

University of California Accountability Framework

As a public entity, the University is accountable to the people of California and must remain accountable to them for its actions, past and present, and for its future development. Accountability will be demonstrated:

- by the transparency of the decision-making processes that govern the University and its campuses, medical centers, and laboratories;
- by the manner in which key performance indicators are disclosed to and discussed with the broader public.



The Annual Accountability Report is produced by the Institutional Research and Academic Planning Unit at the University of California Office of the President. We gratefully acknowledge the assistance provided by numerous departments and individuals both at the Office of the President and at UC campuses.

universityofcalifornia.edu/accountability

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University of California
Annual Accountability Report 2019
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EXECUTIVE SUMMARY



UC Accountability Report

The California Dream is at home at the University of California. The students, faculty, and staff — the people of the University of California — are simultaneously creating and realizing the California Dream. It is the creativity and ingenuity of every member of the University community that fuels the engine of innovation that is a hallmark of UC.

UC's contribution to the potential of the California Dream for every Californian cannot be overstated. From groundbreaking research that tackles the State's greatest challenges, to empowering students to define their own futures, to building community through service, the University of California is inseparable from every Californian's dream.

In this year's Accountability Report, each chapter highlights an individual (or two) exemplifying the personal achievements and institutional excellence that set UC apart.

As part of its transparency efforts, the University of California produces the UC Accountability Report to provide greater awareness of University operations. This report, along with the online UC Information Center (ucal.us/infocenter), allows the public to learn more about the University, and UC leadership to identify areas of strength and opportunities for improvement for the system and UC campuses.

The 2019 UC Accountability Report Executive Summary highlights accountability indicators relevant to goals associated with the University of California's multi-year plan: UC 2030. This plan is a collective effort of UC leadership — the President, Chancellors, and Board of Regents — to identify campus and systemwide goals that address current struggles facing the state, and opportunities to strengthen California.

Strengthening UC's Contributions to the California Dream

People have always come to California for a better life and a new start. From early in its history as a state, economic growth from emerging industries has benefited Californians with employment, increased earnings, and home ownership. And education made a better future possible for students and their families, along with the state.

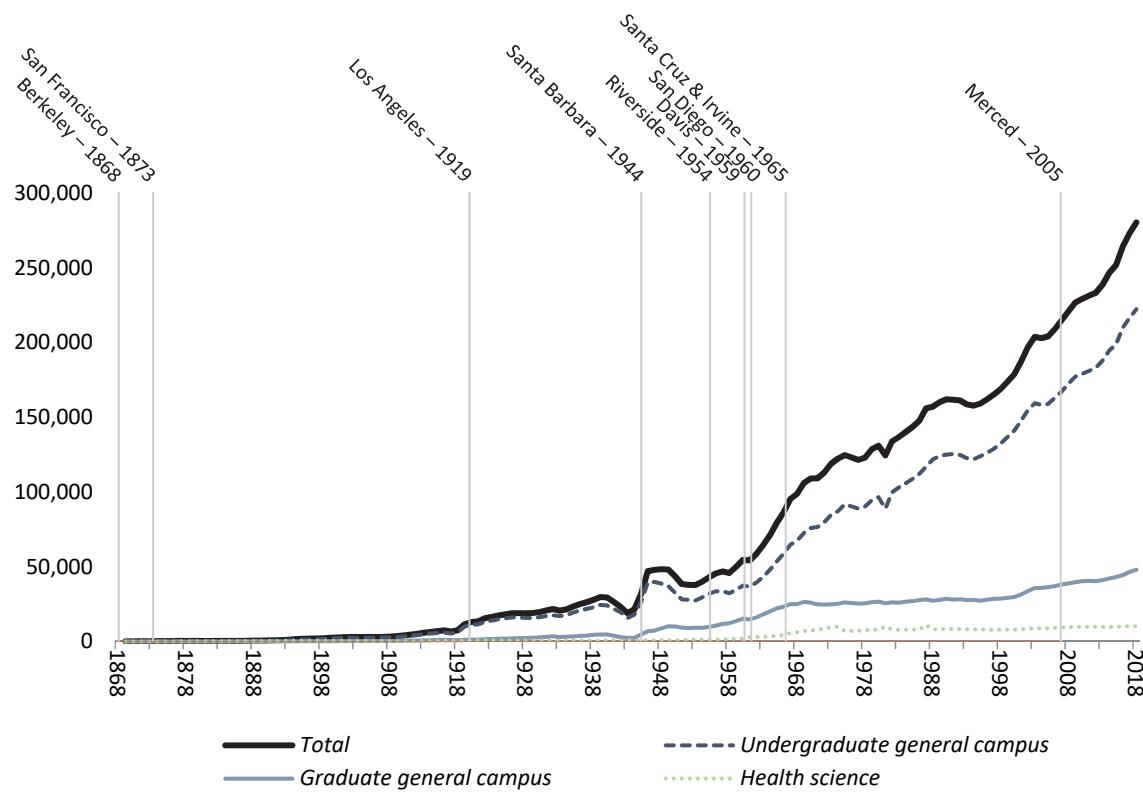
The State of California's investment in the University of California did something unique by providing the benefits of accessible public education in a research environment that rivaled that of the Ivy League. The research function attracts billions of dollars and talent into the state and generates creative works and research discoveries that better the state, the nation, and the world. The University of California has been instrumental to making a better future for Californians a reality.



As California has grown, so has the University. In response to a soaring college-bound Baby Boomer population in the 1950s, the state partnered with the University of California to open five new campuses in northern and southern California, allowing UC enrollment to nearly quadruple over the next sixty years. UC's newest campus, located in the Central Valley, enrolls students from an under-served region of the state while also stimulating the local economy. Today, the University has ten campuses with over 280,000 undergraduate and graduate students, and more than two million alumni. UC also runs three national energy laboratories (two in California), along with operating the state's fourth-largest health care delivery system and serving as the state's third-largest employer.

Undergraduate and graduate student enrollment, with campus opening date

Fall 1868 to 2018



California's investment in the University has advanced the California Dream, especially for the large proportion of low-income students that UC enrolls. Almost 40 percent of undergraduates are low-income, nearly twice that of American Association of Universities (AAU) public institutions and more than twice that of AAU private institutions. A UC education is a ladder for economic mobility; **five years after graduation, the majority of UC Pell Grant recipients who leave with a degree earn more than their parents.**

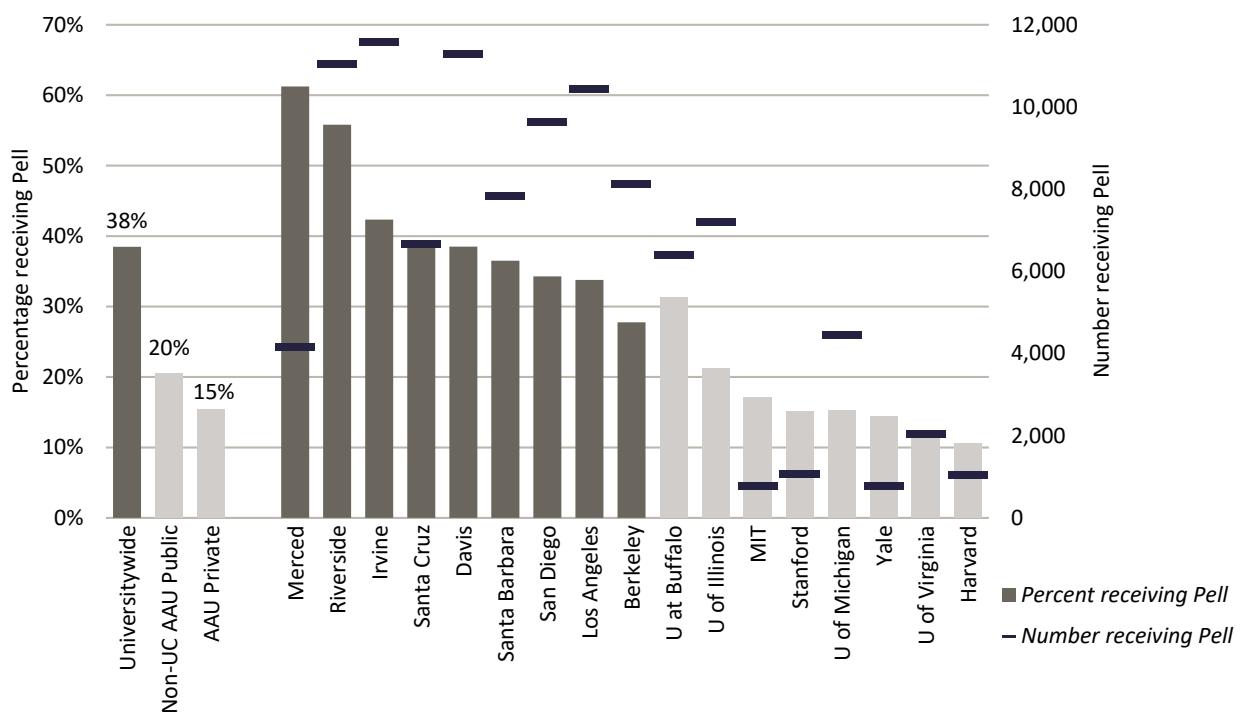


UC enrolls a higher percentage of Pell Grant recipients than public or private peers.

2.2.1 Undergraduate Pell Grant recipients

UC and comparison institutions

2016–17



Source: IPEDS

UC graduate education supports critical workforce needs and advances the University's research enterprise. **UC graduate students produce almost 600 new inventions a year, resulting in a startup being formed every two weeks, on average.** In addition, UC doctoral recipients serve as the next generation of the professoriate with **25 percent of UC tenure and tenure-track faculty and 21 percent of California State University tenure and tenure-track faculty having earned their doctorate from UC.** Furthermore, UC produces **70 percent of California's STEM (science, technology, engineering, and math) doctoral degrees and half of California's health care residents.**

California's investment in UC faculty and their research continues to yield a significant return. Over the past two decades, **UC has secured more licensable patents than any other U.S. research university.** Since 1976, over 1,000 startup companies have been founded around UC inventions, with about 85 percent based in California. **UC researchers submit, on average, five new inventions a day in many diverse areas, including agriculture, technology, biotech, and clean energy.** As examples illustrating this impact, UC research:

- removed the salts from alkaline soils in the Central Valley to produce the world's most productive farming region, moving California from 27th in the country to a leader in state agricultural production;
- transformed AIDS from a terminal illness to a survivable condition, and produced discoveries to treat other critical health care needs like breast cancer, Alzheimer's, and other diseases;
- launched the internet and spurred the information technology, biotech, and entertainment industries.

UC research has helped California become the fifth-largest economy in the world.

UC 2030: Advancing the California Dream

Today, California is at a crossroads; too many Californians are struggling with diminished economic opportunity, a high cost of living, and a lack of affordable housing. California's Baby Boomers are also retiring, marking the first time in California's history that such a large and well-educated group will exit the labor force. Furthermore, California faces significant threats from the growing damage created by a series of unprecedented wildfires; external competition; internal challenges affecting key industries in the state, like drought and pests affecting agriculture; and looming concerns about the next global pandemic and health care costs.

Over the last 150 years, the University of California stepped up to support the state and today, UC is laying out a three-point plan with its vision on how the University can help advance the California Dream. With sufficient resources and focused effort, the University of California will:

- produce over 200,000 additional degrees, on top of the one million undergraduate and graduate degrees currently projected;
- achieve 90 percent overall graduation rates and eliminating gaps for timely graduation and graduate degree attainment for Pell, first-generation, and underrepresented groups;
- invest in the next generation of faculty and research by adding 1,100 ladder rank faculty over the next four years.

These systemwide goals are built from ambitious goals on UC campuses. The University will need additional resources for intensive student-focused strategies and faculty growth.

While UC's overall graduation rates are high, the University is working to eliminate equity gaps. It is also working to significantly increase rates of on-time graduation, one of the best strategies to reduce the cost of education for students and families.

Timely graduation and the lower overall cost of an undergraduate UC degree may also increase opportunities for UC bachelor's degree recipients to attend graduate school — particularly for Pell, first-generation, and underrepresented groups — further advancing their economic mobility and possibly the pathway to the professoriate. A more diverse group of Ph.D. recipients will provide a pool for UC campuses to tap as part of the systemwide effort to grow and diversify the faculty.

At the end of this executive summary is a dashboard displaying UC 2030 systemwide goals; and listed below are relevant UC Accountability Report indicators, which set the baseline and highlight existing challenges and opportunities to achieve these goals.



Goal 1: Producing 200,000 more undergraduate and graduate degrees by 2030

The Public Policy Institute of California (PPIC) estimates that California will face a shortfall of 1.1 million workers with at least a bachelor's degree between 2014 and 2030, in large part due to Baby Boomers leaving the workforce. The University of California has set a goal to add 200,000 degrees over the one million currently projected – or 1.2 million undergraduate and graduate degrees. To date, UC has added over 227,000 undergraduate and graduate degrees or around 19 percent of the 1.2 million total.

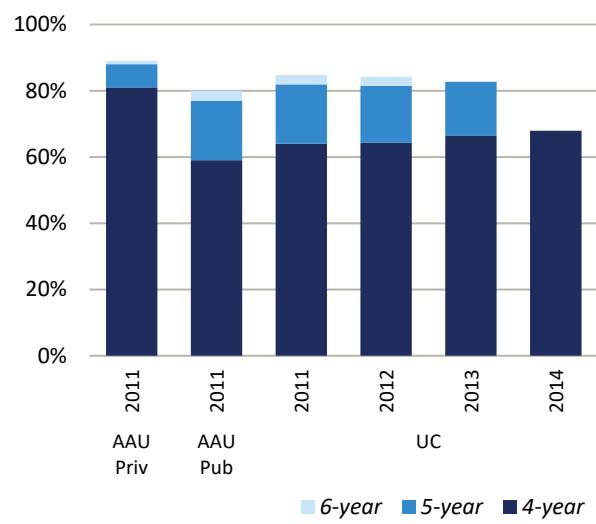
Award 1.2 million degrees between 2015-16 and 2029-30



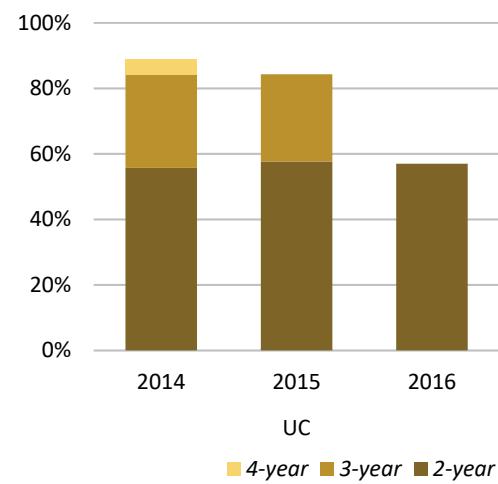
At the undergraduate level, much of this improvement will be made by increasing timely graduation, with all campuses proposing improvements that will yield a systemwide goal to increase four-year freshman graduation rates by eight points, from 68 percent to 76 percent and two-year transfer graduation rates by 13 points, from 57 percent to 70 percent.

UC must increase timely freshman and transfer graduation rates by eight points for freshmen to 13 points for transfers to achieve degree attainment goals.

3.1.1 Freshman graduation rates, UC & comps
Cohorts entering fall 2012, 2013, and 2014; fall 2011 cohort for AAU comparison



3.1.3 Transfer graduation rates, Universitywide
Cohorts entering fall 2014, 2015, and 2016

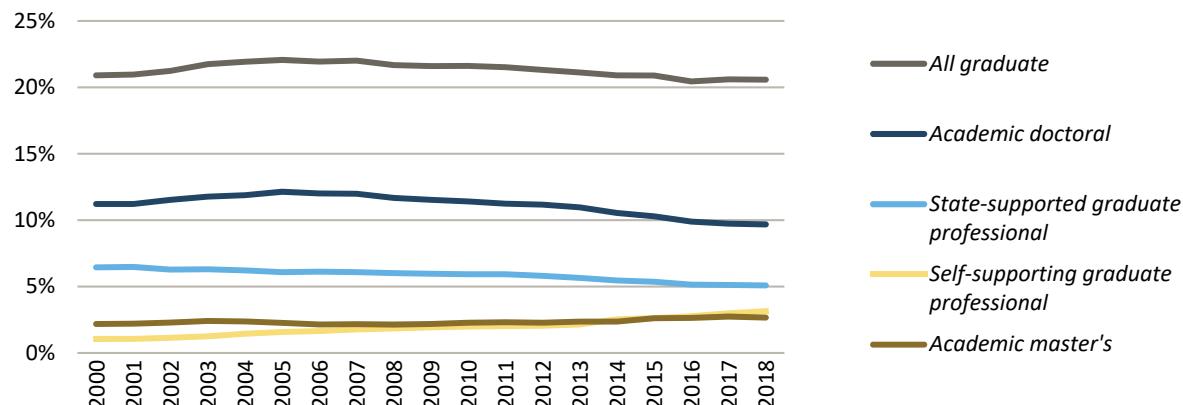


Source: UC Data Warehouse and IPEDS

Of the additional 200,000 degrees UC will produce, over 40,000 will be graduate degrees, and this growth will primarily be achieved through increased graduate enrollment across the system. Not only will this growth support degree attainment goals, it will increase the share of graduate students across the system, **currently at 21 percent, compared to 27 percent for non-UC AAU public institutions and 55 percent for AAU private institutions (4.2.1)**. This graduate growth will also support both undergraduate degree attainment through teaching and mentorship, while advancing UC research activities.

Increasing graduate enrollment will help achieve degree attainment goals and stem the decline in the share of graduate students across the system.

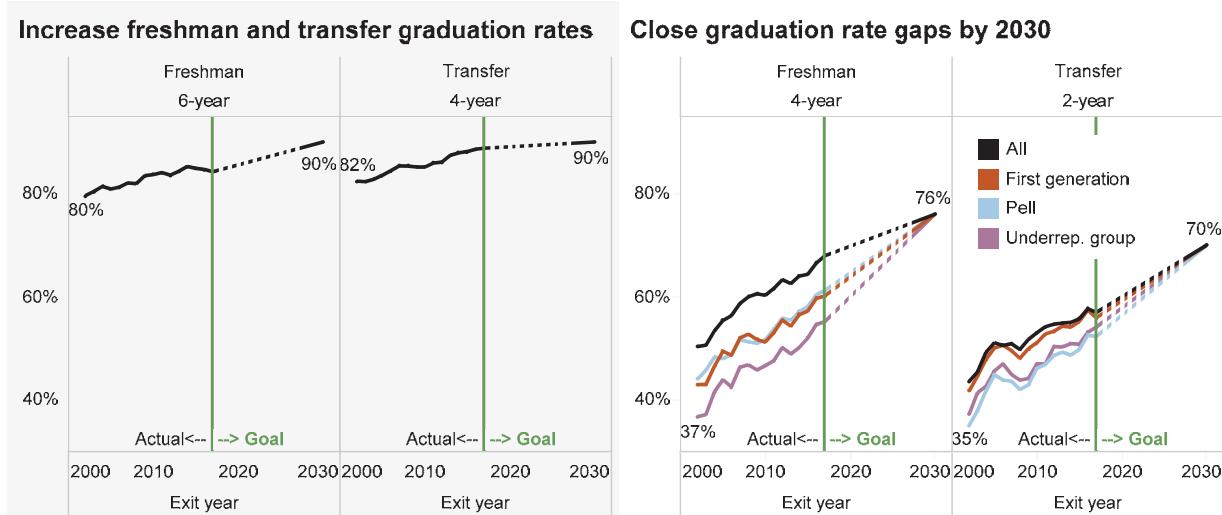
4.2.1 Graduate enrollment share of total Universitywide, fall 2000 to fall 2018



Source: UC Corporate Student System. Academic master's students include post-baccalaureate, teaching-credential students. Graduate professional includes professional master's (e.g., M.B.A., M.Ed.) and professional practice (e.g., J.D., M.D.) degrees.

Goal 2: Ensuring the California Dream is for everyone

The emphasis of this goal is two-fold: ensuring that nine out of ten freshman and transfer entrants leave UC with a degree, and eliminating timely graduation gaps for first-generation, Pell grant, and underrepresented students.



