Office of Graduate Studies.
- ▶ Global Affairs will work with graduate programs across the university to increase the pool of qualified underrepresented international students via our Global Centers and by expanding

access to fellowship funding. A comprehensive network of holistic nonacademic personal supports will facilitate their success.

SUPPORTING OUR STAFF

UC Davis will become an employer of choice and a national leader in hiring a diverse workforce. The Diversity and Inclusion Strategic Vision notes several strategies for increasing the diversity of our staff, where underrepresentation is particularly notable in management roles. Priorities include the development of better pathways for advancing up the career ranks, and providing more extensive training for leaders, managers and supervisors.

- ▶ **Staff advancement and retention.** Strengthening pathways for advancement for our staff will expand opportunities to develop the advanced skills required to be competitive for internal positions offered on campus.
 - ▷ Expand and enhance [Staff Development and Professional Services](#)’ offerings in order to support the acquisition of career advancement skills.
 - ▷ Create broader opportunities for advanced training of staff by bringing the trainers to campus (rather than sending our staff to remote courses), and thus providing access to a larger number of interested parties.
 - ▷ UC Davis Continuing and Professional Education might play a role in developing appropriate course series that would be accessible and available for staff.
 - ▷ Campus-funded global access to [Lynda.com](#) would extend the benefits of this useful training platform to a wider group of staff than presently have access.
 - ▷ Consideration should be given to establishing mentorship/sponsorship programs for underrepresented and diverse staff. Such a program would pair staff with

participating campus leaders for a developmental partnership in which knowledge, experience and skills are shared between the two in order to foster the staff mentee's professional development and enhance the mentor's perspectives and knowledge.

- ▶ **Managerial and supervisory training.** It is important that our managers and supervisors be well trained in both management skills and cultural competency. Efforts should be undertaken to create a culture of accountability, and 360° reviews should be used more frequently in evaluating managers and supervisors.
 - ▷ Implicit bias training through the [STEAD \(Strength Through Equity and Diversity\)](#) program has been helpful in reducing the impact of unconscious bias in the hiring of faculty. Currently, all new staff supervisors are required to take an implicit bias training, but this training needs to be mandatory for all supervisors and managers. The extension of STEAD or a similar program to committees involved in staff hiring, particularly at management levels, should be considered.

Salary equity. UC Davis commits to conducting a regular institutional pay analysis across occupations by gender, race and ethnicity, reviewing hiring and promotion processes and procedures to reduce unconscious bias and structural barriers, and embedding equal pay efforts into broader institutional equity initiatives.

SUPPORTING OUR FACULTY

The [Diversity and Inclusion Strategic Vision](#) describes several strategies to help broaden the diversity of our faculty, both in recruitment and hiring of new faculty, as well as in supporting and retaining the faculty we hire.

With respect to hiring, we are committed to the

support of programs that increase the pipeline of diverse candidates and the adoption of practices that increase the possibility of successful recruitments. We will continue to support pipeline programs and partnerships including the [UC President's Postdoctoral Fellows Program](#) (PPF), [UC Davis Chancellor's Postdoctoral Fellowship Program](#) (CPFP) and the [University of California – Historically Black Colleges and Universities](#) (UC-HBCU) Initiative; as well as programs that provide campus resources in support of faculty hiring related to diversity. These include the [CAMPOS](#) (Center for the Advancement of Multicultural Perspectives on Science) and IRI (Impact Recruitment Incentive) programs to increase the pace of hiring of diverse faculty in STEM and non-STEM disciplines, respectively.

The campus will continue to develop a culture of accountability for diversity in the hiring process. This will include continued mandatory participation in unconscious bias training through the STEAD program for all members of search committees, and extension of this training to others involved in overseeing the promotion and tenure process. Deans, chairs and administrative personnel will be held accountable for ensuring the diversity of candidate pools at every stage of the search process as well as their overall success in increasing faculty diversity in their units.

The campus will also support and continue to develop programs that increase the retention and success of diverse faculty, such as CAMPOS, the [Faculty and Academic Development](#) programs under the Vice Provost of Academic Affairs, and the [UC Davis Launch Committees](#) developed under the ADVANCE program.

Many faculty of color turn to nonuniversity groups as partners for research and learning, based on interviews done as part of the Engaged Scholarship and Engaged Learning (ESEL) stakeholder engagement process. Providing resources to faculty that engage diverse communities in their research and teaching can help support existing community engagement and allow faculty to scale up and sustain their efforts.



GOAL 3 METRICS:

- ▶ Metrics from the Diversity and Inclusion Strategic Vision
 - ▷ demographics of eligibility pools, applicants, and enrollments for students
 - ▷ student persistence measures (e.g. second-year retention, GPA, progress toward degree)
 - ▷ distribution of financial aid and grants
 - ▷ demographics of availability, hiring pools and hires for staff and faculty
 - ▷ retention and turnover rates for staff and faculty
 - ▷ rates of advancement for all demographic groups
 - ▷ staff and faculty diversity
 - ▷ equity in salary
- ▶ Managerial and supervisory training participation rates
- ▶ Campus climate and satisfaction (based on surveys including UC Undergraduate Experience Survey, CUCSA Staff Engagement Survey, COACHE Faculty Engagement Survey)
- ▶ Progress toward meeting the goals of the UC Sustainable Practices Policy



GOAL 4 ►

Support our community, region, state, nation and world through mutually beneficial and impactful partnerships that reflect a firm commitment to our mission and increase the visibility and reputation of the university.