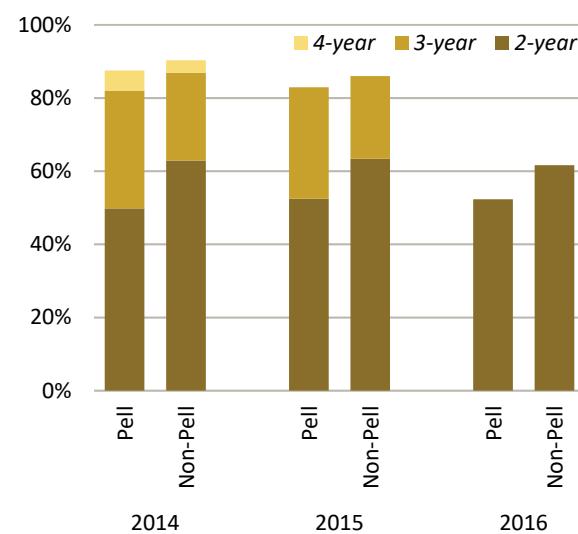
Over the last 15 years, UC graduation rates have improved, particularly four-year freshman and two-year transfer graduation rates. However, UC has been unable to close gaps in timely graduation for Pell, first-generation, and underrepresented groups, particularly for freshman entrants. **UC is seeking to eliminate double digit gaps in timely graduation rates for Pell, first-generation and underrepresented students.**

UC's gap in timely graduation is more than ten points for Pell and non-Pell recipients.

3.1.6 Freshman graduation rates by Pell Grant recipient status, Universitywide
Cohorts entering fall 2012, 2013, and 2014

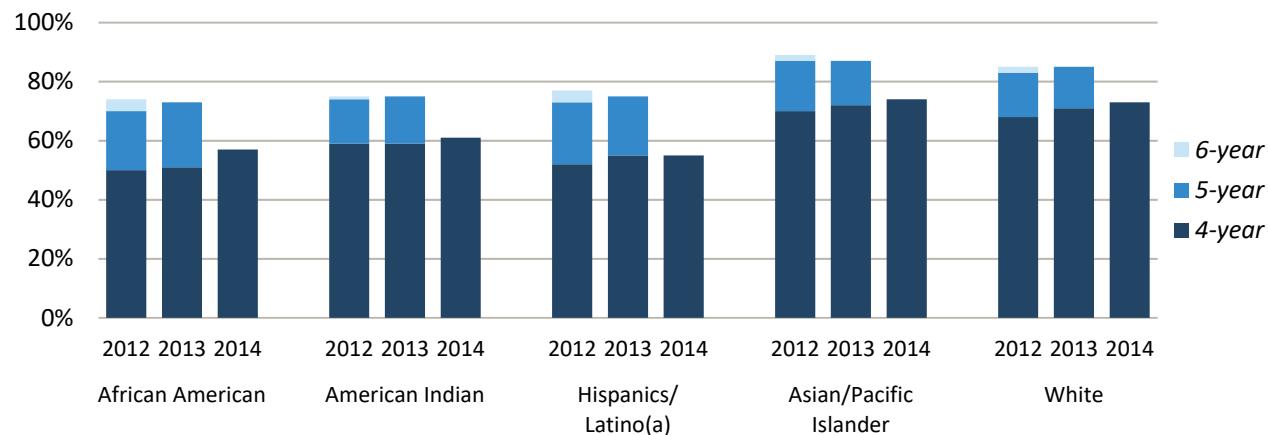


3.1.7 Transfer graduation rates by Pell Grant recipient status, Universitywide
Cohorts entering fall 2014, 2015, and 2016



UC's gap in four-year graduation rates is almost 20 points for underrepresented students compared to Asian and White peers.

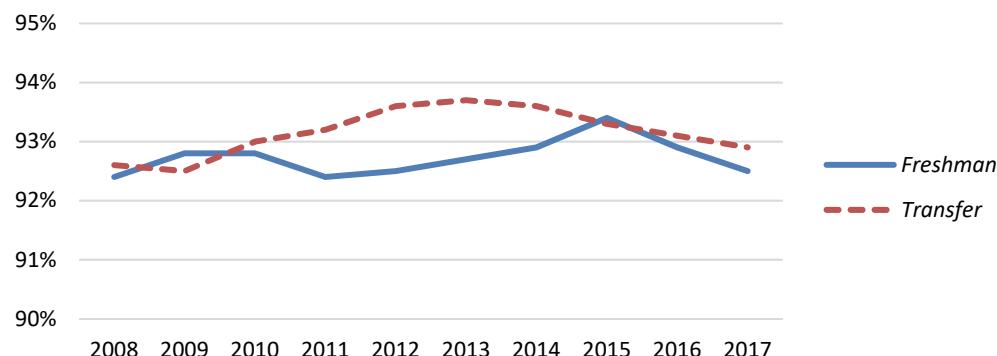
3.1.4 Freshman graduation rates by race/ethnicity, Universitywide
Cohorts entering fall 2012, 2013, and 2014



One challenge to achieving these ambitious goals is a recent decline in first-year retention rates, around one percentage point for freshman and transfer entrants. These drops coincide with a period when UC increased enrollment significantly but did not receive full state support. **First-year retention has dropped even further for freshman entrants who are underrepresented (two percentage points), Pell grant recipients (almost two percentage points), and first-generation (1.5 percentage points), exactly the populations UC is targeting to eliminate graduation gaps.** These data emphasize the importance of investment to reverse this trend and also highlight that even with investment, UC may see a drop in graduation rates for these cohorts.

Freshman and transfer retention rates are high, but a recent decline forecasts likely drops in graduation rates.

3.2.1 First-year retention rates, UC systemwide
Cohorts entering fall 2008 to fall 2017



Source: UC Data Warehouse

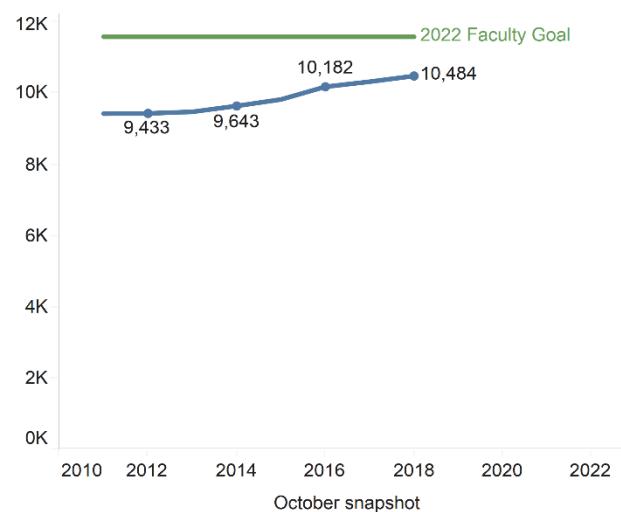
Goal 3: Investing in the next generation of faculty and research

While much of the funding that supports UC research activity comes from the federal government, a primary way California supports UC research activity is through state support for faculty. Campuses estimated what they would need to achieve goals in the multi-year framework. Based on that input, the University has set a goal to add 1,100 net new faculty over the next four years.

These additional faculty would help:

- **Achieve undergraduate and graduate degree attainment goals**, by adding course offerings, expanding student engagement and mentorship opportunities, and creating bachelor's degree completion programs for undergraduates, along with expanding student mentorship and advising, and preparing the next generation of researchers, scholars, and professional graduate students
- **Grow high-demand programs and create new academic programs**, adding capacity in the fastest-growing disciplines where students are turned away and creating new undergraduate and graduate programs in emerging fields (e.g., sustainable and resilient urban systems, artificial intelligence and data science, public humanities and ethnic studies, and networking and cybersecurity)
- **Grow research that addresses California's needs and expands economic growth**, increasing extramural funding coming into California, spurring economic growth, especially in the Central Valley and Inland Empire
- **Grow UC's research profile and expand translational research** to meet societal needs (e.g., developing a smart energy grid, improving immigration and health care policy, understanding effects of climate change)

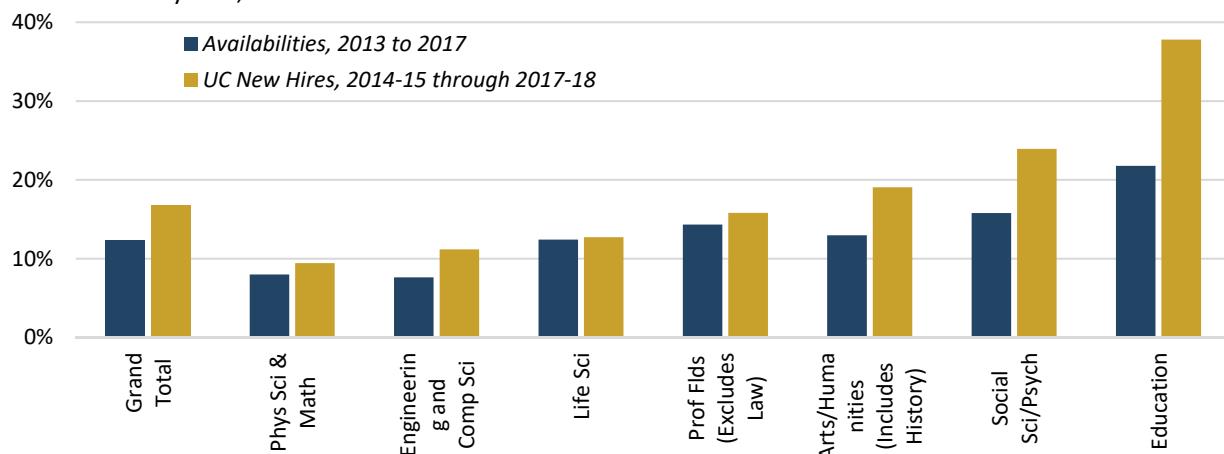
Add 1,100 ladder-rank non-recall faculty over 4 years: Universitywide headcount



While many of the UC 2030 goals may take a decade to achieve, the goal to grow faculty is currently limited to the next four years. In part, this will help UC assess its efforts to further diversity the faculty, which will support student outcomes and benefit UC research. ***UC's recent hires are more diverse than existing faculty and they meet or exceed national availability pools (5.3.1).***

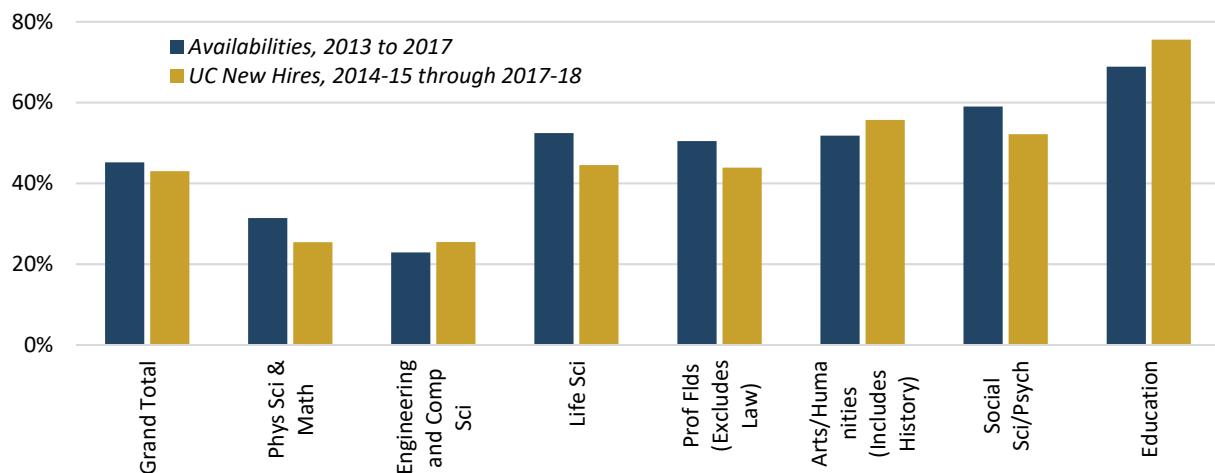
UC's hiring of underrepresented and female faculty overall exceeds or meets the national availability of doctorates, with variation among discipline groups.

5.3.1 Underrepresented* new assistant professors compared with national availability by discipline group, Universitywide, 2013–14 to 2017–18



* Underrepresented at UC includes those who identify as Black/African American/African, Chicano/Latino/Hispanic, and American Indian/Native American.

5.3.2 Female new assistant professors compared with national availability by discipline group, Universitywide, 2013–14 to 2017–18

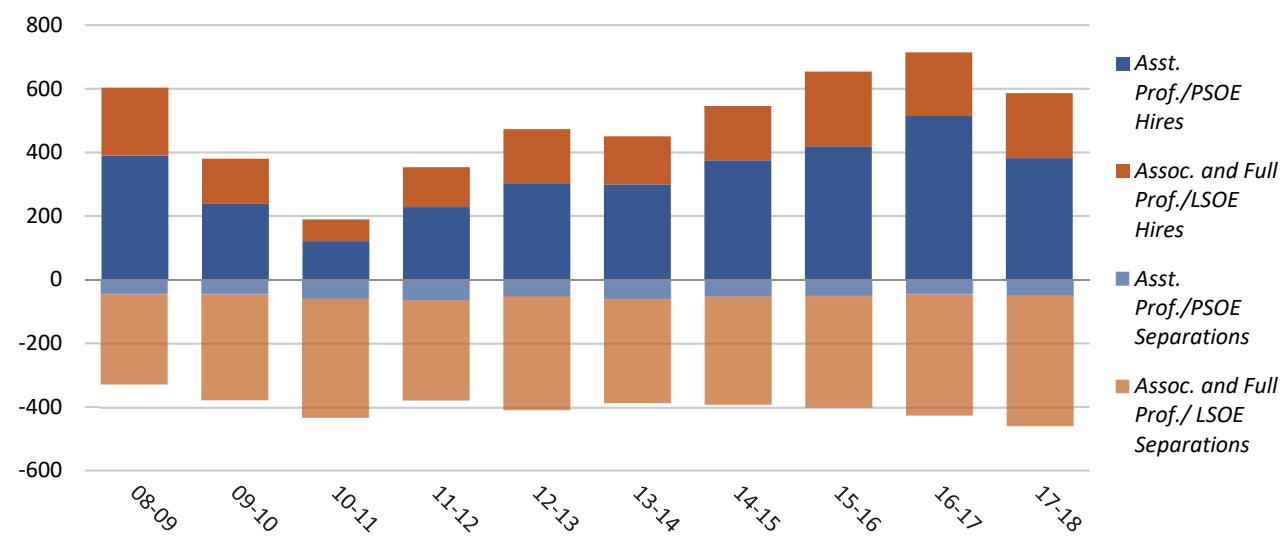


Source: UC Academic Personnel and Program Administration and Survey of Earned Doctorates

It warrants further attention that while UC has hired 1,000 more tenure-track faculty than have separated over the last decade, ***the percent of underrepresented faculty hired is lower than the percent separating from the University.*** Specifically, while faculty from historically underrepresented minority communities made up 14.3 percent of all tenure-track (Assistant Professor and Lecturer with Potential Security of Employment) new hires between 2008–09 and 2017–18, they comprised 15.7 percent of tenure-track separations and 15.3 percent of tenure-track resignations.

Faculty hires have exceeded separations by 1,000 over the last decade.

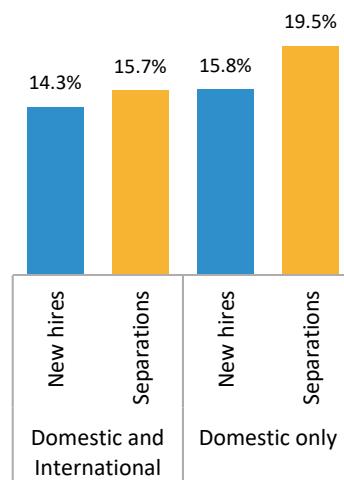
5.3.3 New hires and separations of ladder-rank and equivalent faculty, Universitywide, 2008–09 to 2017–18



Source: UC Academic Personnel and Program Administration



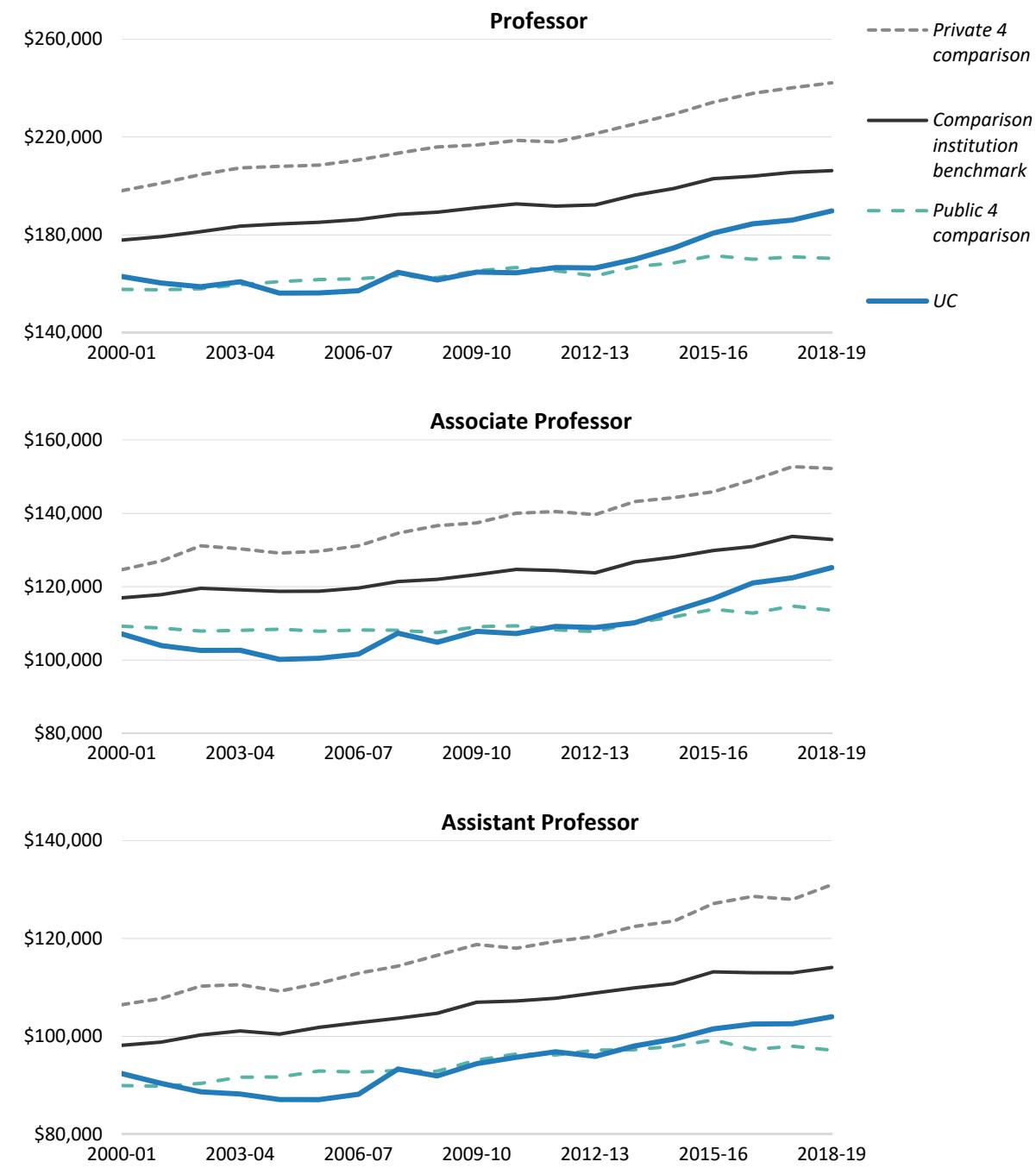
Underrepresented tenure-track faculty, 2008-09 to 2017-18, Universitywide



The University of California has a number of efforts underway to examine what contributes to these separations. For example, UC has partnered with Harvard's Collaborative on Academic Careers in Higher Education (coache.gse.harvard.edu) on a research project to survey faculty who are actively retained as well as those who leave UC for employment elsewhere. This Retention and Exit Study, now in its fourth year, is part of an effort to better understand and improve the experience of UC faculty members, as well as improve recruitment and retention. ***Early data show that lack of competitive salaries is one critical factor in decisions to leave, emphasizing the importance of making UC salaries more competitive as UC seeks to further diversify the faculty where UC faculty salaries lag that of comparison eight institutions (5.3.4).***

UC faculty salaries are below the comparison institution benchmark.