REINVENTING THE LAND-GRANT MISSION for the 21st century will require greater visibility with policymakers, more powerful partnerships with NGOs and grassroots organizations, and meaningful engagement with stakeholders. Humanity's greatest challenges cannot be addressed from the ivory tower or with top-down solutions. We need to meet these challenges head-on — on the ground, in the field and within the communities we serve locally and globally. Civic engagement, community empowerment and evidence-based decision-making — all arenas where UC Davis expertise can make a difference — will be critical to scaling up solutions to complex challenges like climate change and social injustice. Indeed, alongside our excellence in research and the extraordinarily broad range of undergraduate majors and graduate programs we offer our students, it may well be our commitment to the land-grant mission, and to continually updating it to meet the needs of society today, that most characterizes UC Davis.

ELEVATE EXCELLENCE THROUGH ENGAGED SCHOLARSHIP

Engaged scholarship through research, teaching and creative practice that focuses on issues of public concern, and is developed in collaboration with diverse audiences beyond the university is a hallmark of land-grant excellence. Engaged or public scholarship takes many forms, ranging from providing local communities access to university resources, to organized research and intellectual pursuits that inform and shape public policies and debates, to scientific and technological breakthroughs that improve people's lives. Collectively, these activities have impact at different geographic scales, across sectors, and between disciplines that improve the well-being of individuals, communities and the planet.

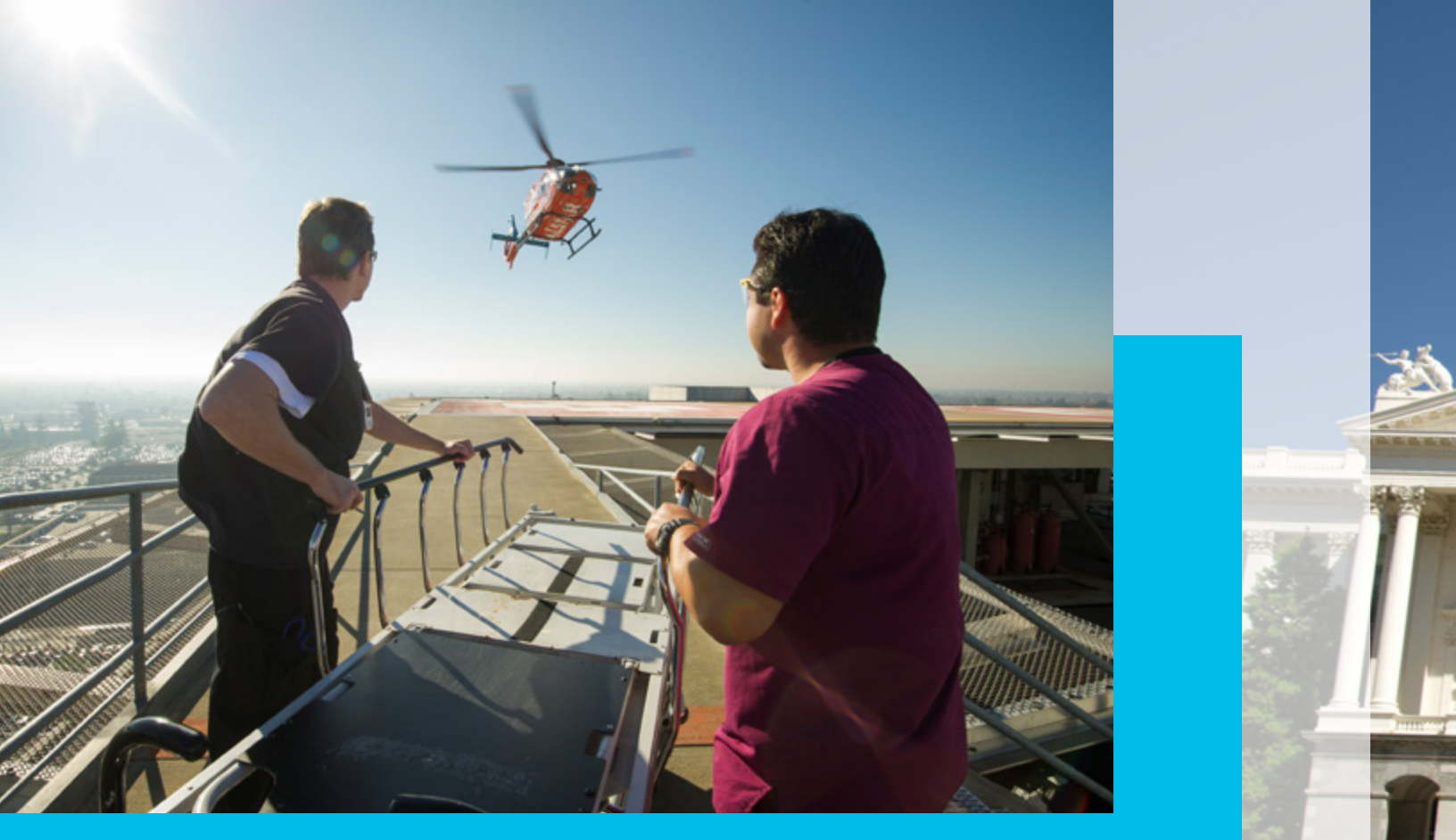


UC Davis is widely viewed as an engine of engagement through the many activities carried out by individual faculty, students, staff and alumni. The collective impact of these actions will greatly benefit from an integrated and coordinated approach that visibly supports, rewards, and communicates the value and impact of our public scholarship. There exists an opportunity at this juncture to elevate excellence by expanding the reach of engaged scholarship, both internally and externally. The Engaged Scholarship and Engaged Learning implementation plan currently under development builds on the Community Engagement Classification awarded to UC Davis by the Carnegie Foundation in 2015. This recognition, coupled with the [recent arrival of *Imagining America*](#) on our campus, has created momentum that we can build on in the following ways:

- ▶ Establishment within the Office of the Provost

an Engaged Scholarship and Engaged Learning unit, which will foster awareness and understanding of the value of engaged scholarship in the schools and colleges. The unit will coordinate communication that promotes the value of engaged scholarship; develop means of incentivizing faculty participation; provide training in community-engaged research and teaching for faculty who wish to build these activities into their extramural grants; and measure and assess the impact of publicly engaged research and learning through evidence-based approaches.

- ▶ Creation of a recognition program (e.g., prizes) to further raise the profile of engaged scholarship at UC Davis.
- ▶ Development of a well maintained, highly interactive website for ongoing support of



community-engaged programs and projects to serve as a resource for campus faculty, staff and students as well as for members of the community, regionally and internationally. Better communication about existing activities and resources is an important strategy to support public scholarship and create a clear and consistent narrative about how and in what ways UC Davis is serving the public, including state, regional, and local groups from the public, private, and nonprofit sectors. This goal should be addressed in coordination with the creation of the research interests database noted under Goal 2 and the campus calendar website.

SUPPORT THE HEALTH OF OUR COMMUNITY

One of the best examples of a beneficial and impactful partnership between UC Davis and the Northern California region is [UC Davis Health](#), which encompasses the UC Davis Medical Center, UC Davis School of Medicine, The Betty Irene Moore School of Nursing and the UC Davis Physician Network. Combining groundbreaking research with a 50-year commitment to patient-centered care, UC Davis Health has

become a leader in transforming health care to address the needs of both current patients and future populations.

Goals for the coming years include:

- ▶ Developing a well-trained, inter-professional workforce to deliver team-based health care for the future
- ▶ Ensuring access to health care services for all patients who need care, regardless of location, background or ability to pay
- ▶ Engaging our expanded communities, not just through health care delivery, but with preventive care, medical research, and community-based participatory research to increase wellness of the underserved and do our part to make sure societal funds are spent on quality health outcomes, rather than suboptimal and expensive episodic emergency care
- ▶ Engaging patients as crucial stakeholders in designing future health care delivery models
- ▶ Further establishing the UC Davis Medical Center as the hospital of choice for all of Northern California's tertiary and quaternary care



- ▶ Developing industry partnerships to bring cutting-edge technologies to patients throughout Northern California and beyond, and continuing UC Davis' national leadership in remote health care through telemedicine
- ▶ Instructing providers in the proper use of artificial intelligence to improve health outcomes
- ▶ Developing health care providers, including doctors and advance practice nurses, with a passion for clinical care, a commitment to engaging underserved communities and advancing rural health with a focus on reducing health disparities, and team-based approaches to medicine
- ▶ Creating partnerships to reduce health care disparities and deploy 'wrap-around' social services to patients who need them
- ▶ Serving as a catalyst for broad-based UC Davis innovations that improve population health, such as transportation advances, cities of the future, nutrition and food science, smart apartments, addressing social determinants of health and more

EXPAND OUR ROLE AS A PRIMARY ADVISORY RESOURCE TO POLICYMAKERS

California is the fifth largest economy in the world and a bellwether for national policy. As an international powerhouse in key research areas, including climate, water, agriculture, transportation, immigration policy and health, to name just a few that intersect with the state's most vital issues and globalized economy, we already play an instrumental role in translating our expertise for policymakers. With our close proximity to the capital city, we are well-positioned to help shape evidence-based public policy. Strategies to fully leverage our competitive advantages in order to increase the visibility and impact of our expertise in service to the public good include:

- ▶ Developing a formal program in public policy. Such a program could serve as a focal point for policymakers to connect with UC Davis experts, for UC Davis graduate and undergraduate students to do policy-related research with faculty and governmental experts, and for students and faculty to directly experience the interface between university research and the making of public policy. Ideally, this program would leverage the breadth and depth of campus research



by focusing not on policy in general, but rather on how the disciplinary expertise of UC Davis could be productively partnered with public needs to advance the public good. A long-term goal could be the establishment of a policy-related school in Sacramento that would offer unique degrees drawing on the disciplinary strengths of UC Davis.