5.3.4 Average ladder-rank general campus faculty salaries by rank, 2000–01 to 2018–19



Source: UC Corporate Personnel System, AAUP faculty salary survey

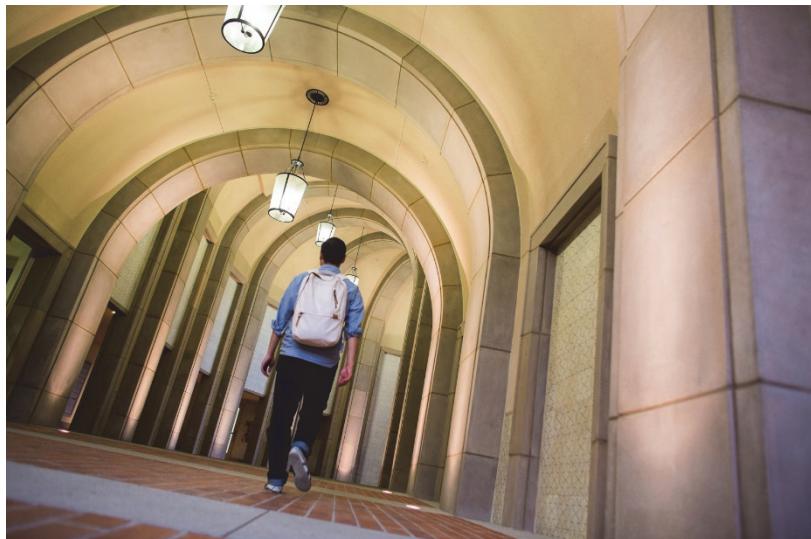
Financing a Multi-year Plan

The University has laid out a vision on how it can support California's future, with improved undergraduate and graduate degree attainment, the elimination of equity gaps, and the growth of the next generation of faculty and research. The University has proposed a multi-year funding proposal to achieve these ambitious goals, requesting an additional \$60 million in permanent funding for each of the next four years, a funding proposal that is similar to the California State University's Graduation Initiative 2025.

Campuses have identified promising strategies and programs to direct additional resources, including:

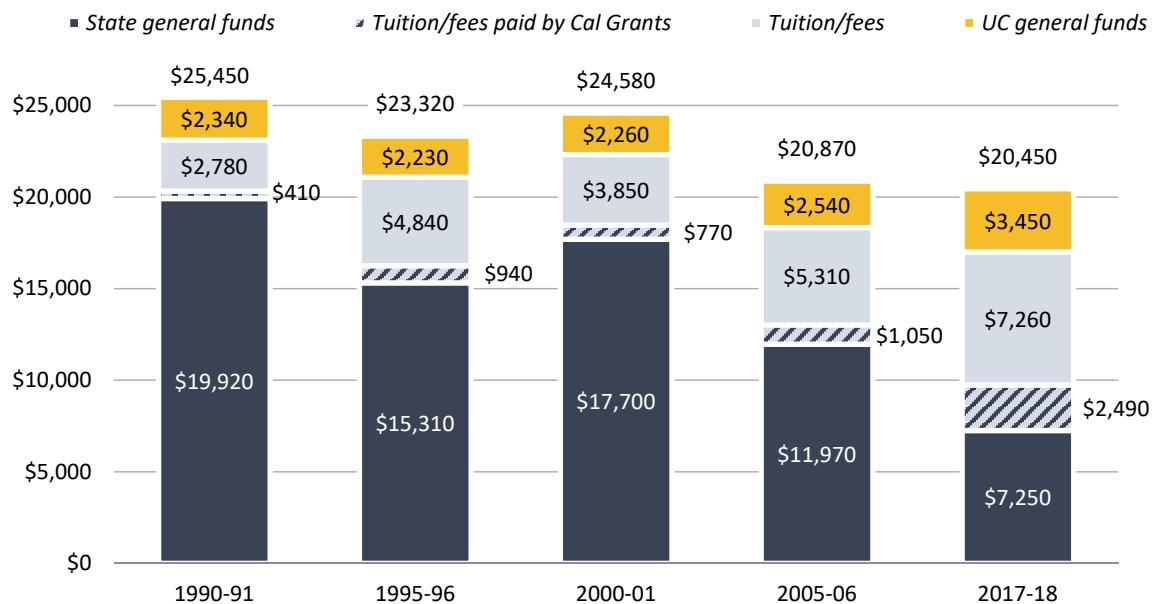
- ***Programs that provide a fast start to successful and timely graduation***, including pre-matriculation and orientation programs like summer bridge and transfer edge
- ***Engagement strategies to advance student success***, including cohort-based learning communities, undergraduate research, and other discovery experiences
- ***Curricular innovations and expansion***, including additional/redesigned course offerings needed to support timely graduation and growth of high-demand programs that some students have difficulty accessing
- ***Integrated approach to improving outcomes***, such as academic, peer, and mental health support, basic needs support, data analytics, and expanded on-campus work study
- ***Growing the graduate and future professoriate pathway***, including additional ladder-rank faculty to increase UC's capacity to grow graduate student numbers

While some of this work is ongoing, the ***University's request for additional funding will help campuses ramp up these efforts to achieve the ambitious goals — particularly improving outcomes and reducing costs of education for underrepresented, first-generation, and Pell grant recipient students***. Today's UC students receive less instructional support and are paying more than their peers did in prior years.



Since 1990–91, total instructional expenditures per UC student have declined by 20 percent, yet students and their families bear a greater share of that cost.

12.1.5 Average general campus core fund expenditures for instruction per student, 1990–91 to 2017–18



Source: UC Budget Office, inflation-adjusted amounts

State support to sustain core operations, along with strategies to address capital needs are critical to address alongside this multi-year framework funding. The partnership of the state and UC has produced a return on investment that has benefited California in the past and with sufficient resources, UC is confident it will continue to provide a positive return. UC will continue to track its progress to achieve these goals and partnering with the state, the University has a greater likelihood of success.

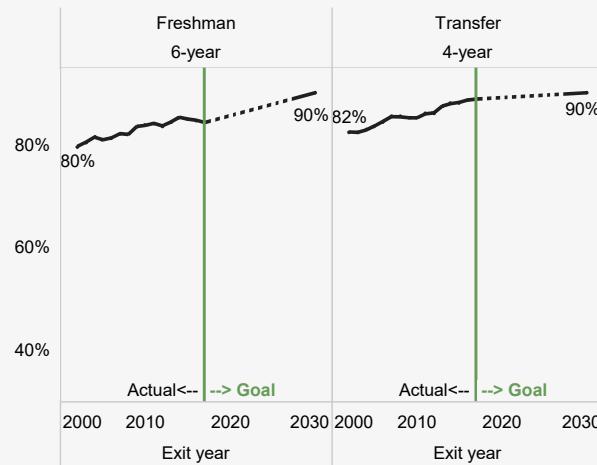
UC 2030 dashboard

This dashboard highlights key goals of the UC 2030 framework. An interactive dashboard and more information is available online at ucal.us/infocenter.

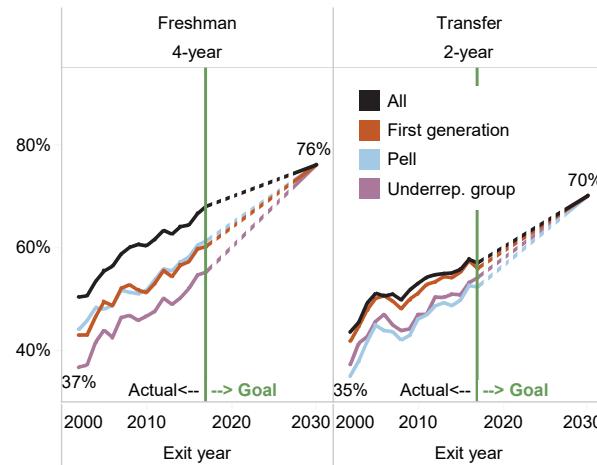
Award 1.2 million degrees between 2015-16 and 2029-30



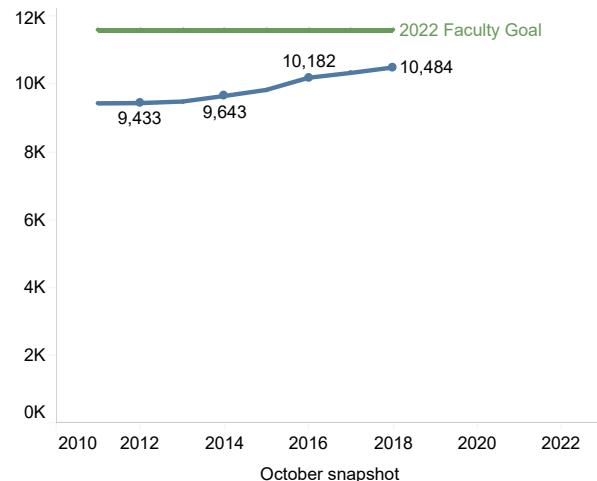
Increase freshman and transfer graduation rates



Close graduation rate gaps by 2030



Add 1,100 ladder-rank non-recall faculty over 4 years: Universitywide headcount

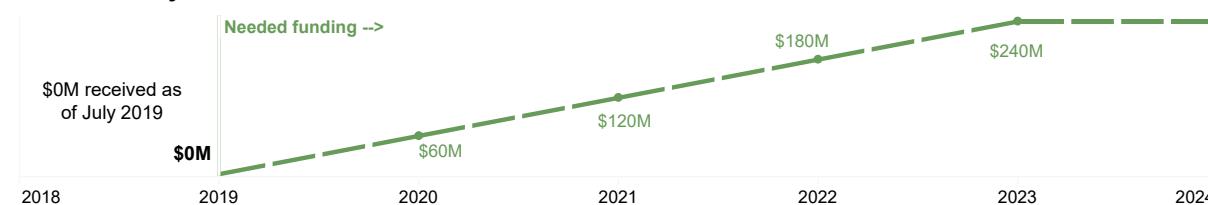


Diversify faculty, implement best hiring and retention practices

Ladder-rank non-recall diversity (Universitywide)

| | 2013 | | 2018 | |
|-------------|-------|-------|-------|-------|
| | Dom | Int | Dom | Int |
| Hispanic | 4.4% | 1.7% | 5.1% | 2.2% |
| Afr Am | 2.1% | 0.4% | 2.6% | 0.4% |
| Am Ind | 0.5% | 0.0% | 0.4% | 0.0% |
| Nat Haw/Pac | 0.0% | 0.0% | 0.1% | 0.0% |
| Asian | 8.8% | 7.4% | 9.6% | 8.4% |
| White | 58.6% | 13.5% | 52.8% | 12.9% |
| Two or more | 0.2% | 0.0% | 0.6% | 0.1% |
| Unknown | 1.4% | 0.9% | 3.1% | 1.7% |

Financing a multi-year plan requires an additional \$60 million in permanent State funding for each of the next four years.



Dashboard notes and data sources

Degrees Awarded include the leading summer and the full academic year.
universityofcalifornia.edu/infocenter/degrees-awarded-data

Graduation rates are based on entering cohorts but labeled by the exit academic year, which is a leading year. For example, the six-year graduation rate for 2017 in the graph reflects students who entered in fall 2012 and graduated in the 2017–18 year (including the trailing summer).
universityofcalifornia.edu/infocenter/ug-outcomes

Ladder-rank non-recall faculty are October payroll snapshot headcounts.
universityofcalifornia.edu/infocenter/uc-employee-headcount

Tenure-track new hires and separations include assistant professor titles and lecturers with potential security of employment. Data source: UCOP Academic Personnel and Programs.

The Accountability Report website: accountability.universityofcalifornia.edu

The UC Information Center: universityofcalifornia.edu/infocenter

CHAPTER ONE



Undergraduate Students

Admissions and Enrollment

Sequoia Thompson recalls watching the sun rise day after day as she drove the Metro No. 2 bus along Sunset Boulevard from downtown Los Angeles to Westwood. When Thompson would pull into UCLA, she would park the bus and walk to Ackerman Union to get something to eat, envious of all the people she saw on their way to lectures and labs.

"It was so hard because I really wanted to go back to school," said Thompson, whose educational career got sidetracked by working through gender identity and sexuality issues, uncertainty about studying psychology and working to support herself financially. "I thought my life choices had made it impossible. UCLA was something that I didn't even think was possible for me."

But after working several years in a variety of jobs, Thompson made it to UCLA and graduated with a bachelor's degree in psychology and a minor in LGBTQ studies.

UNDERGRADUATE STUDENTS — ADMISSIONS AND ENROLLMENT

Goals

One of the University of California's highest priorities is to ensure that a UC education remains accessible to all Californians who meet its admissions standards. This goal is articulated in California's Master Plan for Higher Education, which calls for UC to admit all eligible freshmen and transfers, with freshman eligibility designed to capture the top 12.5 percent of California public high school graduates. It also calls for UC to admit all qualified transfer students from California Community Colleges (CCCs).

Of the over 223,000 applications for admission in fall 2018, over 182,000 students applied as freshmen and over 41,000 as transfers. Campus admission decisions are based on a comprehensive review of qualifications and establish the incoming California resident class size based on state funding. Over the last four years, UC's enrollment of California residents increased by more than 14,000: 3,000 in fall 2018, 4,000 in fall 2017, and 7,000 in the prior two years combined.

For 2018–19, UC is also estimated to have achieved its goal of enrolling a 2:1 ratio of freshmen to transfer California resident undergraduates, excluding Merced, for the second year in a row. The UC Transfer Pathways program supports this goal by helping community college students prepare for transfer admission to the most popular majors at UC campuses. Under a new agreement with the California Community Colleges, UC is building on the Transfer Pathways to create a Transfer Guarantee program for community college students who meet certain criteria.

Admissions — freshmen

UC utilizes a comprehensive review process to make admission decisions, considering not only completion of rigorous college preparatory courses, high school GPA, and standardized test scores, but also talents, special projects, accomplishments in light of life experiences and circumstances, extracurricular activities, and community service.

The rapid growth in freshman applications to UC over the past two decades demonstrates the increased demand for college education, the growth of California's population, and UC's continued popularity. UC continues to reach its Master Plan goals by guaranteeing admission to California resident applicants who are either in the top nine percent of high school graduates statewide or the top nine percent of graduates from their own high schools. Qualified freshman applicants are offered an opportunity to be admitted to another UC campus if they do not receive an offer of admission from the UC campuses where they applied.

Admissions — transfers

UC's Transfer Pathways identify a common set of lower-division courses for each of the 21 most popular majors among transfer applicants. The Transfer Pathways present a clear roadmap for prospective transfers to prepare for their majors and be well positioned to graduate in a timely fashion from any UC campus. In fall 2018, the second year of the Transfer Pathways, those indicating Pathway-based preparation represented 52 percent of all CCC admits and 52 percent of all CCC enrollees. Many of these students also participated in other preparatory programs such as Transfer Admissions Guaranteed (TAG) and Intersegmental General Education Transfer Curriculum (IGETC).

Transfer Pathways Majors

| | | |
|-------------------------|------------------------|------------------------|
| Anthropology | Computer Science | Mechanical Engineering |
| Biochemistry | Economics | Molecular Biology |
| Biology | Electrical Engineering | Philosophy |
| Business Administration | English | Physics |
| Cell Biology | Film and Media Studies | Political Science |
| Chemistry | History | Psychology |
| Communication | Mathematics | Sociology |

In April 2018, UC signed an agreement with the California Community Colleges (CCCs) to guarantee a place within the UC system to students who complete one of the Transfer Pathways and achieve the requisite grade point average (GPA). Almost all transfer students enter UC as upper-division juniors. Campus enrollment targets are based on state funding as well as capacity in major programs at the upper-division level. Fall 2018 marked the largest class of transfer entrants (1.1.2).

Enrollments

The University enrolled 222,000 undergraduates in fall 2018. The University enrolls freshman and transfer students from almost every county of California. UC's Eligibility in the Local Context (ELC) policy is designed to increase the overall geographic diversity of freshman entrants. This goal was also addressed as a recommendation in the University's 2014 Transfer Action Team report.

Undergraduate Enrollment, Fall 2018

| | |
|----------------------------------|---------|
| New Freshmen | 46,684 |
| New Transfers/Other ¹ | 21,170 |
| Continuing Students | 154,639 |
| TOTAL | 222,493 |

Source: UC Data Warehouse

As academic qualifications have improved over the last decade, UC has maintained access for populations historically underserved by higher education. In fall 2018, 36 percent of new undergraduates received Pell Grants, a marker for low-income status. About 41 percent of UC's entering students are first-generation, meaning neither parent graduated from a four-year college. These students are more likely to be from an underrepresented group (URG), to have a first language other than English, to enter as a transfer student, to be female, and/or to have a lower income than students with at least one parent who graduated from a four-year college (1.2.1).

The share of all undergraduates who are nonresident domestic and international students has increased in recent years, though their proportion is still much lower than at comparable public research universities. In 2017–18, the share of new undergraduates paying nonresident tuition went up slightly, after a drop in 2016–17. In May 2017, UC adopted a policy² affirming that nonresident undergraduates "will continue to be enrolled in addition to, rather than in place of, funded California undergraduates at each campus." The policy also capped nonresident enrollment at 18 percent for five UC campuses (Davis, Merced, Riverside, Santa Barbara, and Santa Cruz) and, for the remaining four campuses (Berkeley, Irvine, Los Angeles, and San Diego), at the proportion each campus enrolled in 2017–18. The policy went into effect for the 2018–19 academic year.

Having California students learn and live alongside students from backgrounds and cultures different from their own is part of a world-class educational experience. California students also benefit from the extra tuition paid by nonresident undergraduates, which is about \$29,000 more per year than the amount paid by residents. That

¹ Other types of new students include those enrolling for a second baccalaureate or with limited status (not seeking a bachelor's degree).

² Regents Policy 2109: Policy on Nonresident Student Enrollment: regents.universityofcalifornia.edu/governance/policies/2109.html

tuition helps to fund faculty hires, instructional technology, student advising, and other services that directly benefit California students.

Admissions and enrollment trends

Freshman applicants have nearly tripled over the past two decades, averaging six percent growth per year. In fall 2018, the number of applicants increased six percent compared to the previous year, while the number of students admitted went up two percent and the number of enrollees went up one percent (1.1.1).

Fall transfer applicants more than doubled over the last 20 years, with average annual growth of four percent. In fall 2018, transfer applicants and admits both increased by seven percent compared to the previous year, while enrollees went up five percent (1.1.2).

The Master Plan specifies that the University maintain a 60:40 ratio of upper-division to lower-division students, which corresponds to a 2:1 ratio of new California resident freshmen to new California resident transfers. UC has moved from 2.3:1 in recent years, to 2.1:1 in 2017–18, to an estimated 2.0:1 in 2018–19 (Universitywide). The Universitywide ratio (excluding Merced) is estimated to be 1.9:1 for 2018–19, achieving the systemwide goal for this metric for a second year. The University continues to work toward achieving this ratio for each campus (except Merced) (1.1.3).

Overall undergraduate enrollment (new and continuing students) continued to grow in fall 2018. Total enrollment was over 222,000 in fall 2018, up three percent from the year before. This includes an increase in California residents of over 3,000, following increases of over 7,000 in fall 2016 and over 4,000 in fall 2017 (1.1.4).

Academic preparation

Freshmen entering UC are increasingly well prepared, as shown by changes in the number of college preparatory courses, high school GPA, and test scores over time (1.3.1). Transfer students are also increasingly well prepared, as measured by college GPA (1.3.2).

Geographic origins and nonresidents

UC has a lower proportion of out-of-state undergraduates than other public AAU universities. In fall 2018, only 17.9 percent of UC's enrollees were out-of-state or international, compared with 28.9 percent for other AAU public institutions (1.4.1).

About 34 percent of freshmen and 47 percent of transfer students entering UC campuses come from within 50 miles of campus. These numbers are relatively stable and have risen slightly over the past few years (1.4.2, 1.4.3).

The percentage of all undergraduates paying nonresident tuition has gone up in recent years. The proportion of new undergraduate students paying nonresident tuition went up slightly in 2017–18 after going down in 2016–17 (1.4.4).

Looking ahead

The University is committed to sustaining access and educating as many California residents as it can. Since 2014, UC has increased California undergraduate resident full-time equivalent (FTE) enrollment by 14,300. Next year, it is planning to increase California undergraduate resident FTE enrollment by another 3,200.