- ▶ Utilizing the database of campus expertise discussed under Goal 2 as a resource for those looking for policy advice on current issues. Similar to the matching efforts envisioned for developing new interdisciplinary collaborations, a proactive version of this strategy would be to identify particular faculty with expertise most relevant to the districts of individual legislators and work to develop a connection.
- ▶ Creating more formal opportunities for our UC Davis experts to give talks about their

research in public forums in Davis, Sacramento, Washington D.C. and at the United Nations, inviting legislative staffers, legislators and other key decision makers to attend.

- ▶ Partnering with other UC campuses where appropriate to leverage common strengths and create advisory groups in areas of interest to key stakeholders. As UC Davis achieves HSI status, additional opportunities for engaging with the California Latino Legislative Caucus may develop.
- ▶ Partnering with alumni to expand opportunities for our undergraduate and graduate students to intern with legislators and other community leaders.
- ▶ Creating video presentations by expert faculty on issues of current significance to be disseminated broadly in a multimedia marketing effort.

SHARING THE VISION AND IDEALS OF UC DAVIS WITH THE WORLD

Visitors to UC Davis quickly appreciate the special nature of the university in its breadth of interests, collegial and collaborative attitudes, its focus on caring for the earth and its inhabitants, and its dedication to providing our students with the best possible learning experiences inside and outside the classroom. To ensure that our qualities are equally well-known beyond the boundaries of the campus, we must continue to strive to develop more effective means of communicating our vision to a wider audience.

There is no single mechanism for achieving this goal, but the following strategies are proposed:

- ▶ Looking beyond the obvious. As noted above, we have done a great job of publicizing our top-ranked status in veterinary medicine and agriculture, but there are many other areas where the university has centers of excellence that should be recognized. We will increase our efforts to recognize and publicize our strengths in the humanities, arts and social sciences and related disciplines as well as in both fundamental and applied sciences, including primary and speciality health care, in ways that are authentic and meaningful to external constituencies, and that add value to the degrees that we offer in many fields.
- ▶ Bring disciplinary experts to campus. Our experience has been that bringing visitors to UC Davis is an effective method of impressing them with the strengths of the campus. Hosting events on campus with leaders from specific fields thus can have a strong positive impact, and we will seek mechanisms to support faculty in finding the resources and space to organize workshops and conferences at UC Davis in areas of campus strength.
- ▶ Leverage our 250,000 alumni worldwide. Every graduate of UC Davis is a potential spokesperson for UC Davis; efforts to utilize this resource will be essential to getting our message out. The more effectively we communicate with our alumni, and engage them with the ongoing activities of the university, the more effective they will be as representatives of the university.
- ▶ Enhance our prominence in athletics. UC Davis student-athletes' stellar academic and post-graduation achievements have long been our signature competitive advantage in the NCAA Division I arena. Taking this leadership to the next level, we will establish UC Davis as the nation's premier athletics program for producing successful student-athletes. As we continue to build a nationally competitive Division I program, we will implement a systematic personal and professional development program that prepares our athletes academically and socially for success in their postgraduate careers and serves as a model for the entire campus.
- ▶ Maximize the effectiveness of our communications. To raise regional, national and international visibility, the campus will undertake a major branding campaign, focused on key constituencies. Another aspect of both regional and international visibility that deserves attention is the development of our web presence in additional languages, including Chinese and Spanish, which might be particularly effective with parents of our increasingly diverse student body.

Faculty play a very important role in communicating the excitement of their research programs to external stakeholders, whether as a part of development in speaking to potential donors, or as advisors to policy-makers. Although most faculty are expert in



communicating their work through publications, it is often the case that they have some challenges in presenting their work effectively to nonexperts. Better preparing faculty for this role, perhaps with assistance from Continuing and Professional Education, might be helpful.

Internal campus communications would benefit from continued development of the centralized campus calendar into a sophisticated and personalized system to share information about university events and accomplishments with interested campus stakeholders, using targeted digital communication methods. This should be integrated with the faculty interests database discussed under Goal 2.

- ▶ Establish Global Centers overseas to enhance international collaborations in education and

research. The international impact of UC Davis will be increased by the establishment of centers in key strategic locations worldwide through the [Global Centers Initiative](#). These centers, whose physical footprint will be modest, will support region-specific strategies based on our research with international collaborators, students moving to and from campus, engagement with international alumni, and connections with international organizations and institutions. As our international student population and our domestic students who have participated in international experiences complete their studies and travel throughout the world, they will serve as outstanding ambassadors and enhance the international visibility of UC Davis.



GOAL 4 METRICS:

- ▶ Impacts of engaged scholarship on research partners and public policy (survey-based)
- ▶ Appointment of UC Davis faculty to regional, state and national policy advisory boards and commissions
- ▶ References to UC Davis in public media
- ▶ National and international university rankings
- ▶ Athletic success in both scholarship and sport
- ▶ Global activities in education, research and outreach

GOAL 5 ►

Create an intellectual and physical environment that supports the development of an innovative and entrepreneurial culture that extends the benefits of our research activities beyond the boundaries of the university.

UC DAVIS IS ONE OF THE TOP public research universities in the world. With strengths in both basic and translational research, the university is well-positioned to make substantial contributions to society by translating the benefits of innovative research, including new products, new medical treatments and new technologies, into the public domain. Further benefits to society result from the cultivation of innovative and entrepreneurial attitudes and expertise that students bring to the workplace and marketplace.

A major goal for the coming decade will be to build on the strong programs we have developed that support innovation and entrepreneurship among our students, staff and faculty. Of particular importance will be efforts to both extend the capacity and reach of these programs, providing access to all who might benefit, and to seek greater coordination of program activities across campus that support overlapping goals.

At present, the major groups coordinating innovation and entrepreneurship activities at UC Davis are the [Mike and Renee Child Institute for Innovation and Entrepreneurship](#), housed in the Graduate School of Management, which also hosts the [Technology and Management minor](#); the College of Engineering ([Student Startup Center](#)); the School of Medicine ([Office of Entrepreneurship and Industry Alliances](#)); and the Office of Research ([Technology Management & Corporate Relations](#)). These, along with other programs, support a campus network of entrepreneurial activities listed on the [Davis Entrepreneurship Network](#) webpage.

The activities supported by this network of programs address multiple important goals: increasing opportunities for students at all levels to develop and apply a toolbox of intellectual and practical knowledge and skills that will support innovation and



entrepreneurship during and after their time at UC Davis, both through formal coursework as well as extracurricular activities; support for faculty and other campus researchers in developing their own knowledge and expertise in this area and in providing the necessary infrastructural support for those who engage in innovative enterprises anywhere from initial concept development through to the creation of startup companies; support of industry partners, whether regional or from around the globe, in finding campus partners, in navigating the university regulatory environment, and in locating space for joint ventures; and finally in advancing our commitment to regional economic and community development in alignment with our designation by the Association of Public and Land-Grant Universities (APLU) as an [Innovation and Economic Prosperity \(IEP\) University](#).

A wide array of existing programs already support the goals mentioned above, and those interested in the details can find links to descriptions of these excellent programs, several of which represent partnerships between multiple campus

sponsors, through the websites noted above. Rather than providing a comprehensive list, we focus below on some of the major issues that must be addressed to advance each of our goals over the coming decade.

Support of students. With rising interest in this topic among students, an important first step will be to develop a clear roadmap that can acquaint them with resources available and the best paths to follow, from coursework to extracurricular projects to employment, to develop their talents as innovators and entrepreneurs in ways that will support them over the length of their careers. As noted above, these resources are distributed across the Davis and Sacramento campuses. In many cases, programs designed to serve students from across campus are housed in a single school or college, but this fact may not be widely known to students outside of that unit; e.g. the [Engineering 002 and 098 courses](#) that are open to all. A more coordinated central source of information and ensuring that advising staff across the campus



are familiar with the opportunities available will be key in supporting wide access and participation. The many student-facing programs offered by the [Child Institute](#) and its network of collaborators are a major source of support at all levels, and should be publicized and supported as much as possible.

A second priority if programs are to serve increasing numbers of students will be to address the resource needs and scalability of programs, including the academic courses, extracurricular programs and physical spaces (e.g. the [Student Startup Center](#) and [TEAM](#) labs housed in Engineering). Programs housed in single schools or colleges must be appropriately supported if they are to serve users from across campus, and efforts must be made to coordinate programs to maximally leverage campus and external investments while not diminishing creativity in the development of new approaches.

Support of faculty and researchers. Translating innovative research by UC Davis faculty and research staff along the path from research discovery to commercial application can require assistance at many different levels. The largest source of support for these efforts is the Office

of [Technology Management & Corporate Relations](#) (TMCR), which works closely with campus researchers and innovators through the Innovation Access, Venture Catalyst and Corporate Relations offices; whose [websites](#) describe the myriad forms of support these units provide. Additional support is provided by the Office of Entrepreneurship and Industry Alliances in the School of Medicine as well as other campus partners.

With the overall aim of building a more robust culture of innovation and entrepreneurship at UC Davis, several goals can be identified. First, factors constraining interest and participation at an increased scale must be identified, and efforts made to encourage participation by publicizing activities of innovative faculty, staff, and students as well as university-affiliated startups and community partners. Additional approaches could include expanding proof-of-concept funding, developing other seed investment funding mechanisms, enhancing research and development and incubation spaces, identifying resources to support translational research and new venture formation, and collaborating with regional economic development organizations and business support entities on discrete innovation-related initiatives.

Connections with industry partners. Mutually beneficial engagement with industry is important to both education and research, as discussed under goals 1 and 2. The [Office of Corporate Relations](#), a service unit within the Office of Research, has the major responsibility for building and managing strategic industry partnerships on behalf of the campus, and does so in collaboration with many other units. For example, new corporate relationships may lead to new internship opportunities offered through the Internship and Career Center. Likewise, research support can range from philanthropy to shared projects to standard research funding, engaging the efforts of Development and Alumni Relations as well as the Sponsored Programs Office.

Engaging with industry is a key aspect of extending the benefits of our research activities beyond the boundaries of the university. Increasing industry engagement across campus will demand the continued development of infrastructure and a commitment to listen to the needs of current and potential industry partners to design effective and efficient service functions that promote partnerships that bring greater impact, investments and opportunities for the campus.