For more information

Information on admissions: admission.universityofcalifornia.edu

Transfer Pathways (for transfer applicants): admission.universityofcalifornia.edu/transfer/preparation-paths/

Transfer Action Team 2014 report: ucop.edu/transfer-action-team/transfer-action-team-report-2014.pdf

Data on UC admissions:

universityofcalifornia.edu/infocenter/admissions-residency-and-ethnicity

universityofcalifornia.edu/infocenter/freshman-admissions-summary

universityofcalifornia.edu/infocenter/transfer-admissions-summary

universityofcalifornia.edu/infocenter/admissions-source-school

universityofcalifornia.edu/infocenter/transfers-major

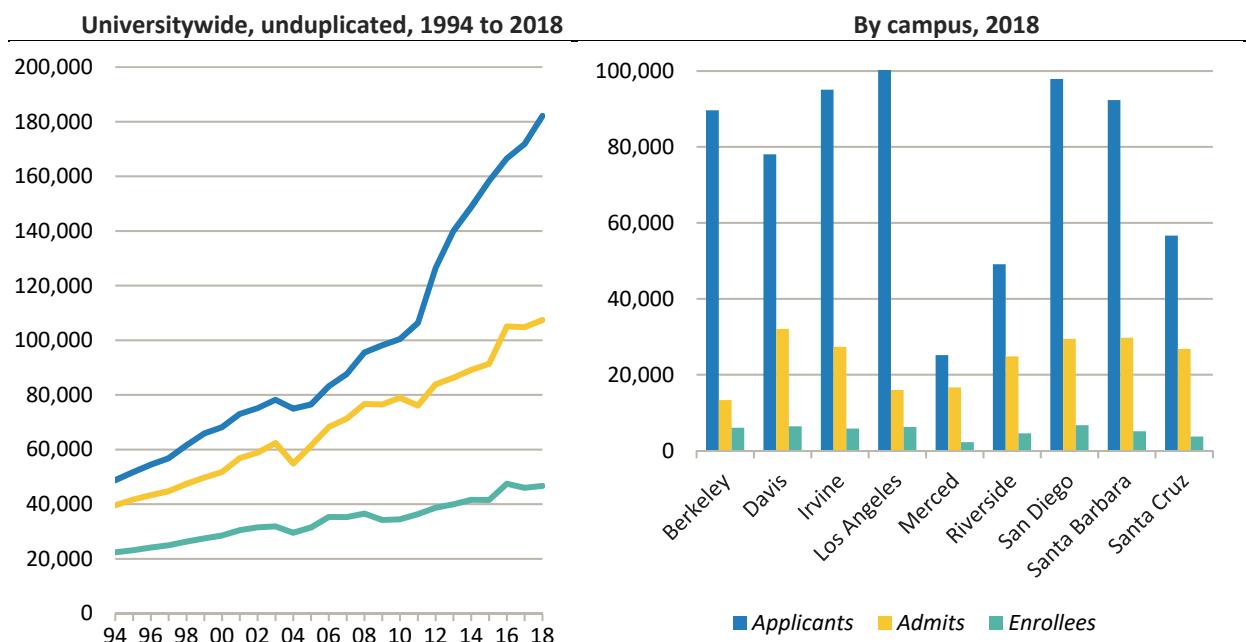
Data on UC fall enrollment:

universityofcalifornia.edu/infocenter/fall-enrollment-headcounts

1.1 APPLICANTS, ADMITS, AND ENROLLEES

Demand for UC admission continues to grow from freshman applicants.

1.1.1 Freshman applicants, admits, and enrollees Universitywide and UC campuses Fall 1994 to 2018



From 2011 to 2018, unduplicated freshman applicants increased 71 percent (or about eight percent per year), from about 106,000 to about 182,000, compared to a 42 percent increase in the seven-year period between 2004 and 2011 (or about five percent per year), from about 75,000 to 106,000. The 71 percent growth represents about 76,000 applicants, including about 35,000 California residents.

Most campuses admit less than half of applicants. Many applicants apply to more than one UC campus; in fall 2018, UC applicants applied to an average of 3.8 campuses. Freshman applicants increased for all campuses in fall 2018. For data tables on UC freshman applicants, admits, and enrollees by campus over time, see: www.universityofcalifornia.edu/infocenter/admissions-residency-and-ethnicity.

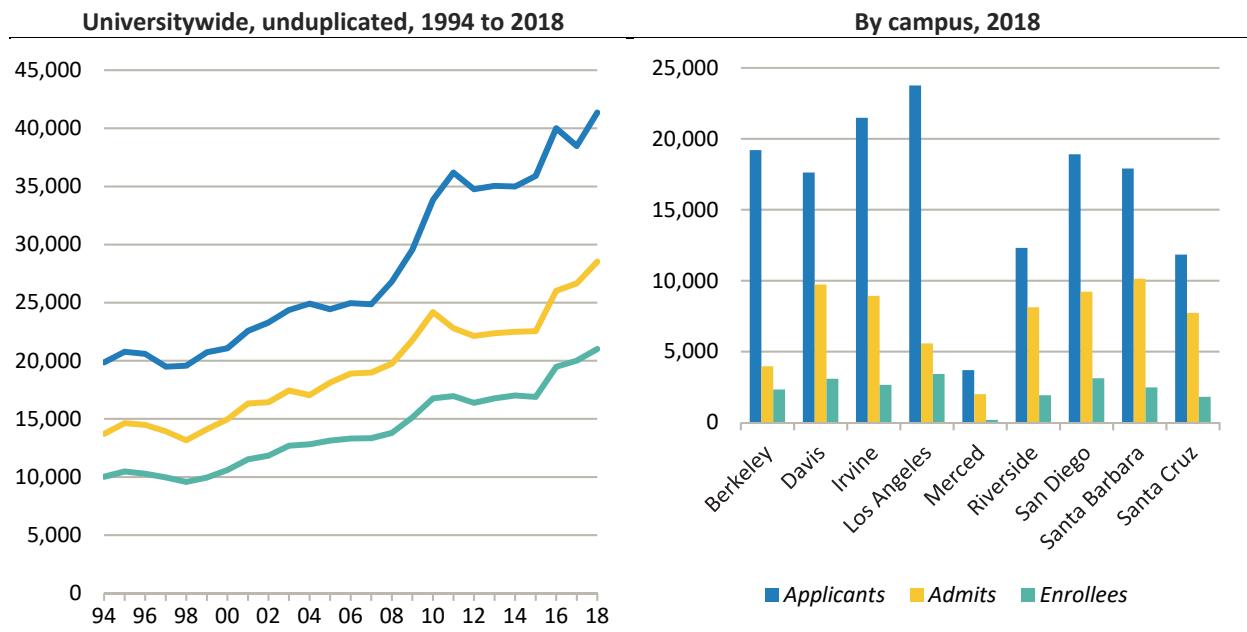
Source: UC Data Warehouse¹

¹ Admits and enrollees here include applicants guaranteed admission who are not offered admission at a campus to which they applied but who are referred to and admitted by another campus. Some campuses admit fall applicants for a subsequent term (winter or spring). These “rollover” admits and enrollees are excluded in this indicator. Students who apply to multiple UC campuses are counted only once in the Universitywide indicator. A change in accounting for referral students is responsible for the apparent drop in 2011 admits. Beginning that year, UC Merced admitted only students who indicated interest in a referral offer, rather than every student who qualified for an offer.

1.1 APPLICANTS, ADMITS, AND ENROLLEES

Transfer applicants, admits, and enrollees increased in 2018.

1.1.2 Transfer applicants, admits, and enrollees Universitywide and UC campuses Fall 1994 to 2018



Transfer applications, admits, and enrollees increased in 2018 as the University continued to increase California resident enrollment. Over 41,000 transfer students applied, about 29,000 were admitted, and over 21,000 enrolled in fall 2018, the largest class of transfer entrants in the University's history. Consistent with UC's commitment to transfer students from California Community Colleges (CCCs), fall enrollment of new CCC

California resident transfers has more than doubled since 1994, from 8,400 to 17,200. The average transfer applicant applies to 3.5 UC campuses, compared to 3.8 for the average freshman applicant.

For data tables on UC transfer applicants, admits, and enrollees by campus see:
www.universityofcalifornia.edu/infocenter/admissions-residency-and-ethnicity.

¹ Admits and enrollees here include the referral pool. Some campuses admit fall applicants for a subsequent term (winter or spring). These "rollover" admits and enrollees are excluded in the graphs here, which only show fall data.

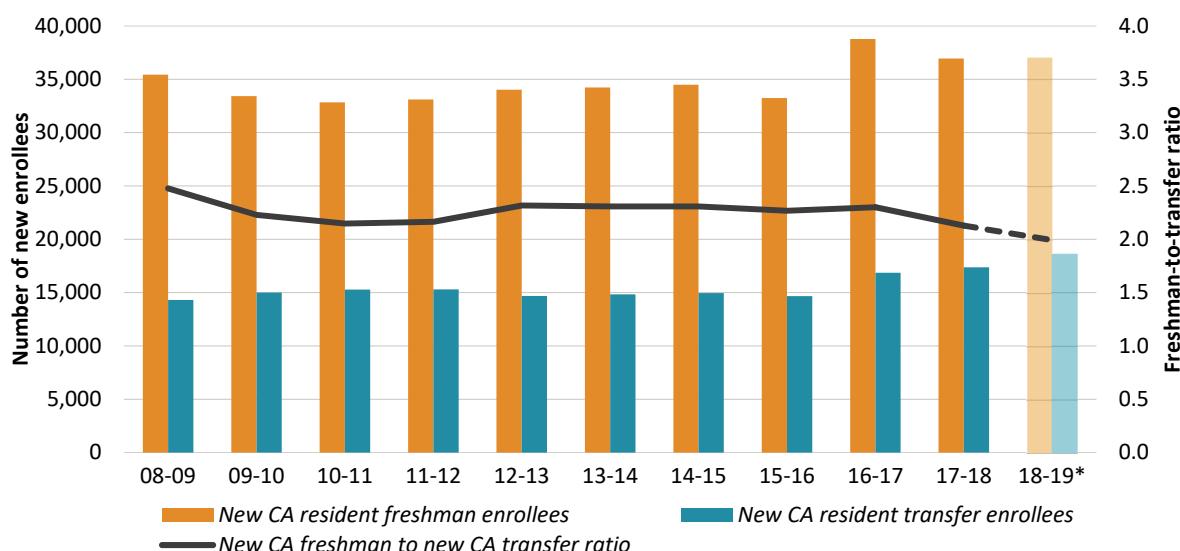
1.1 APPLICANTS, ADMITS, AND ENROLLEES

UC has met the systemwide goal of a 2:1 ratio of California resident freshmen to transfer students and is on track to meet the goal at all campuses.

1.1.3 New California resident freshmen and transfer students

Universitywide

2008–09 to 2018–19



Source: UC Data Warehouse and UC campuses¹

The Master Plan calls for UC to accommodate all qualified resident California Community College (CCC) transfer students. It specifies that the University maintain at least a 60:40 ratio of upper-division (junior and senior) to lower-division (freshman and sophomore) students to ensure adequate upper-division spaces for CCC transfers. To do so, UC aims to enroll one new California resident transfer student for every two new California resident freshmen, or 67 percent new resident freshmen to 33 percent new resident transfer students.² UC has moved from 2.3:1 in recent years to 2.0 in 2018–19 (Universitywide). Excluding Merced, the ratio for 2018–19 is estimated to be 1.9:1, meeting the systemwide goal two years in a row.³ Santa Cruz met the goal in 2018–19, San Diego is expected to meet it in 2019–20, and Riverside is on track to meet it in 2020–21.⁴

| 2018–19* | % New CA resident freshmen | % New CA resident transfers | Ratio of new CA freshmen to new CA transfers |
|------------------------------|----------------------------|-----------------------------|--|
| Berkeley | 66% | 34% | 2.0 |
| Davis | 64% | 36% | 1.8 |
| Irvine | 66% | 34% | 2.0 |
| Los Angeles | 61% | 39% | 1.5 |
| Merced | 90% | 10% | 9.5 |
| Riverside | 68% | 32% | 2.2 |
| San Diego | 67% | 33% | 2.1 |
| Santa Barbara | 67% | 33% | 2.0 |
| Santa Cruz | 64% | 36% | 1.8 |
| Universitywide, all campuses | 67% | 33% | 2.0 |
| Universitywide, excl. Merced | 65% | 35% | 1.9 |

¹ Full year headcount enrollment. * The actual figures for 2018–19 are not yet available and may differ from the estimated figures shown here.

² Nearly all (95 percent) of California resident transfer students in 2017–18 came from CCCs.

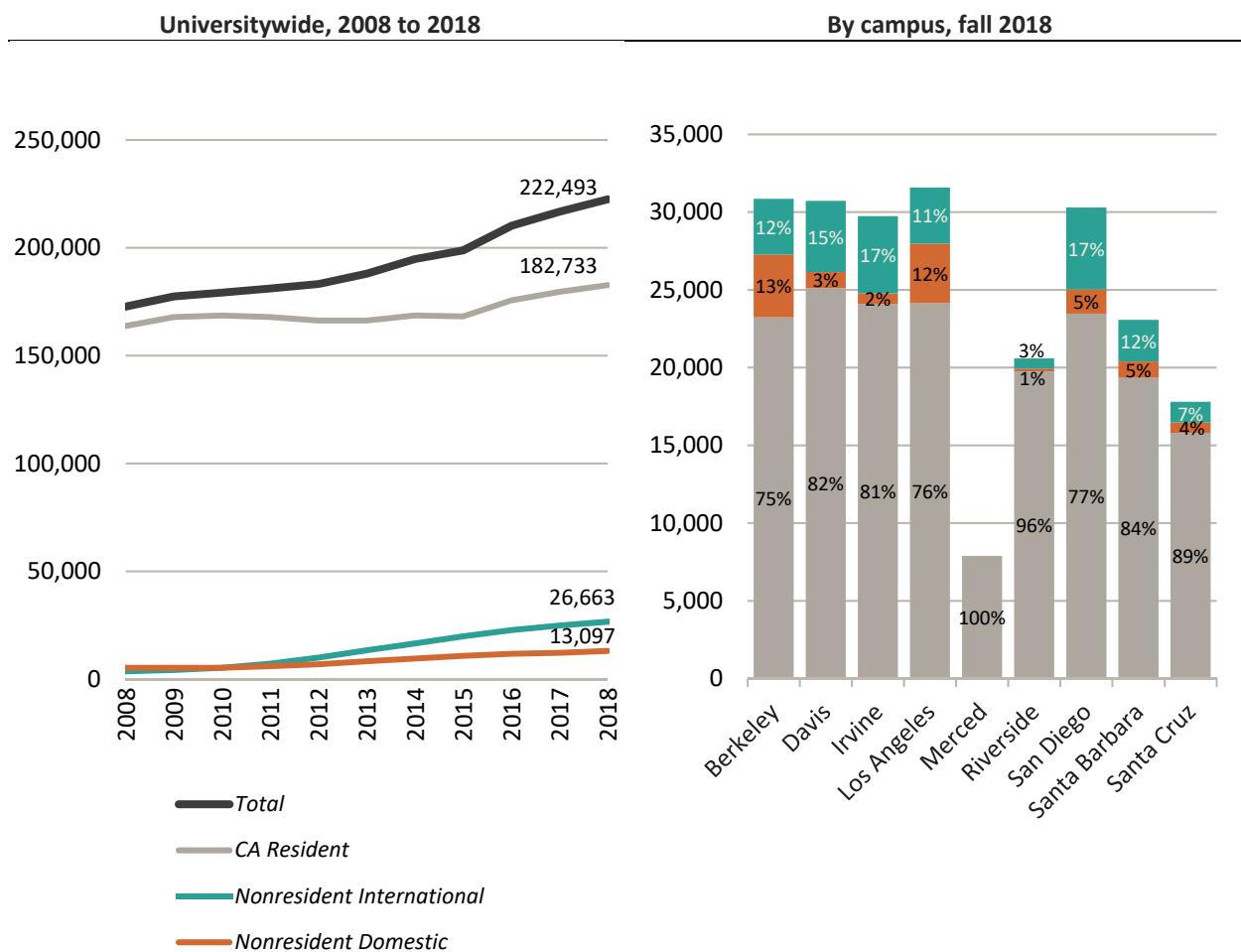
³ Merced is excluded from the 2:1 ratio goal that was part of the Budget Framework agreement with the State of California.

⁴ San Diego was above 2:1 in 2018–19 due to a one-time surge in freshmen.

1.1 APPLICANTS, ADMITS, AND ENROLLEES

UC's fall undergraduate headcount grew by three percent between fall 2017 and fall 2018, mostly due to increased California resident enrollment.

1.1.4 Undergraduate headcount enrollment Universitywide and UC campuses Fall 2008 to 2018



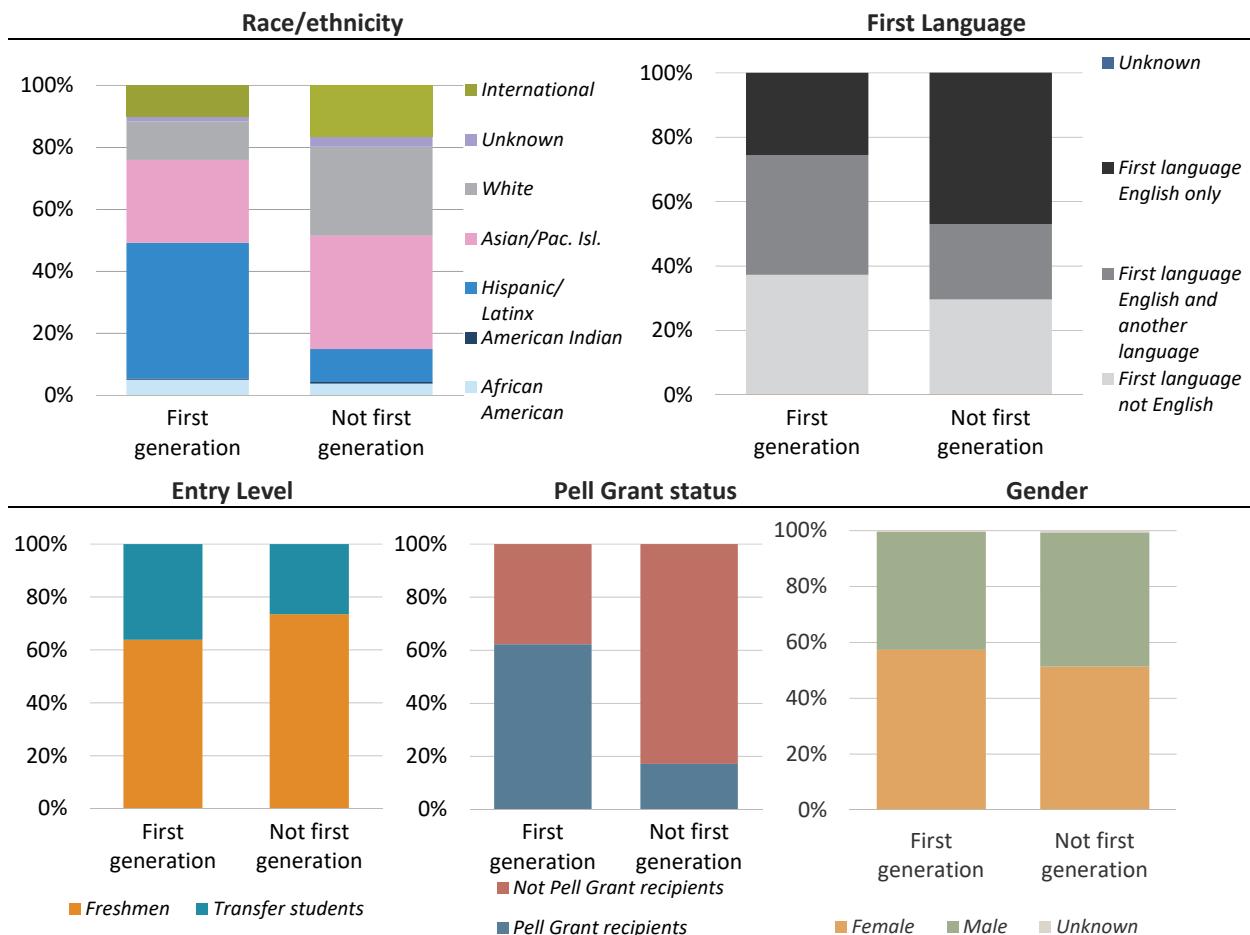
Source: UC Data Warehouse

The University and the state share the goal of expanding access to a UC education. The University enrolled 3,000 additional California residents in fall 2018 compared to fall 2017, following increases of 4,000 and 7,000 in the two prior years, for a total of over 14,000.

1.2 DEMOGRAPHIC OUTCOMES

UC's entering first-generation students are more likely to be from an underrepresented group (URG), to enter as transfer students, and/or to be Pell Grant recipients.

1.2.1 Entering students by first-generation status, race/ethnicity, first language spoken at home, Pell Grant receipt, and entering level
Universitywide
Fall 2018



Source: UC Data Warehouse¹

Almost half (49 percent) of entering first-generation students in fall 2018 are from URGs, compared to 15 percent of not-first-generation students. Over one-third (37 percent) of first-generation students' first language was not English, versus 30 percent for others. Over one-third (36 percent) of first-generation students entered as transfers, versus 27

percent for others. Nearly two-thirds (62 percent) of first-generation students are lower-income Pell Grant recipients, versus 17 percent for others. And nearly three-fifths (57 percent) of first-generation students are female, compared to just over half (51 percent) of others.

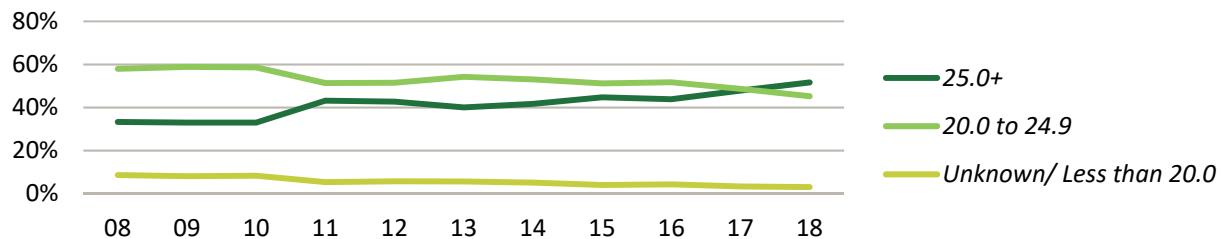
¹First-generation students are those whose parent(s) did not complete a four-year college degree. Total of first-generation students is 28,043 (41.3 percent); not-first-generation students total 37,845 (55.8 percent); and missing/unknown are 1,966 (2.9 percent). Those with unknown first-generation status are excluded from this indicator. Pell Grant receipt is used as a proxy for low-income status. Less than .02 percent of entering students have an unreported first language.

1.3 PREPARATION OUTCOMES

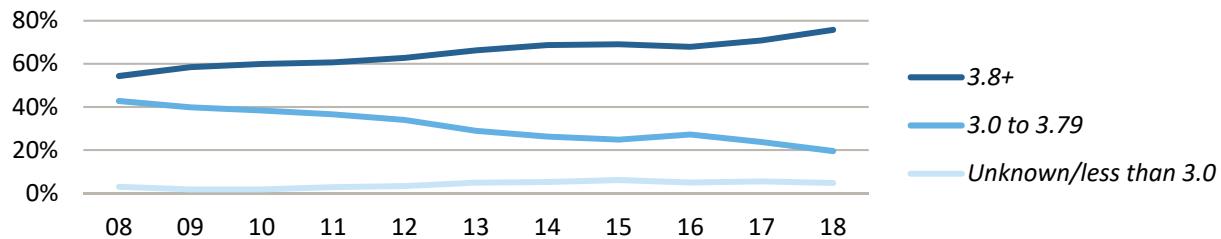
Freshmen entering UC are increasingly well prepared.

1.3.1 A–G (college preparatory)¹ courses; weighted, capped high school grade point average (GPA)²; and standardized test scores³ of entering freshmen, as share of class Universitywide
Fall 2008 to Fall 2018

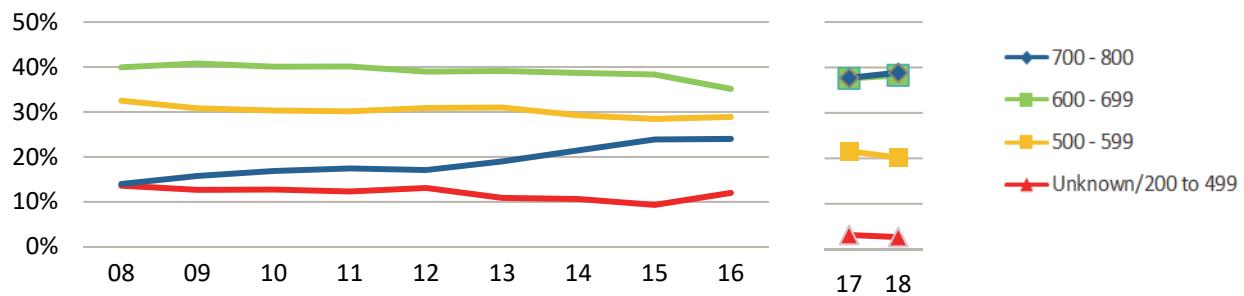
Yearlong A–G courses



High school weighted, capped GPA



Test score



Source: UC Application Processing data (A–G courses and test score) and UC Data Warehouse (GPA)

The academic qualifications of UC entering freshmen have improved over time, as reflected by an increase in the share of students completing 25 or more college-preparatory courses, having a 3.8 or higher high school GPA, and scoring 700 or higher on standardized entrance exams (SAT/ACT equivalent).

From 2008 to 2018, the first indicator went up from 33 percent to 52 percent, while the second went up from 54 percent to 76 percent. Test scores for 2017 and later are not directly comparable to prior years, but the share scoring 700 or higher went up from 14 percent in 2008 to 24 percent in 2016.

¹ A–G courses refer to those high school courses that UC has reviewed and approved as college preparatory. The minimum number of required A–G courses is 15.

² Weighted, capped GPA means that students may receive a maximum of eight semesters of honors credit. More information is available at admission.universityofcalifornia.edu/freshman/california-residents/admissions-index/index.html.

³ Test scores are the highest of either SAT or ACT scores. ACT scores are converted to the 800 SAT scale. From 2008 to 2016, SAT scores are the average of SAT math and critical reading scores. The SAT was redesigned for 2017 and scores reflect the average of the math scores and the evidence-based reading and writing score; these scores are not directly comparable to prior years.

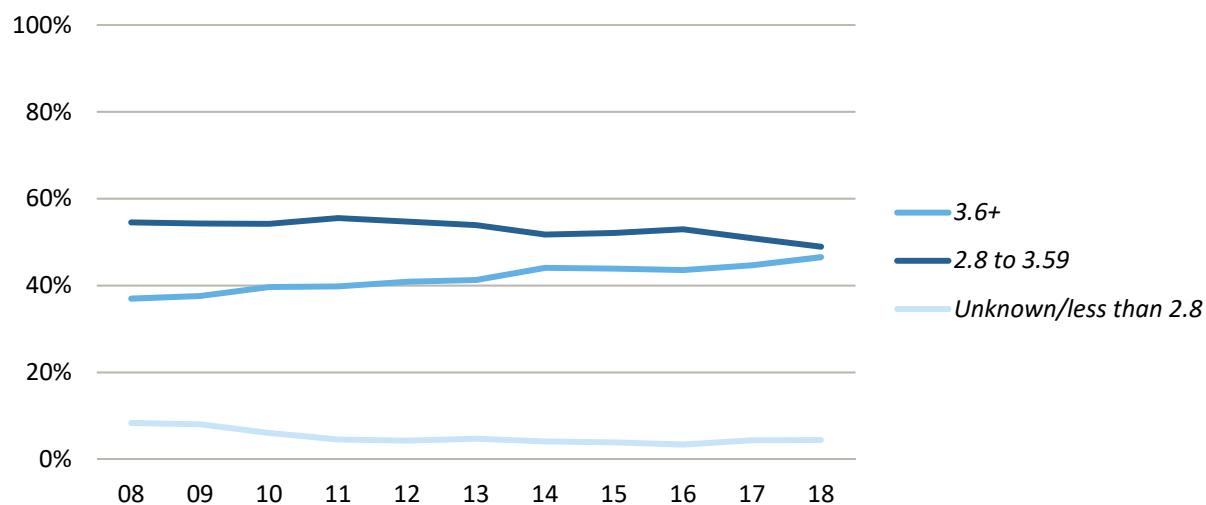
1.3 PREPARATION OUTCOMES

UC transfer students in fall 2018 were better prepared academically than their counterparts a decade ago, as measured by their grades.

1.3.2 College grade point average (GPA)¹ of entering transfer students, as share of class

Fall 2008 to Fall 2018

Universitywide



Source: UC Data Warehouse and UC Corporate Student System

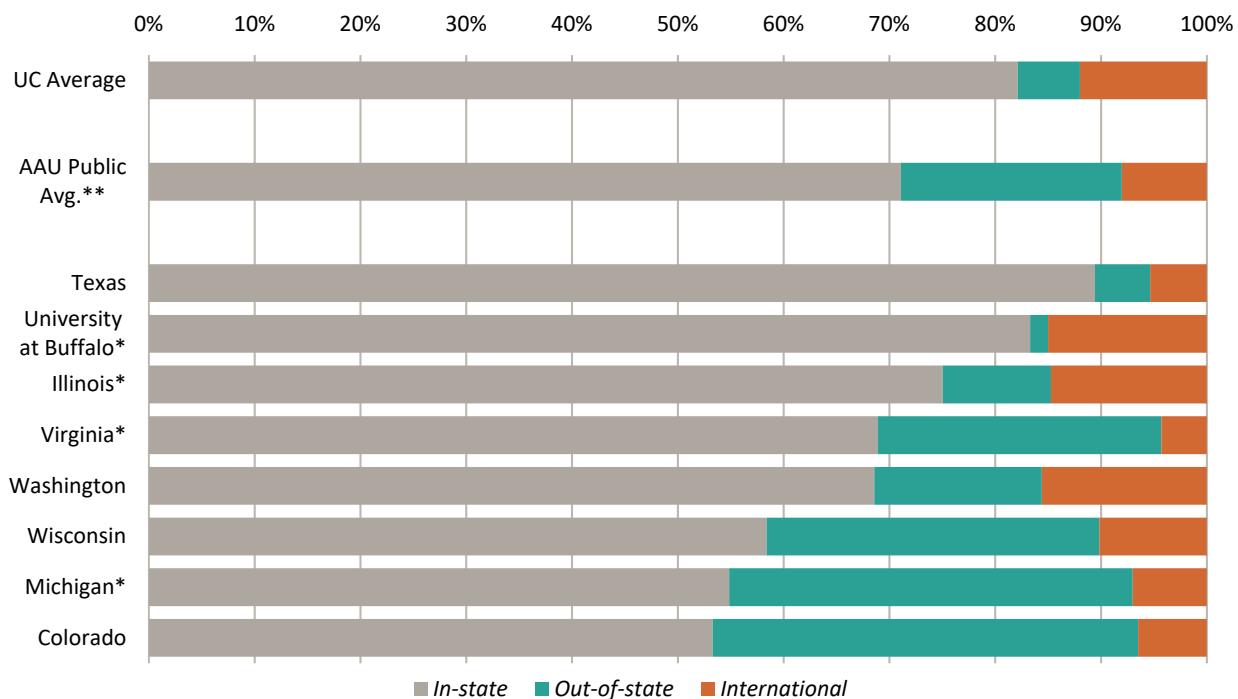
The academic qualifications of transfer students entering UC have improved over time, as reflected by an increase in the share of students having a 3.6 or higher college GPA, from 37 percent in fall 2008 to 47 percent in fall 2018.

¹ The transfer GPA is based on grades for college-level academic courses from the college(s) where students were previously enrolled.

1.4 GEOGRAPHIC ORIGINS AND NONRESIDENTS

UC has a substantially lower proportion of out-of-state undergraduates than other AAU universities. In fall 2018, only 17.9 percent of UC's enrollees were out-of-state or international, compared with 28.9 percent for other AAU Public institutions.

1.4.1 Residency of undergraduate students Universitywide and comparison institutions Fall 2018



Source: UC Data Warehouse (UC numbers) and Common Data Set (comparator numbers)

* UC's four comparison public institutions. **AAU public institution average excludes UC.

UC's priority is to enroll California residents. Campuses enroll nonresident students based on available physical and instructional capacity and the campus' ability to attract qualified nonresident students.

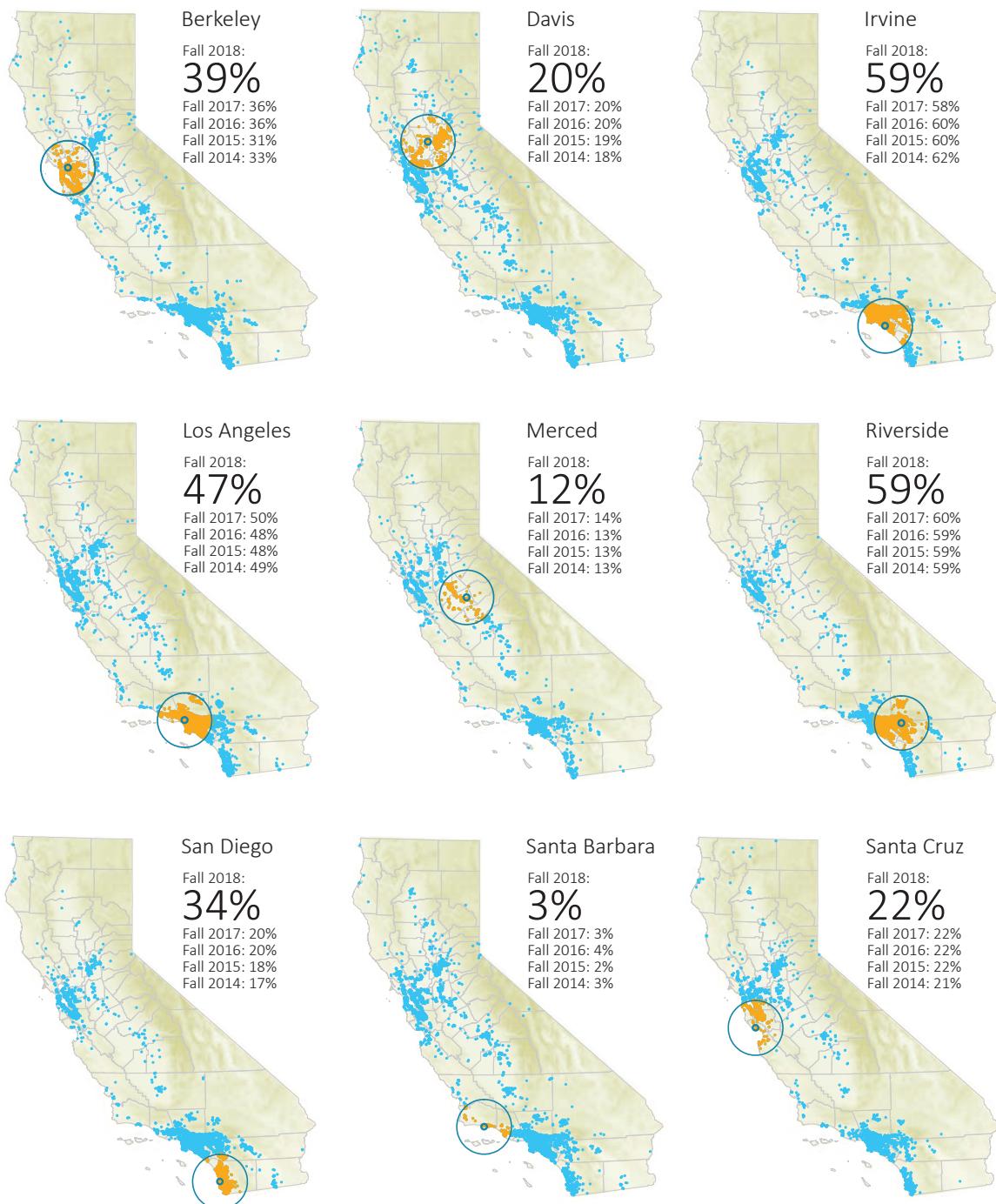
Nonresidents provide geographic and cultural diversity to the student body. They also pay the full cost of their education. In 2017–18, systemwide tuition and fees for a nonresident undergraduate were \$41,562, compared to \$12,570 for California resident students.

Nonresident applicants must meet higher criteria to be considered for admission. The minimum high school GPA for nonresident freshmen is 3.4, compared to 3.0 for California freshmen. The minimum college GPA for nonresident transfer students is 2.8, compared to 2.4 for California residents.

1.4 GEOGRAPHIC ORIGINS AND NONRESIDENTS

UC campuses attract freshmen from nearby regions and the major urban areas of California, with a systemwide local attendance rate of 34 percent.

- 1.4.2** Percentage of new CA resident freshman enrollees whose home is within a 50-mile radius of their campus UC campuses¹
Fall 2018



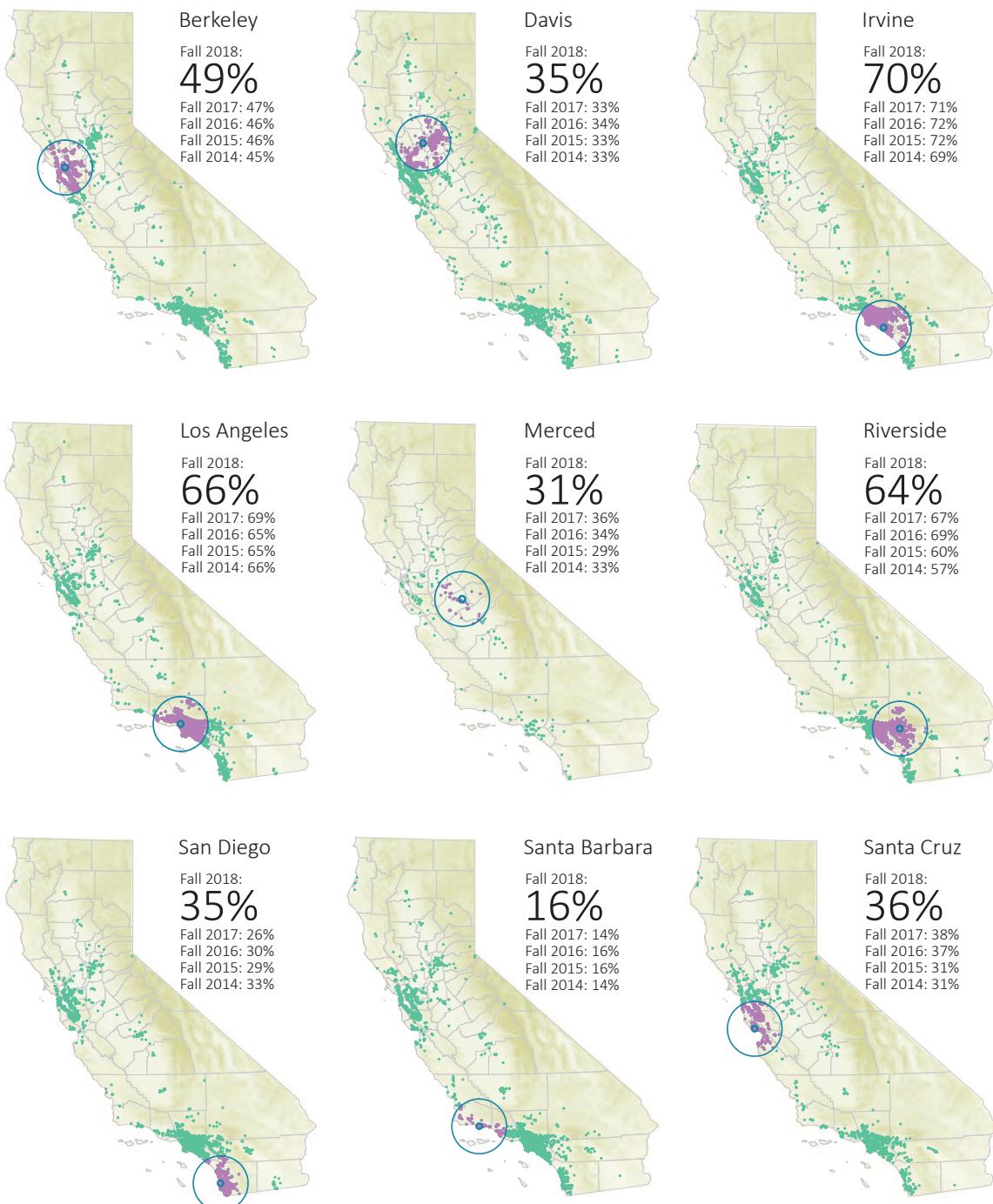
Source: UC Data Warehouse and UC Corporate Student System

¹ California residents are defined here as those with permanent addresses in California.

1.4 GEOGRAPHIC ORIGINS AND NONRESIDENTS

Local enrollment rates for transfers are higher than for freshmen, with 47 percent enrolling at a UC campus within 50 miles of their homes.

- 1.4.3** Percentage of new CA resident transfer enrollees whose home is within a 50-mile radius of their campus UC campuses¹
Fall 2018



Source: UC Data Warehouse and UC Corporate Student System

¹ California residents are defined here as those with permanent addresses in California.

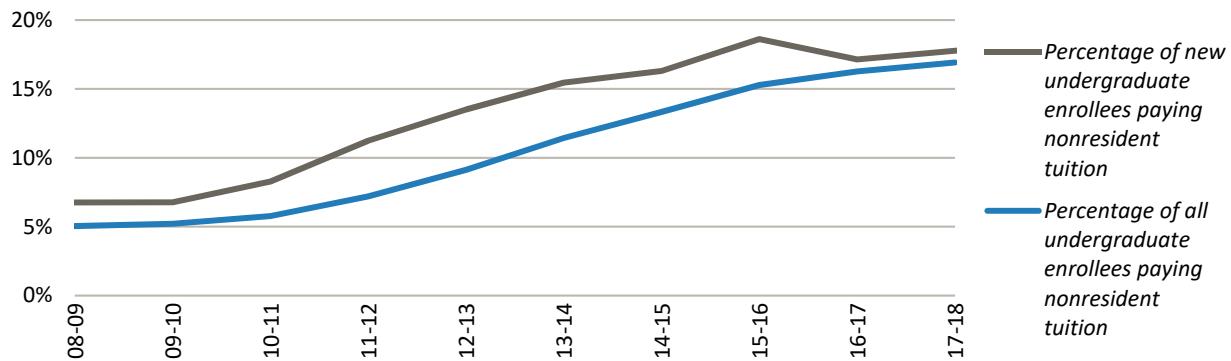
1.4 GEOGRAPHIC ORIGINS AND NONRESIDENTS

The proportion of new undergraduate students paying nonresident tuition rose slightly in 2017–18.