The development of appropriate physical infrastructure is critical in taking entrepreneurial activities at UC Davis to the next level. Flexible incubator space will be needed in the vicinity of the Davis and Sacramento campuses to house collaborative and innovative projects involving researchers from across our schools, colleges and departments. These and other such collaborative workspaces can also provide an environment in which research staff from corporate partners can interact beneficially with UC Davis faculty, and graduate and undergraduate students. Significant efforts should be made to accelerate the creation of these spaces, and to facilitate the participation of faculty and students wherever opportunities exist.

Obtaining seed stage funding for the critical transition from idea development and team assembly to the early startup and proof of concept

stages can be particularly difficult for faculty; many lack expertise in this area. Investing the time necessary to identify investment capital sources and successfully pitch a proposal is also challenging to faculty, due to the simultaneous pressures of teaching, publishing and seeking support for their research programs. The development of a university-associated source of investment capital (perhaps involving venture philanthropy) is one idea that has been proposed; it raises some complex legal and financial issues that will need to be carefully studied, but could significantly accelerate progress in building a larger entrepreneurial community.

Support of economic development. UC Davis already plays a recognized role as an economic engine of the Greater Sacramento region, both as a major employer and a major source of highly educated workers. Increased engagement with industry is another way in which the university could enhance its contributions to the local economy, by attracting industry and jobs to the region through technology-based development and cultivation of a welcoming infrastructure for university-affiliated startups. A specific initiative, Aggie Square, is underway, but there are certainly additional opportunities that can be considered over the coming years. Goals will include strengthening our outreach efforts to companies in the region and beyond to cultivate relationships and ensure that they are fully aware of the opportunities for beneficial research relationships with UC Davis, as well as deepening our collaborations with regional economic development groups such as the [Greater Sacramento Economic Council](#), [Valley Vision](#) and the [Sacramento Metro Chamber](#).

Creating a new interface between UC Davis and external partners in Sacramento. The development of [Aggie Square](#) adjacent to the health sciences campus of UC Davis will create a new public gateway to the university in Sacramento, and provide an interface between the researchers of



Sacramento Mayor
Darrell Steinberg '84

UC Davis and the entrepreneurial world of startup businesses. Aggie Square will be a collaboration between UC Davis, the city of Sacramento, and the business community to establish a live/learn/work/play innovation ecosystem that facilitates economic development by easing the transition from the laboratory to the marketplace.

Aggie Square includes within its vision all five goals of the strategic plan: contributing to the education of our students, supporting the research enterprise, engaging with the local community, raising the visibility of UC Davis and advancing innovation and entrepreneurialism.

- ▶ **Education.** Students at all levels will benefit from programs at Aggie Square. One possibility to be discussed will be the development of a “Quarter Away” at Aggie Square, in which undergraduate students might spend an academic quarter participating in problem-based interdisciplinary programs taught in Sacramento that both count toward completion of their major requirements while taking advantage of the opportunities available there to engage with, variously, the adjacent communities, including local neighborhoods, the Sacramento region, the state government, UC Davis Health, and industrial partners.
- ▶ **Research.** Aggie Square may host incubator/accelerator space and collaborative space for research. Its collaborative nature will open up opportunities on both sides: Companies could more easily develop partnerships with faculty and graduate students to conduct research,

and students could have better access to internships and jobs with the companies located there and the communities located nearby. Aggie Square will also serve as a catalyst for translating research discoveries from UC Davis into the public domain, and regional interests and needs into new research.

- ▶ **Community.** It is anticipated that in addition to academic and research space, Aggie Square may include housing, health care, retail, art and music venues, and more. It may also provide a home for community-focused engaged scholarship, opportunities for local residents to interact with university programs and job opportunities for community members.
- ▶ **Impact and visibility.** As a new public face of the university, Aggie Square will present many opportunities for mutually beneficial interactions between the faculty, staff and students of UC Davis and the public. UC Davis Health has been a high-impact, highly visible partner with Sacramento for many years, and Aggie Square will add a new dimension to this relationship.
- ▶ **Innovation and entrepreneurship.** As noted above, UC Davis is committed to developing a stronger culture of innovation and entrepreneurialism across both the Sacramento and Davis campuses, and Aggie Square will serve as an important laboratory for the further development of this culture, building bridges between the research programs in Davis and Sacramento and the local business community.



GOAL 5 METRICS:

- ▶ Student participation in relevant courses and extracurricular programs
- ▶ Faculty involvement in entrepreneurial activities
- ▶ Startup companies involving faculty, staff, postdocs, graduate and undergraduate students
- ▶ Extramural investments in innovation and entrepreneurship
- ▶ Space dedicated to innovation activities
- ▶ Number of industrial partners
- ▶ Intellectual property developed, including numbers of patents and licenses
- ▶ Revenue generated from entrepreneurial activities by category (e.g. startups, licensing, equity, royalties)



TO BOLDLY GO ...

IN THE CONTEXT OF HIGHER EDUCATION, what is the meaning of the phrase “to boldly go” (borrowed with a smile from *Star Trek*) at a time when we strive to fulfill societal aspirations for broad access to excellence through a public research university education while endeavoring to address the world’s greatest challenges through our research? It is a call to think about how we can and not why we can’t, and to step out of our comfort zones in addressing the future.