1.4.4 Percentage of undergraduate enrollees paying nonresident tuition¹

Universitywide

2008–09 to 2017–18



Source: UC Data Warehouse

Systemwide, the share of all undergraduates paying nonresident tuition rose from 5 percent to 17 percent from 2009–10 to 2017–18. From 2009–10 to 2015–16, the proportion of new undergraduates paying nonresident tuition went up from seven percent to 19 percent before dropping to 17 percent in 2016–17 as enrollment of new California residents increased. In 2017–18, the proportion of new undergraduates paying nonresident tuition went up slightly, to 18 percent.

The proportion of nonresident students at individual campuses varies depending on a campus' capacity, its ability to attract nonresident students as well as its nonresident cap under a new policy approved in May 2017, which applies to total undergraduate numbers. Under the new policy, effective in 2018–19, nonresident enrollment will be limited to 18 percent at five UC campuses. At the other four campuses where the proportion of nonresidents already exceeds 18 percent — UC Berkeley, UC Irvine, UCLA, and UC San Diego — nonresident enrollment will be capped at the proportion that each campus enrolled in 2017–18.

¹ This chart uses year average headcount enrollment, the average headcount across all terms in the academic year (three quarters or two semesters).

² Not all nonresident students pay nonresident tuition. Some have statutory exemptions, such as AB 540 students, children of UC employees, and others designated by the state. AB 540 students are considered California residents for tuition purposes as established by Assembly Bill 540, passed in 2001.

CHAPTER TWO



Undergraduate Students

Affordability

Before she came to UC Santa Cruz, Diana Alvarado thought university would mean books and lectures. Instead, Alvarado has spent much of her senior year amid sand and ocean mist, researching elephant seals at Año Nuevo Natural Reserve.

During regular visits to the reserve, Alvarado takes pictures of female seals via a quietly hovering drone. She's refining an image analysis tool that might enable scientists to easily track seals' weight without disturbing them.

"To be able to be part of that as an undergraduate is an amazing opportunity and truly a privilege," she says.

Her path to this point included a work-study job as a peer adviser, guiding students through academic and other challenges. That plus financial aid made education more affordable. A scholarship from the STEM Diversity Program covered living expenses during a summer research internship, and additional scholarships funded her image analysis research.

Alvarado will graduate this year with a degree in marine biology. Her goal is to earn a Ph.D. and continue working with marine mammals.

UNDERGRADUATE STUDENTS — AFFORDABILITY

Goals

The goal of the University's undergraduate financial aid program is to ensure that the University remains accessible to all academically eligible California students, regardless of their financial resources.

Affordability is among UC's highest priorities. The University has maintained a strong record of enabling families from all income levels to finance a high-quality education, and it closely monitors the impact of its pricing decisions and financial aid programs.

Maintaining access

The total cost of attendance and the composition of undergraduates in terms of financial resources set the framework for what is required to provide adequate financial support.

For in-state students who live on campus, the total annual cost of attendance, which comprises tuition and fees and other expenses (e.g., living and personal expenses, books and supplies, transportation, and health care), has remained relatively flat over the last several years at about \$35,000. This figure compares to about \$27,300 on average at other American Association of Universities (AAU) public institutions and around \$70,000 for the AAU private institutions (2.1.1).

The income profile indicators demonstrate that the University remains accessible to low-income students. Between 2008–09 and 2017–18, the proportion of UC in-state undergraduates in the lowest income category increased from 14 percent to 21 percent, with offsetting declines among upper- and upper-middle-income families (2.2.2). These trends reflect both the manageability of UC's net cost for low- and middle-income families, and the decline in the incomes of UC families since the 2009 economic recession.

In fall 2018, 37 percent of all UC undergraduates received a Pell Grant, which is a federal grant for low-income students with family incomes typically under \$50,000.

Financing a UC education

UC is able to provide access to students across the economic spectrum thanks to a progressive financial aid program that considers how much parents can afford; federal, state, and University gift aid or grants; and a manageable student "self-help" contribution from work or borrowing.

Gift aid dramatically reduces the net cost of attendance for students and enables those from low- and middle-income backgrounds to enroll in sizable numbers and proportions. The resulting inflation-adjusted net cost of attendance for in-state students from families in the lowest income bracket (less than \$56,000) has declined or remained stable since 2004–05.

Federal and state governments provide critical support through the Pell Grant and Cal Grant Programs. In addition, UC's commitment to affordability is evident in the University's strong systemwide financial aid program. As a result of this robust institutional financial aid program, which combines support from different sources, 57 percent of California resident undergraduates paid no tuition in 2017–18. Furthermore, over two-thirds of UC's own grant program helps students cover non-fee costs such as room, board, and book expenses.

Both UC and the State of California have made it a priority to provide financial support to undocumented students. Approximately 4,400 undocumented students received Cal Grants or need-based UC grants in 2017–18, totaling \$94.9 million. The California Dream Loan Program continues to provide student loans to undocumented Assembly Bill (AB) 540 students at CSU and UC. The Legislature provided \$3.5M in UC's 2018–19 budget for the program,

which has been matched by UC's own funding of another \$3.5M. Undocumented students who qualify for a waiver of nonresident supplemental tuition under AB 540 have been eligible for Cal Grants and UC grants since 2013 under the California Dream Act.

An undergraduate's self-help requirement can be met through a combination of work and loans. UC relies on student surveys — including the UC Undergraduate Experience Survey (UCUES) and Cost of Attendance Survey — to measure how much students work. UCUES data show that over 50 percent of undergraduates do not work. Studies indicate that 20 hours of work per week is the threshold at which undergraduate academic performance may be adversely affected, and UC's financial aid programs are structured to expect no more than 20 hours. Nevertheless, in the most recent UCUES survey (2018), ten percent of students reported working more than 20 hours per week, the same share as two years earlier.

For the academic year 2017–18, about 42 percent of California undergraduates relied on federal student loans to help finance their education, with loan amounts averaging \$6,200. Parental borrowing under the federal PLUS program remained at about six percent, with the average PLUS loan amount at about \$17,000 per year.

Since 2014–15, California's Middle Class Scholarship program has provided a new source of gift assistance for students at UC and the California State University with household incomes of up to \$164,000 who receive limited or no need-based financial aid. In 2017–18, UC students received \$24.8 million in Middle Class Scholarship awards.

Addressing basic needs

Universities across the nation are attempting to address student basic needs. UC provides unprecedented access to low-income students and has prioritized efforts to address food and housing insecurity. Spring 2018 UCUES survey results show 47 percent experience low to very low food security (27 percent report very low food security) and four percent report being homeless. The UC Office of the President has partnered with UC Systemwide Basic Needs Committee members to share data collection efforts and findings with intersegmental groups, including our California State University and California Community College colleagues, and has presented survey results to the UC Board of Regents Special Committee on Basic Needs.

Limiting cumulative debt

The proportion of undergraduates leaving with debt is lower than a decade ago. About 48 percent of the class of 2017–18 graduated with debt, with an average amount of \$20,200. This translates into a monthly repayment amount of about \$214 for ten years at a five percent annual interest rate. This level of debt is manageable, considering that a typical graduate who takes out loans earns about \$3,300 a month within two years after graduation (2.3.2).

Comparison data show the 2016–17 cumulative debt for UC undergraduates was \$21,100, compared to \$27,293 for public four-year institutions and \$32,810 for private nonprofit four-year institutions (2.3.4).

Looking forward

Both the Governor and State Legislature have proposed ideas for reforming and expanding the Cal Grant Program. Governor Newsom proposed increasing Cal Grant awards to students who are parenting young children, and this is currently under review. The State Legislature requested the California Student Aid Commission (CSAC) to study opportunities for reform of the state's Cal Grant Programs. Proposals now being considered include a wide variety of reforms, from eliminating requirements that disenfranchise nontraditional students, to accounting for the total cost of attendance in Cal Grant awards. University of California President Napolitano and California State University Chancellor White released a joint statement in November of 2018 outlining common policy priorities for Cal Grant Reform for the public university systems.

Under the UC 2030 multiyear plan, UC's goal is to increase timely graduation which would reduce student debt and the cost of education.

For more information

UC costs and financial aid, including financial aid estimators: admission.universityofcalifornia.edu/paying-for-uc

Trends in UC financial aid: ucop.edu/student-affairs/data-and-reporting

Data tables with downloadable figures on financial aid awarded by year, campus, and award type:
universityofcalifornia.edu/infocenter/financial-support

Data tables with downloadable figures on total and net cost of attendance by campus and residency:
universityofcalifornia.edu/infocenter/net-cost

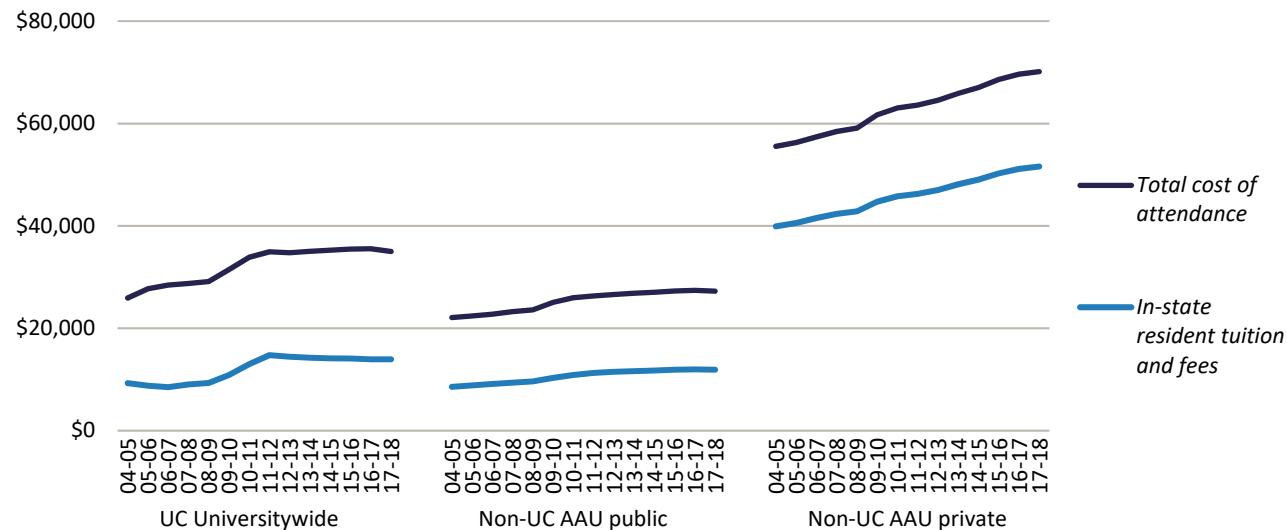
Dashboard with typical student debt, earnings, percentages of graduates with debt, and debt payoff calculators:
universityofcalifornia.edu/infocenter/uc-alumni-work

2.1 COST OF ATTENDANCE

UC resident tuition and fees and total costs have remained relatively flat over the last several years, and while they still exceed the national average for other AAU public institutions, they remain below the average for AAU private institutions.

2.1.1 Total cost of attendance for undergraduate, in-state residents

Universitywide and comparison institutions, 2017 inflation-adjusted dollars
2004–05 to 2017–18



Source: IPEDS¹

The total cost of attending college includes tuition and fees as well as living expenses, books and supplies, transportation, health insurance, and personal expenses. The total cost of attendance is higher at UC than at AAU public comparison institutions primarily because of higher costs beyond tuition and fees, especially the high cost of living in California.

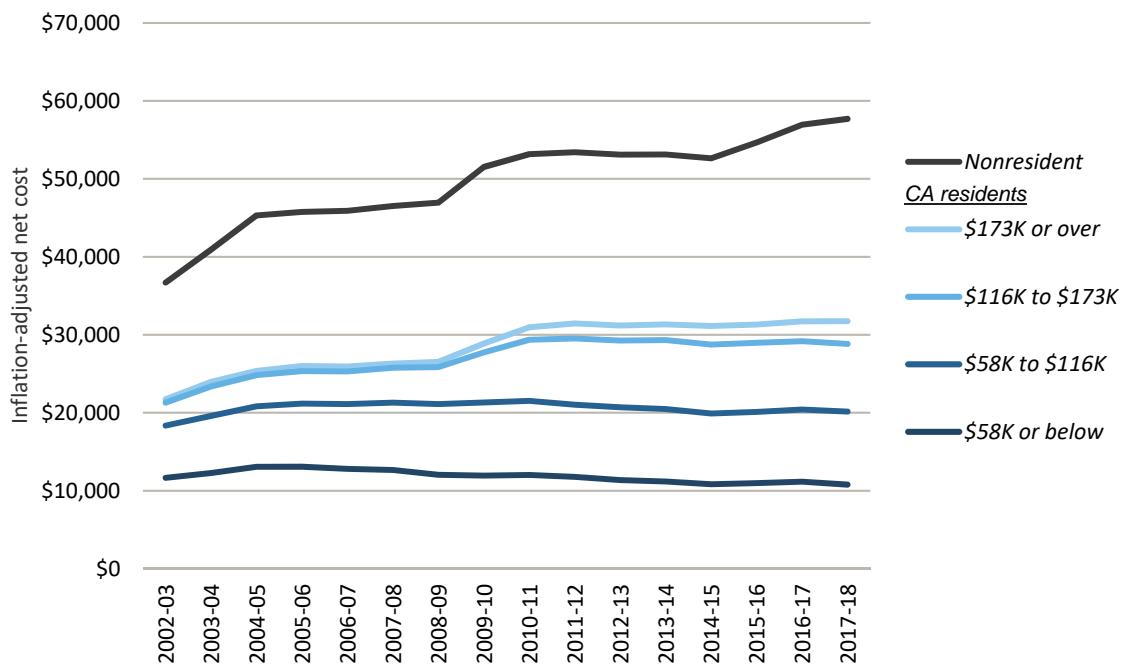
UC tuition and fees and the total cost of attendance have remained relatively flat over the past several years.

¹ Charges are for in-state students living on campus. Averages are simple averages. Weighted averages for UC can be found at ucop.edu/student-affairs/data-and-reporting/student-budget-tables/index.html. A list of the 28 non-UC AAU public and 26 AAU private institutions in the comparison groups can be found in the data glossary.

2.1 COST OF ATTENDANCE

Regardless of income, the net cost of attendance after financial aid for CA resident students has remained stable or declined since 2011–12. The net cost of attendance for nonresident students is higher and has grown.

2.1.2 Net cost of attendance by family income and California residency Universitywide, 2017 inflation-adjusted dollars 2002–03 to 2017–18



Source: UC Corporate Student System¹

A general measure of the University's affordability is its average net cost of attendance. This represents the total cost of attendance at the University for undergraduates after taking into account scholarships and grants. Scholarships and grants reduce the net cost of attending UC for students at all income levels but have the greatest impact on students from low- and middle-income families.

The availability of scholarships and grants has mitigated the impact of cost increases on students from families earning less than \$100,000.

Between 2002–03 and 2017–18, net cost has declined by about \$800 in inflation-adjusted dollars for in-state students in the lowest income category due to this scholarship and grant support.

Nonresident students face a much higher net cost of attendance because they face annual supplemental tuition charges of approximately \$28,000, and, since 2016–17, have not been eligible to receive institutional need-based grant aid.

¹ Income ranges are approximate. Independent students are excluded. Net cost is the full cost of attendance less any grants, scholarships, and fee exemptions. Income is based on amounts reported in either the Free Application for Federal Student Aid (FAFSA) or the UC Application for Undergraduate Admission, or, if missing, is imputed based on demographic profiles.

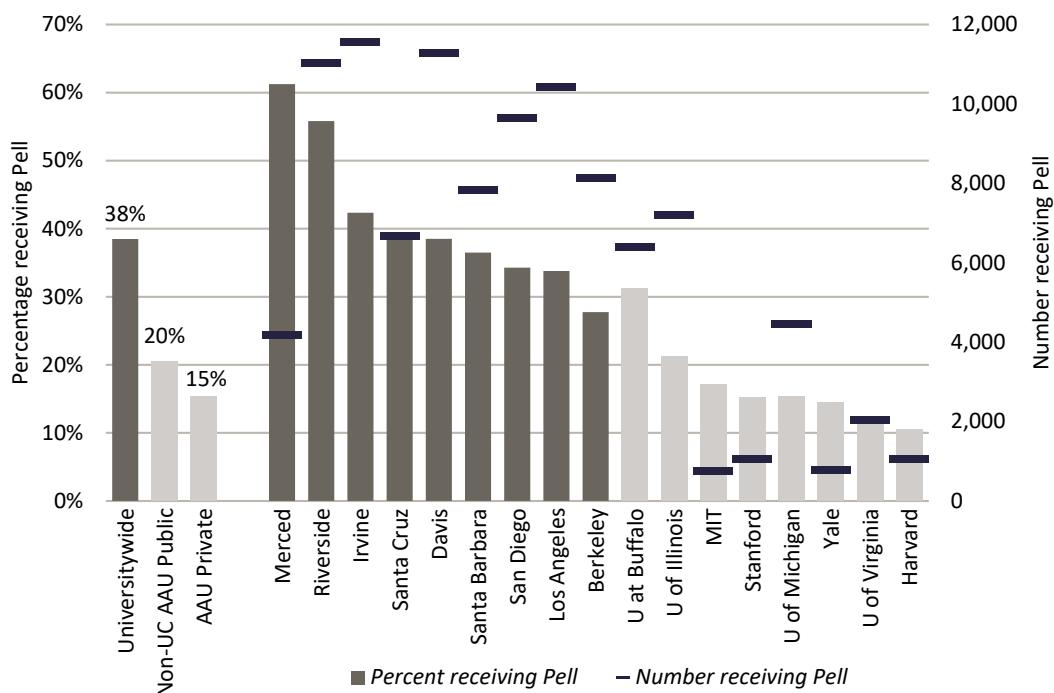
2.2 INCOME PROFILE

UC enrolls a higher percentage of Pell Grant recipients than public or private peers.

2.2.1 Undergraduate Pell Grant recipients

UC and comparison institutions

2016–17



Source: IPEDS¹

The percentage of undergraduate students with Pell Grants, a federal aid program for low-income students, provides a useful means to compare different institutions in terms of their accessibility for low-income students. It is also a useful indicator for comparing the socio-economic diversity of an institution's undergraduate student population.

The data shown above represent the most recent year for which data on comparison institutions are available. The proportion of UC undergraduates receiving Pell Grants went up from 31 percent in 2008–09 to 38 percent in 2016–17. This is primarily a result of increased federal spending, which made more students eligible for Pell Grants, as well as the economic downturn, which caused broad declines in family income. In fall 2018, 37 percent of UC undergraduates and 44 percent of CA Residents received Pell Grants. Nationally, the percentage of Pell Grant recipients has declined since 2010–11, partially due to a recovering economy.

¹ Percentage reported is that of students who received Pell Grants at any time during the 2016–17 year as a percentage of all undergraduates. Note that Pell Grant eligibility criteria change annually because of the federal appropriations process and other formula changes. Thus, trend analysis of Pell recipients would not be a valid measure of changes in low-income students but rather would reflect the changes in eligibility criteria. A list of the institutions in the AAU comparison groups can be found in the data glossary.

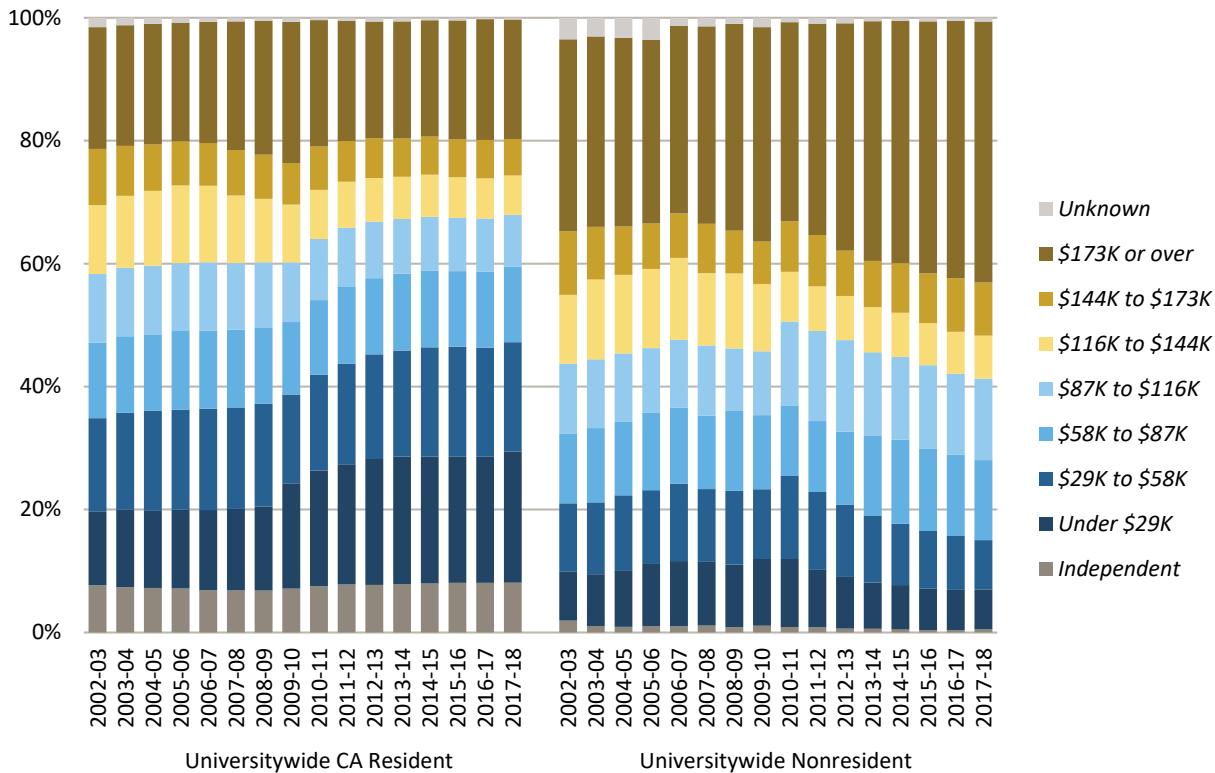
2.2 INCOME PROFILE

A large proportion of UC students come from low-income families, particularly among in-state students.

2.2.2 Undergraduate income distribution

Universitywide

2017 inflation-adjusted dollars



Source: UC Corporate Student System¹

In-state students are more likely to be from low-income families, with 21 percent in the lowest income category in 2017–18. Since 2008–09, the proportion of low-income CA resident students increased noticeably, with an offsetting decline among upper- and upper-middle-income families. During the last two years, however, the income distributions of CA resident families have stabilized.

This suggests that the University's financial aid programs keep the net cost of attendance within reach of CA resident and low- and middle-income families.

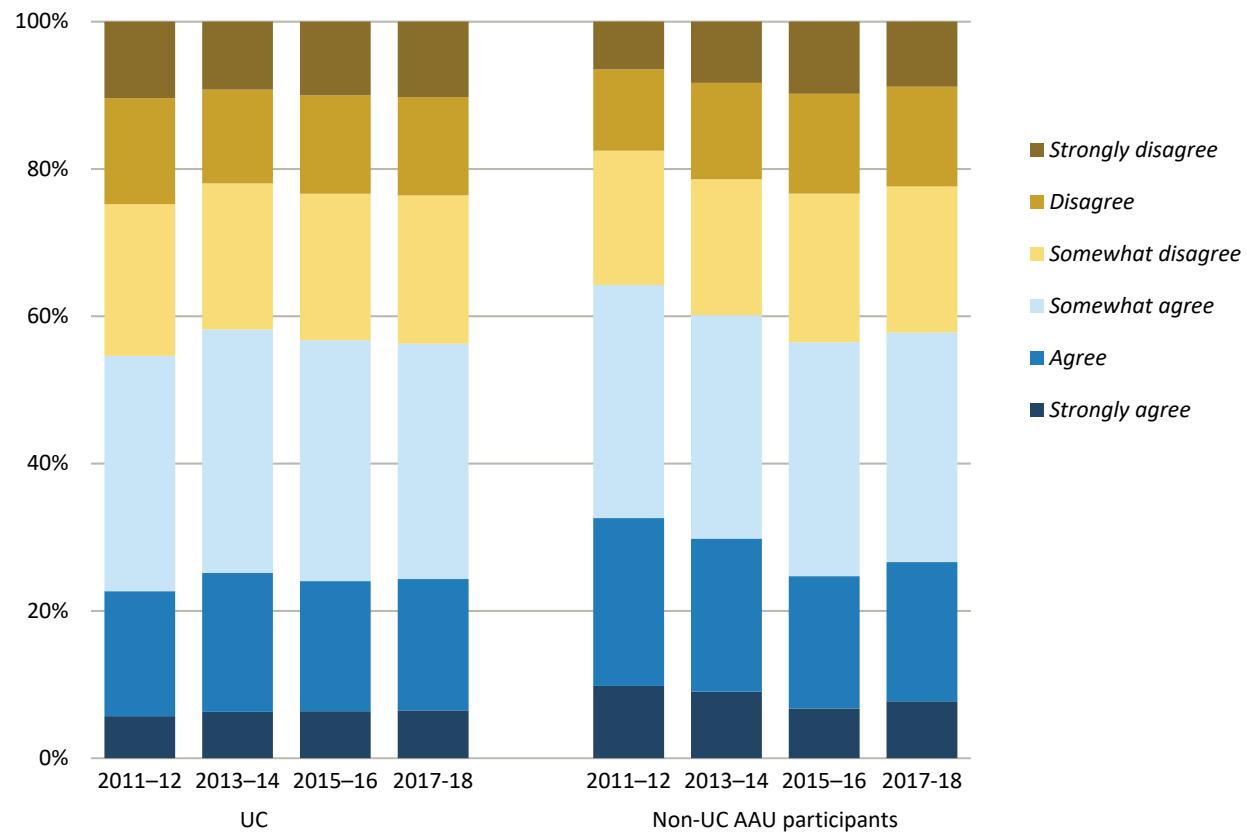
Conversely, more than 40 percent of nonresident students came from families in the highest income category in 2017–18. This proportion has increased steadily over the years while those in the lower- and middle-income categories have decreased. Nonresidents are not eligible for UC financial aid.

¹ Note that prior to 2007–08, an increasing number of students at one campus with parent incomes above \$100,000 were incorrectly categorized as having an income of \$100,000. This problem was fixed in 2007–08, resulting in an apparent (but not actual) decline in the percentage of students shown in the \$107,000 to \$134,000 category and a corresponding increase in the percentage shown in higher income categories.

2.3 COST OF ATTENDANCE AND STUDENT DEBT

The share of UC students who felt that the cost of attendance was manageable has been relatively stable over the past several years.

- 2.3.1** Student response to “With grants and scholarships, if any, the total cost of attending the school is manageable”
 Universitywide and comparison institutions
 2011–12 to 2017–18



Source: UCUES and SERU¹

Fifty-six percent of UC undergraduates in spring 2018 felt that the cost of attendance was manageable. This figure was 57 percent in spring 2016, 58 percent in spring 2014, and 55 percent in the spring 2012 UCUES survey. Fifty-eight percent of survey respondents at other participating AAU institutions in 2017–18 agreed that the cost of their education was manageable.

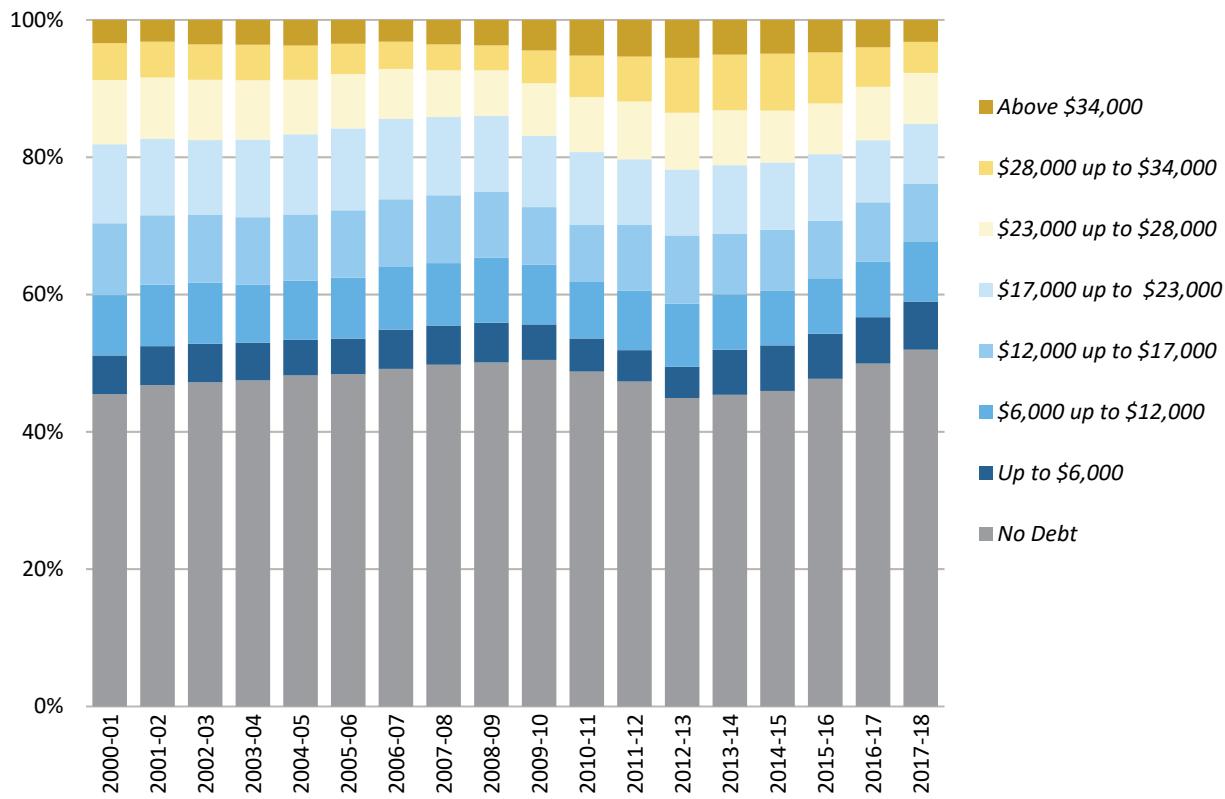
The list of non-UC AAU participants in this comparison was not the same for all four years shown. The non-UC schools included in 2011–12 were University of Minnesota, Rutgers University, University of Pittsburgh, USC, Texas A&M University, and University of Virginia. In 2013–14, additional schools included University of Michigan, Indiana University, Purdue University, University of Iowa, and University of Washington, and in 2017–18, additional schools included University of Oregon, University of Texas at Austin, University of Florida, University of North Carolina, University of Kansas, and Michigan State University.

¹ SERU is the Student Experience in the Research University survey, which is administered at a number of AAU institutions.

2.3 COST OF ATTENDANCE AND STUDENT DEBT

The average inflation-adjusted debt at graduation of student borrowers increased by 3.1 percent (from \$19,600 to \$20,200) over the past 17 years, while the percent graduating with no debt increased.

2.3.2 Student loan debt burden of graduating seniors, inflation-adjusted Universitywide 2000–01 to 2017–18 (average debt of those with debt shown above each year)



Source: UC Corporate Student System¹

Fifty-two percent of UC undergraduates graduate with no debt at all. For those who do borrow, the average student loan debt at graduation in 2017–18 was about \$20,200. The monthly repayment for this amount is about \$214 for ten years at the five percent average interest rate that typically applies to student loans. Lower payments are available with longer repayment periods. For more information about estimated loan repayment amounts using this rate, visit the “Loans and Earnings” tab of the UC Alumni-at-work dashboard at: universityofcalifornia.edu/infocenter/uc-alumni-work.

These figures reflect the borrowing of all graduating UC students. California resident students, however, are more likely than out-of-state students to graduate with debt. In 2017–18, about 55 percent of UC graduates who originally entered as California resident freshmen had student loan debt upon graduation, compared to only 17 percent of out-of-state students. In-state graduates’ average debt, however, was significantly lower than that of the out-of-state students who borrowed (\$19,700 vs. \$27,600).

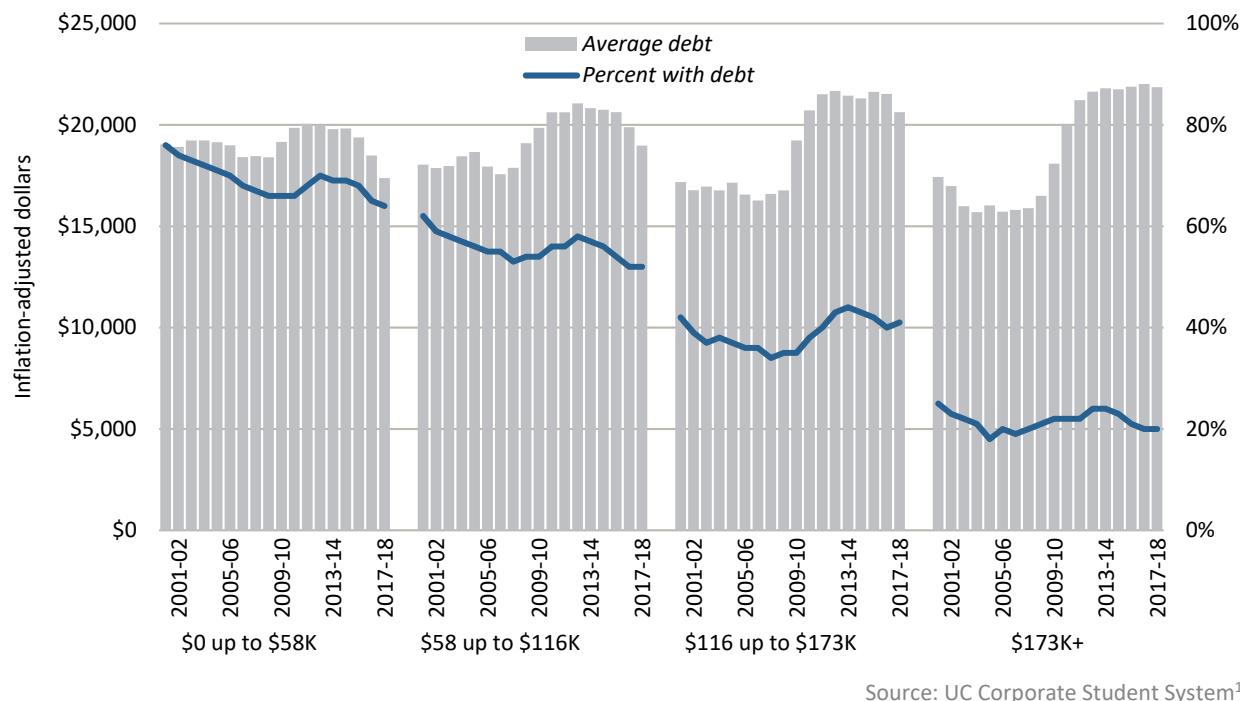
2.3 COST OF ATTENDANCE AND STUDENT DEBT

Despite recent increases, the proportion of students graduating with loan debt across all incomes was still lower in 2017–18 than it was 17 years ago.

2.3.3 Student loan debt burden of graduating seniors by parent income

Universitywide

2000–2001 to 2017–18



Source: UC Corporate Student System¹

The proportion of students who borrow decreased steadily from 2000–01 through 2009–10 for students in nearly every income category. From 2010–11 through 2012–13, student borrowing increased, both in percentage and in cumulative amount. This uptick in borrowing may reflect a combination of higher costs and a reduction in other borrowing alternatives (e.g., home equity loans). In the last year, however, student borrowing remained the same or decreased slightly for the lowest two income categories and for the highest income category. UC student debt remains below the national average for both public and private non-profit four-year institutions.

2.3.4 Average cumulative loan debt UC and national comparison institutions 2016–17 graduates

| | |
|------------------------------------|-----------------|
| Berkeley | \$18,197 |
| Davis | \$19,124 |
| Irvine | \$19,745 |
| Merced | \$19,551 |
| Santa Barbara | \$20,665 |
| UC AVERAGE | \$21,100 |
| Riverside | \$21,104 |
| San Diego | \$21,430 |
| Los Angeles | \$22,013 |
| Santa Cruz | \$22,804 |
| Public four-year | \$27,293 |
| Private nonprofit four-year | \$32,810 |
| National Average | \$28,350 |

Source: Common Data Set and TICAS. National average excludes private for-profit institutions.

¹ Figures are adjusted for inflation in 2017 dollars using CA CPI-W. Borrowing shown here represents loans coordinated through the campus financial aid offices; some families also borrow from outside sources, which are not captured in this indicator. Independent students and students with unknown parent incomes are not shown. Data only include graduates who originally entered as freshmen.

2.3 COST OF ATTENDANCE AND STUDENT DEBT

By five years after graduation, students from almost all of the UC's baccalaureate programs have debt-to-earnings ratios of less than 10 percent.

- 2.3.5** Debt-to-earnings ratios for UC undergraduate alumni at two and five years after graduation Universitywide and by Campus
Undergraduate graduating cohorts 2000–2015, with student loan debt who are working in California

| Campus | Debt-to-Earnings two Years After Graduation | | | | Debt-to-Earnings five Years After Graduation | | | |
|---------------|---|------|--------|-------|--|------|--------|------|
| | % of programs with <10% debt-to-income ratios | 10th | Median | 90th | % of programs <10% debt-to-income ratios | 10th | Median | 90th |
| Berkeley | 95.9% | 3.4% | 5.6% | 8.4% | 100.0% | 2.4% | 4.0% | 5.9% |
| Davis | 97.5% | 3.5% | 5.7% | 8.5% | 100.0% | 2.5% | 3.8% | 5.6% |
| Irvine | 87.9% | 4.1% | 7.0% | 10.5% | 98.7% | 2.9% | 4.5% | 6.6% |
| Los Angeles | 91.9% | 3.9% | 6.6% | 9.5% | 99.1% | 2.9% | 4.4% | 6.5% |
| Merced | 76.2% | 5.6% | 7.9% | 11.2% | 100.0% | 3.3% | 5.0% | 5.8% |
| Riverside | 69.0% | 5.5% | 8.7% | 11.9% | 98.8% | 3.7% | 5.4% | 7.3% |
| San Diego | 93.9% | 4.6% | 6.8% | 9.4% | 100.0% | 3.1% | 4.5% | 6.6% |
| Santa Barbara | 91.3% | 4.3% | 7.2% | 9.7% | 100.0% | 3.2% | 4.7% | 6.4% |
| Santa Cruz | 88.1% | 3.4% | 5.6% | 8.4% | 100.0% | 2.4% | 4.0% | 5.9% |
| UC | 90.0% | 4.2% | 7.2% | 9.7% | 99.6% | 2.8% | 4.5% | 6.5% |

Source: UC Corporate Student System¹

Students who graduate from UC's baccalaureate go on to achieve positive earnings trajectories and have manageable student loan repayment obligations. The benchmark used to evaluate manageability is the percentage of average earnings required to repay a student's debt at graduation based upon a standard ten-year repayment plan.² UC considers debt that requires between five percent and nine percent of a student's postgraduate earnings to be manageable. Students may choose alternative repayment plans (e.g., income-based plans) based on their individual circumstances. These can increase debt manageability for students with high levels of debt and/or low income, but can result in higher interest costs over time.

About 90 percent of UC baccalaureate programs systemwide have a debt-to-earnings ratio of ten percent or less at two years after graduation and nearly all of them do at five years after graduation.

Some arts, humanities, and social science programs have debt ratios that exceed 10 percent two years after graduation. This stems from a variety of factors, including the lower average earnings associated with industries in which these graduates tend to work in. (See 3.3.5 for earnings by major and industry in Chapter 3.)

² Under a standard ten-year repayment plan at five percent interest



CHAPTER THREE

Professions g Center (HPC)



Undergraduate Student Success

Alejandro Quiñones, a 2018–19 senior biology and pre-med major at UC Riverside and first in his immediate family to attend college, lived in one room with his parents and three siblings before coming to Riverside.

Coming to the UC Riverside campus that first summer in 2015 through FastStart, a UC Riverside School of Medicine pipeline program, set the tone for what has been an unforgettable experience.

While he balances a full course load at UC Riverside, Quiñones has found additional ways to gain hands-on experience. He volunteers at the Riverside Free Clinic and the San Bernardino Free Clinic. Quiñones' job is to help UC Riverside medical students by serving as translator and triage assistant.

On campus, Quiñones is also a Chicano Link Peer mentor, is part of the Latino Medical Student Association, and is a Health Professions Advising Center ambassador. These organizations support undergraduates with mentorship. Several Saturdays a month, he visits senior living homes through the Young At Heart program, of which Quiñones serves as president.