“To Boldly Go” captures high-level themes and aspirations of the UC Davis community, as well as the outlines of strategies that will be followed over the next 10 years to address these themes. Our planning reflects both the distinctive strengths that make us who we are today and our aspirations for the future as we reach higher and dig deeper in pursuit of our collective vision. Our core mission as a top-tier public land-grant research university — advancing the greater public good through the creation, application and dissemination of knowledge — is enduring, but our strategies for pursuing this mission must continually evolve. We must find ways to effectively use the competitive advantage that arises from our breadth of disciplinary expertise in discovering new ways to solve the world’s challenges. Our plans for the future should be definitive in pointing the way forward, but flexible enough to adapt and respond to changing societal needs, and nimble enough to seize unexpected opportunities.

This document provides a starting point, first for a richer discussion of the proposals set forth over the coming months, and then as a guide for assessing our progress in achieving these goals. UC Davis is a constantly evolving university that is committed to leading the way forward in a rapidly changing world. As we prepare to set this plan in motion, we invite the continued input and engagement of the extended UC Davis community — faculty, students, staff, alumni, university friends, partners and other key stakeholders around the world — to think about and contribute to our goals and actions over the next decade. We welcome you to join us in changing the world.

Engage!



APPENDIX

GOAL 1. Provide an educational experience that prepares all of our students to address the needs and challenges of a diverse and changing world.

6-Yr Grad Rate (2018)		Pell/Non-Pell 6-Yr Grad Rate Gap (2018)	
Virginia	95%	UCB	3%
Michigan	92%	Virginia	4%
UCB	91%	UCR	4%
UCLA	91%	UCSC	4%
UNC-Chapel Hill	91%	Boston Univ.	4%
Florida	88%	Florida	5%
Boston Univ.	87%	UC Davis	5%
Wisconsin	87%	UCI	5%
UCSB	86%	UCLA	5%
Georgia	85%	UCSD	5%
Georgia Tech	85%	UNC-Chapel Hill	5%
Illinois	85%	NYU	6%
UC Davis	85%	U. of Washington	6%
UCI	85%	Michigan	6%
NYU	84%	Wisconsin	6%
U. of Washington	84%	UCSB	7%
UCSD	84%	Georgia	8%
UT-Austin	84%	Georgia Tech	8%
UCSC	80%	Illinois	8%
Purdue	79%	Purdue	9%
UCR	75%	UCM	9%
UCM	64%	UT-Austin	11%

GOAL 2. Enable and support research that matters at the frontiers of knowledge, across and between the disciplines, in support of a healthy planet and the physical and societal well-being of its inhabitants.

Research & Development Expenditures (2016; dollars in 1,000,000s)		Publications: Percent of publications in the top journals (2017)	
Michigan	\$1,436	UCR	46.6%
U. of Washington	\$1,277	UCB	45.7%
Wisconsin	\$1,158	UCSB	45.0%
UCSD	\$1,087	Boston Univ.	44.7%
UNC-Chapel Hill	\$1,045	UCSD	44.1%
UCLA	\$1,038	UCSC	43.3%
NYU	\$810	UCLA	42.8%
Florida	\$791	UNC-Chapel Hill	42.7%
Georgia Tech	\$791	UCM	42.3%
UCB	\$774	U. of Washington	42.3%
UC Davis	\$742	UCI	41.7%
Illinois	\$625	UC Davis	41.1%
UT-Austin	\$622	Michigan	40.2%
Purdue	\$606	Wisconsin	39.7%
Georgia	\$410	UT-Austin	38.0%
Virginia	\$397	Georgia Tech	37.2%
Boston U.	\$396	Illinois	36.3%
UCI	\$345	NYU	36.2%
UCSB	\$230	Virginia	35.3%
UCR	\$152	Georgia	34.9%
UCSC	\$151	Purdue	34.2%
UCM	\$29	Florida	34.1%

GOAL 3. Embrace diversity, practice inclusive excellence and strive for equity. Make UC Davis a place of excellence for learning and working by supporting a culture that values the contributions and aspirations of all our students, staff and faculty; promotes wellness and a culture of sustainability; and cultivates the open interchange of ideas.

Faculty Diversity: Percent of tenured and tenure-track faculty from underrepresented groups (Fall 2016)

UCM	16.0%
UCSC	13.6%
UCLA	11.4%
UCR	11.2%
UNC-Chapel Hill	10.9%
UT-Austin	10.8%
Illinois	10.5%
Georgia	10.3%
UCB	10.0%
UCSB	10.0%
UCI	9.4%
Florida	9.1%
UCSD	9.0%
Michigan	8.8%
UC Davis	8.6%
NYU	8.0%
Virginia	7.4%
Purdue	6.6%
Boston Univ.	6.3%
Wisconsin	6.0%
Georgia Tech	5.5%
U. of Washington	4.7%

Social Mobility: Percent upwards social mobility from bottom 20% to top 20% of income distribution (college entry cohorts 1999–2005)

Georgia Tech	57.5%
UCI	55.3%
UCB	55.2%
UCSD	55.1%
UCLA	54.6%
NYU	52.3%
Virginia	51.8%
UC Davis	51.8%
Boston Univ.	50.4%
Michigan	50.4%
UCSB	49.5%
U. of Washington	45.6%
UT-Austin	44.5%
Florida	42.8%
Illinois	41.7%
UCR	41.0%
UCSC	37.6%
Georgia	35.2%
UNC-Chapel Hill	33.3%
Purdue	31.5%
Wisconsin	22.1%
UCM	NA

GOAL 4. Support our community, region, state, nation and world through mutually beneficial and impactful partnerships that reflect a firm commitment to our mission and increase the visibility and reputation of the university.

Mean Rank Among Five 2018 Global Rankings

UCB	12.0
UCLA	17.4
UCSD	24.0
U. of Washington	25.8
NYU	32.8
Michigan	35.6
Wisconsin	36.8
UT-Austin	43.8
Illinois	46.0
UNC-Chapel Hill	46.6
Boston Univ.	63.2
UCSB	66.2
UC Davis	72.4
Georgia Tech	78.4
Purdue	80.2
UCI	96.0
Florida	112.8
Virginia	124.6
UCSC	144.4
UCR	211.6
Georgia	283.6
UCM	NA

Economic Contribution: Value Added (FY 2009–2010; dollars in 1,000,000s)

UCLA	\$ 8,303
UC Davis	\$3,984
UCSD	\$3,632
UCB	\$3,190
UCI	\$2,662
UCSB	\$1,443
UCR	\$1,365
UCSC	\$1,041
UCM	\$165

APPENDIX

GOAL 5. Create an intellectual and physical environment that supports the development of an innovative and entrepreneurial culture that extends the benefits of our research activities beyond the boundaries of the university.

Startups (FY 2016–2017)		Patents Issued (FY 2016–2017)	
UCLA	20	UCLA	445
UCSD	20	UCSD	262
UC Davis	13	UCB	207
UCB	11	UCI	153
UCI	11	UC Davis	92
UCSB	5	UCR	71
UCR	2	UCSB	50
UCSC	2	UCSC	35
UCM	0	UCM	3

NOTES ON STRATEGIC PLAN METRICS

6-YEAR GRADUATION RATE:

This measures the percent of first-time, full-time freshmen completing their degree at UC Davis within six years. Fall 2008 through fall 2011 entering freshman cohorts are included in this metric.

► Source: [U.S. News and World Report Best College Rankings](#)

PELL/NON-PELL 6-YEAR GRAD RATE GAP:

This measures the difference between the six-year graduation rate (as defined above) for students who received a Pell grant and students who did not receive a Pell grant.

► Source: [U.S. News and World Report Best College Rankings](#)

RESEARCH & DEVELOPMENT EXPENDITURES:

This measures the sum of all research and development expenditures during fiscal year 2016 (includes government, institutional, business, nonprofit, and other fund sources).

► Source: [National Science Foundation](#)

PUBLICATIONS: PERCENT OF PUBLICATIONS IN THE TOP JOURNALS

This measures the percent of a school's publications indexed in the Scopus database (includes articles, letters, notes, editorials, conference papers, etc.) that are published in journals considered to be "top journals" according to CiteScore. CiteScore calculates the average number of

citations a journal received in a calendar year from all items published in that journal in the preceding three years. Journals are ranked by this metric and the “top” journals for this purpose are those in the top 10 percent of this metric within each subject area or All Science Journal Classification (ASJC) category.

Note: We know that this metric may not represent the diversity of our academic landscape as well as it should and we will keep an eye toward using a metric that better represents the entirety of our institution’s research productivity.

► Source: [Elsevier](#)

FACULTY DIVERSITY

This measures the percent of tenured/tenure-track faculty who are from an underrepresented group (American Indian/Hispanic/African American).

► Source: [IPEDS](#)

SOCIAL MOBILITY

This measures the percent of students who were in the top 20 percent of the income distribution 10 years after college among those whose parents were in the bottom 20 percent of the income distribution when the student started college.

► Source: [Equal Opportunity Project](#)

2018 GLOBAL RANKINGS MEAN RANK

This measures the average rank of an institution across five major global rankings: *U.S. News and World Report’s* “Best Global Universities,” *Times Higher Education’s* “World University Rankings,” Shanghai Ranking Consultancy’s “Academic

Ranking of World Universities,” Quacquarelli Symonds’s “World University Rankings,” and the Center for World University Rankings’ “World University Rankings.”

► Sources: [U.S. News](#); [THE](#); [Shanghai](#); [QS](#); [CWUR](#)

ECONOMIC IMPACT: VALUE ADDED

This measures the gross value of goods and services less the value of intermediate inputs to production (generally comparable to Gross State Product). The FY2009–10 data are the most recent comparable data available.

► Source: [The University of California’s Economic Contribution to the State of California](#)

START-UPS

This measures the number of new business enterprises during fiscal year 2016–2017 whose formation depended upon acquisition of rights to a UC invention for purposes of developing a product or service based on it.

► Source: [UC InfoCenter](#)

PATENTS ISSUED

This measures the total U.S. and Foreign Patents Issued in fiscal year 2016–2017. Patents in this case are defined as a legal right to exclude others from making, using, offering to sell, selling or importing a patented utility invention within a given country; or to exclude others from asexually reproducing or using, offering to sell, or selling an asexually reproduced patented plant variety within a given country.

► Source: [UC InfoCenter](#)

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