UNDERGRADUATE STUDENT SUCCESS

Trends in graduation rates and goals

Two traditional measures of student success are graduation rates and time to degree. By both measures, UC's undergraduates are highly successful. The four-year graduation rates for freshmen have risen significantly over the past 16 years — from 46 percent for the 1997 entering cohort to 68 percent for the 2014 cohort. The most recent six-year graduation rate, for the 2012 entering cohort, is 84 percent (3.1.1), which has increased by five percentage points since 1996. The six-year graduation rate is 88 percent when this measure includes students who transfer to non-UC institutions (3.1.2) and still graduate within six years. In addition, time to degree has steadily improved, with freshman entrants of the 1996 cohort taking an average of 4.4 years to graduate, down to 4.2 years at present (3.1.8).

Transfer entrants have made similar gains, with two-year graduation rates increasing from 37 percent for the 1997 entering cohort to 57 percent for the 2016 cohort (3.1.3). The most recent four-year graduation rate for transfers (2014 entering cohort) is 89 percent, an increase of about ten percentage points since 1997. The average time to degree is 2.4 years for the 2011 cohort, down from 2.6 years for the 1996 cohort (3.1.8).

Although graduation rates have increased for all students, there are still gaps in rates between subgroups (3.1.4, 3.1.5, 3.1.6, and 3.1.7). Low-income students, first-generation students, and students from underrepresented groups (URGs) have lower average graduation rates, especially four-year graduation rates for freshmen and two-year graduation rates for transfers.

UC's goal is to enable all entrants to complete their undergraduate degrees in a timely fashion and to ensure that their education prepares them to be the next generation of leaders for California, the nation, and the world. President Napolitano seeks to increase the four-year graduation rate from 68 percent (2014 cohort) to 76 percent by 2030.

Improving graduation rates and eliminating gaps

The UC Office of the President and campuses have employed predictive analytics to obtain a better understanding of factors that influence graduation rates. Findings indicate that pre-college factors such as academic preparedness measured by high school GPA, the rigor of student's high school or transfer courses, standardized test scores, and demographics are significantly related to time to degree and graduation rates. However, these factors together only explain a small portion of variance in graduation rates. Campus climate, access to courses, student sense of belonging, student engagement in academic and civic activities, and success in the first year at college, among many other factors, are important to college completion and time to degree.

To address challenges facing students and campuses and reach UC's goal of improving graduation rates, UC campuses have instituted a wide range of programs to promote the academic success of undergraduates and eliminate gaps in graduation rates between subgroups. These include expanding orientation, advising, and counseling services; supporting and enhancing initiatives that address students' academic difficulties; streamlining course prerequisites, course sequences, and degree requirements; increasing access to courses offered by Summer Session or UC Extension; developing pedagogical strategies for the diversification of classrooms; removing achievement gaps in the largest, highest-impact courses; and conducting learning analytics to help identify and assist students who might need additional support.

Recognizing the importance of early student success for on-time graduation, UC campuses are specifically making efforts to improve first-year student success. Many campuses offer first-year seminars to assist students with the transition from high school to UC. Seminars help students build a sense of community, understand the expectations of UC, engage with faculty, and learn how to leverage campus resources. Campuses are also making advising mandatory for first-year students. Early advising helps students choose the right classes and obtain support. To help students understand the role of research in education, many UC campuses offer first-year students the opportunity to work on a research project with a faculty member. Systemwide, UC recently launched the First-Generation Faculty Initiative, which connects first-generation students to both faculty and staff mentors.

Undergraduate outcomes

The number of undergraduate degrees awarded by UC over the past 15 years has grown by 64 percent, from about 32,900 degrees in 2000–01 to about 53,700 degrees in 2016–17 (3.3.1). Increases in the size of the entering freshman class and improving graduation rates have contributed to this growth. More than one-third of the undergraduate degrees awarded by UC in 2016–17 were in STEM disciplines.

UC is proposing a multiyear framework that seeks to improve degree attainment and produce 200,000 more degrees through 2030 in addition to the projected baseline of one million degrees. About 88 percent of these additional degrees (175,000) would be at the undergraduate level. In the last three years, UC has already added 14,000 more degrees above the baseline.

UC undergraduate alumni enroll at graduate schools or work in various industries. Four years after graduation, more than one-quarter of bachelor's degree recipients have enrolled in graduate or professional programs. More than half are working in key industries such as health care, K–12 education, finance & insurance, public administration, social assistance, higher education, engineering, and internet and computer systems. Many alumni work in industries that closely align with the major they chose. By ten years after graduation, 56 percent of engineering & computer science majors work in engineering, manufacturing, or internet and computer systems; 30 percent of life science majors work in health care; and 34 percent of arts & humanities majors are working in K–12, higher education, or performing arts and entertainment.

UC alumni working in California surpass the typical earnings of other California bachelor's degree recipients (aged 25 and over), by six years after graduation. The earnings trajectory of UC alumni increases rapidly — doubling what they were earning at two years after graduation by ten years after graduation, on average (3.3.2). Economic success is prevalent for all socioeconomic groups, including students whose families qualified for federal Pell Grants. Within seven years of graduation, the majority of Pell Grant recipients earn an average income higher than their parents' combined incomes during the time those students attended UC (approximately \$50,000).

Looking forward

Building on UC's record of success, there are continued systemwide and campus efforts to improve undergraduate outcomes. Through the application of state funds, UC hopes to make additional progress in closing equity gaps in graduation rates between subgroups.

For more information

Graduation rates by campus, gender, Pell, residency status, race/ethnicity, and other factors:
universityofcalifornia.edu/infocenter/ug-outcomes

The March 2019 Performance Outcomes report submitted to the legislature:
ucop.edu/operating-budget/_files/legreports/18-19/performance_outcome_measureslegrpt_031919.pdf

A summary of UC's innovations in education to improve student outcomes:
ucop.edu/institutional-research-academic-planning/_files/innovation_in_education_2-27-15.pdf

UC's undergraduate alumni outcomes, including employment industries and earnings:
universityofcalifornia.edu/infocenter/uc-undergraduate-alumni-outcomes

UC's report on Advising Strategies to Support Timely Graduation:
ucop.edu/institutional-research-academic-planning/_files/Advising_strategies.pdf

Degrees awarded at UC by campus, discipline, and degree type:
universityofcalifornia.edu/infocenter/degrees-awarded-glance

Total degrees awarded by degree type, campus, gender, and race/ethnicity:
universityofcalifornia.edu/infocenter/degrees-awarded-data

UC's role in enabling low-income students to achieve intergenerational economic mobility
universityofcalifornia.edu/infocenter/climb-mobility-analysis

UC First-Generation Faculty Initiative
universityofcalifornia.edu/news/uc-first-generation-faculty-students-you-ve-got-and-we-re-here-help

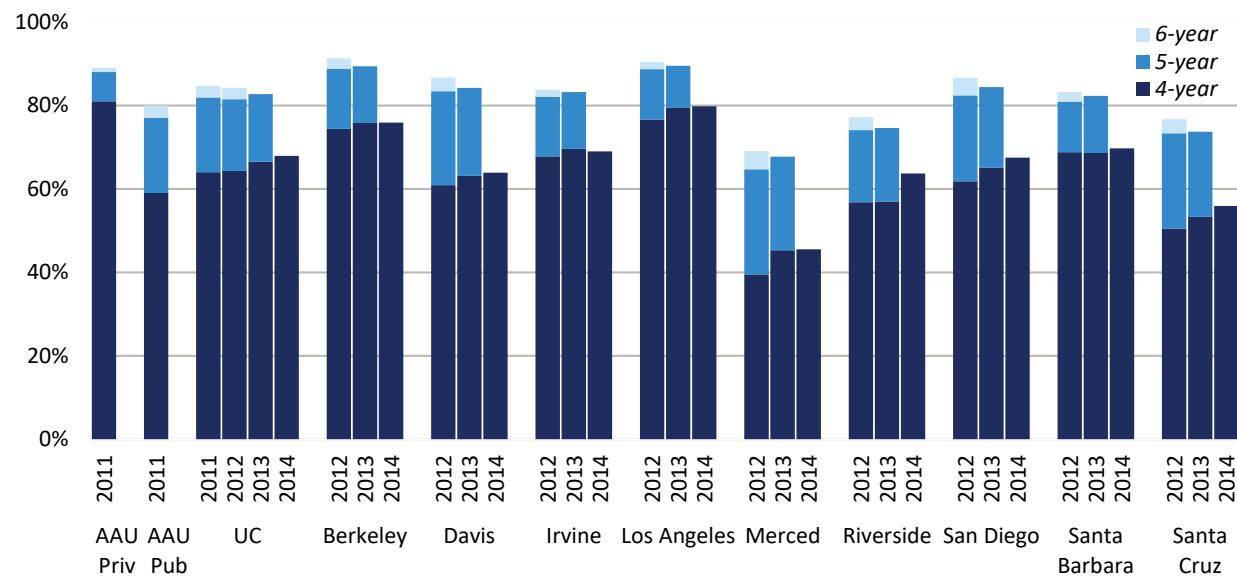
3.1 GRADUATION RATES

Over 60 percent of UC freshmen graduate within four years, a higher rate than comparable AAU public universities.

3.1.1 Freshman graduation rates

UC and comparison institutions

Cohorts entering fall 2012, 2013, and 2014; fall 2011 cohort for AAU comparison



Source: UC Data Warehouse and IPEDS¹

UC's six-year graduation rate is higher than that of comparable AAU public institutions. UC's four-year graduation rates for freshmen have risen significantly since 1997, from 46 percent for the 1997 entering cohort to 68 percent for the 2014 cohort. In recent years, UC Riverside and UC Santa Cruz improved their four-year graduation rates by about seven and three percentage points, respectively. These improvements are due to factors including campus programs supporting four-year completion, improvements in academic preparation of incoming students, and the current cost of a UC education, all of which motivate students to complete their degrees.

UC's freshman six-year graduation rate is 84 percent, which is almost a five percent increase over the past twenty years. The final graduation rate is 86 percent.

By 2030, UC is striving to raise four-year completion to 76 percent and six-year completion to 90 percent. UC is seeking financial support from the state to achieve these goals.

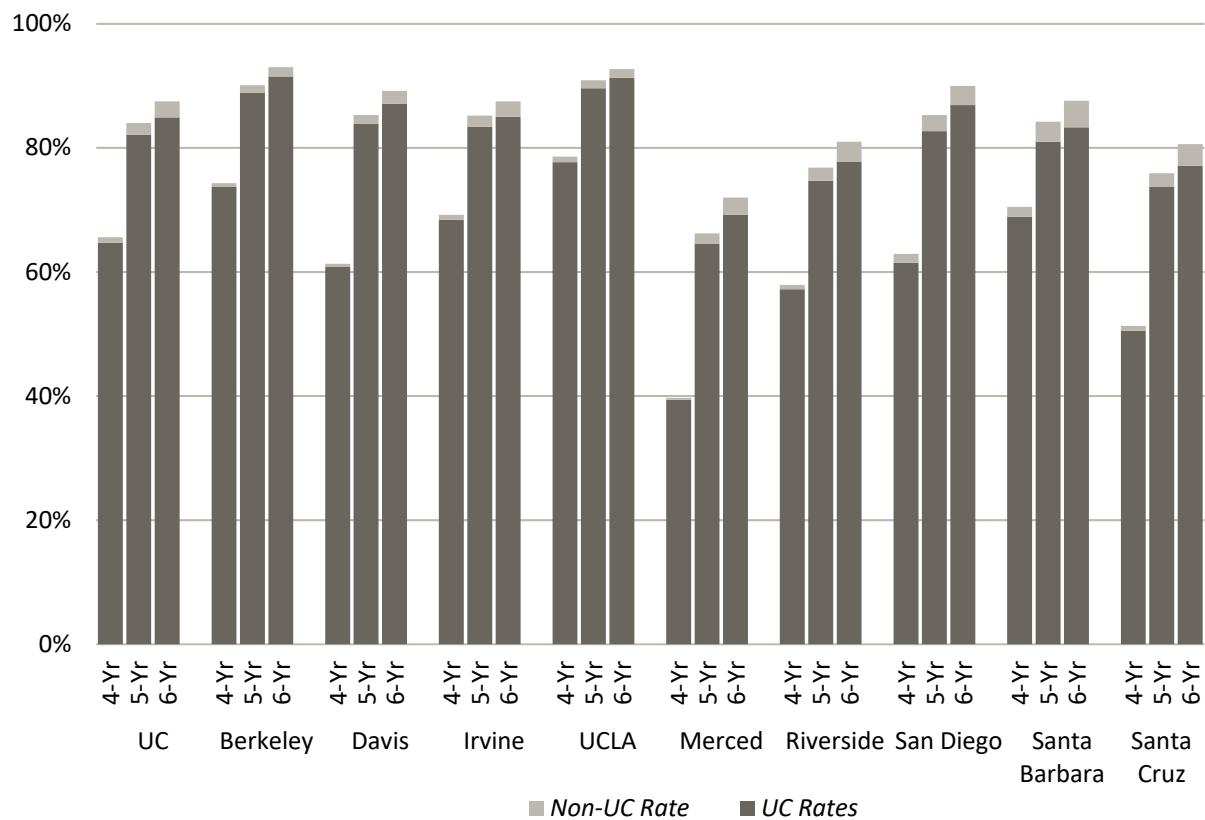
More information on trends in UC freshman graduation rates can be found at:
universityofcalifornia.edu/infocenter/ug-outcomes.

¹ Comparison IPEDS data are available for more limited years. The AAU comparison institutions are in the data glossary. AAU comparison is for the 2011 cohort, the most recent data available. Graduation rates are weighted by total cohort size. Institutions with missing data are excluded for that year. Freshmen are those students who entered a university directly from high school and who have not matriculated at another postsecondary institution prior to enrollment. UC statistics give credit to the originating campus for inter-UC campus transfers.

3.1 GRADUATION RATES

The six-year graduation rate of UC freshmen is close to 90 percent when students who finished their degrees at a non-UC institution are included.

- 3.1.2** Freshman graduation rates, including those who graduated from a non-UC institution
Universitywide and UC campuses
Cohort entering fall 2012



Source: UC Data Warehouse and the National Student Clearinghouse¹

The extended graduation rate of students who begin their studies as freshmen at UC includes those who transfer to a non-UC institution and complete their bachelor's degree within four, five, or six years.

By this measure, UC's overall six-year graduation rate is about 88 percent. The effect of the extended graduation rate varies by UC campus, with Berkeley having fewer students who earn a degree outside of the UC system, while the six-year rates at Merced, Riverside, Santa Barbara, and Santa Cruz improve by as much as four percentage points when students who complete their degree at a non-UC school are included.

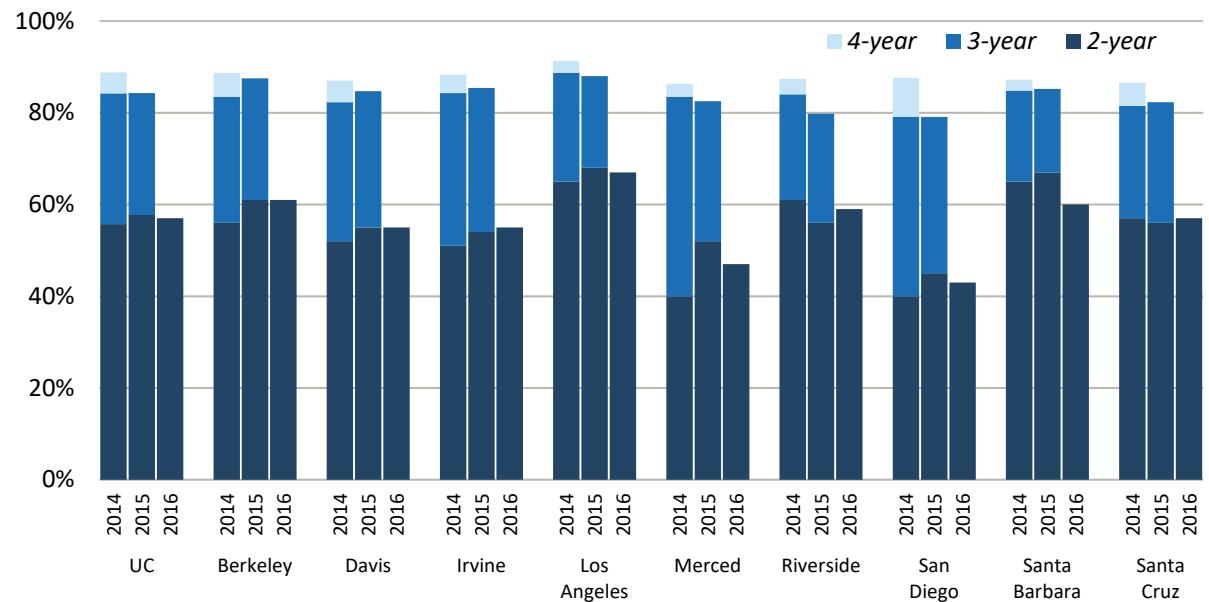
¹ Intercampus transfers within UC are counted as graduates of their originating UC campus. In this graph, non-UC rates only include those who transferred to non-UC institutions and graduated with a bachelor's degree.

3.1 GRADUATION RATES

Nearly 60 percent of transfer students graduated within two years.

3.1.3 Transfer graduation rates

Universitywide and UC campuses
Cohorts entering fall 2014, 2015, and 2016



Source: UC Data Warehouse¹

The two-year graduation rate for transfer students has been relatively consistent over the past three cohorts. The two-year graduation rate for transfers is currently at 57 percent, the highest since 1995. The four-year rate is 89 percent, compared to 84 percent for the six-year freshman graduation rate. The final graduation rate is above 90 percent. More information on trends in UC transfer graduation rates can be found at:
universityofcalifornia.edu/infocenter/ug-outcomes.

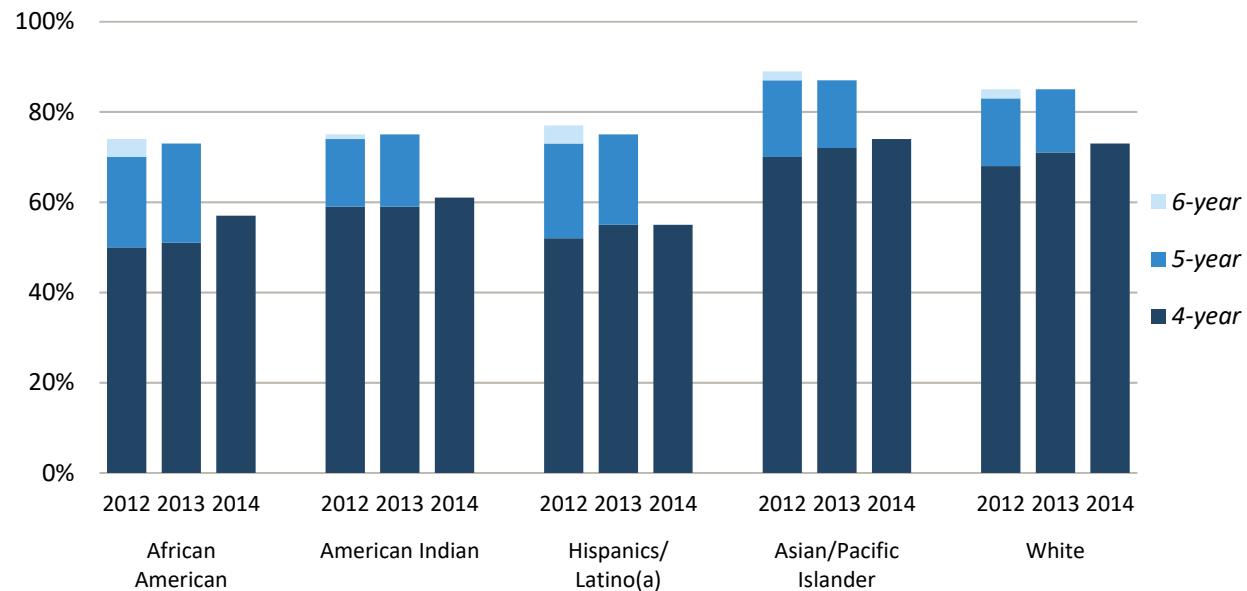
UC is striving to improve two-year graduation rates to 70 percent by 2030. UC is seeking financial support from the state to expand programs and services to achieve these ambitious goals.

¹ Comparison data on graduation rates for transfer students are not available. UC statistics give credit to the originating campus for inter-UC campus transfers. Merced opened in 2005.

3.1 GRADUATION RATES

Underrepresented group (URG) students at UC graduate at higher rates when compared to URG students at other AAU public institutions.

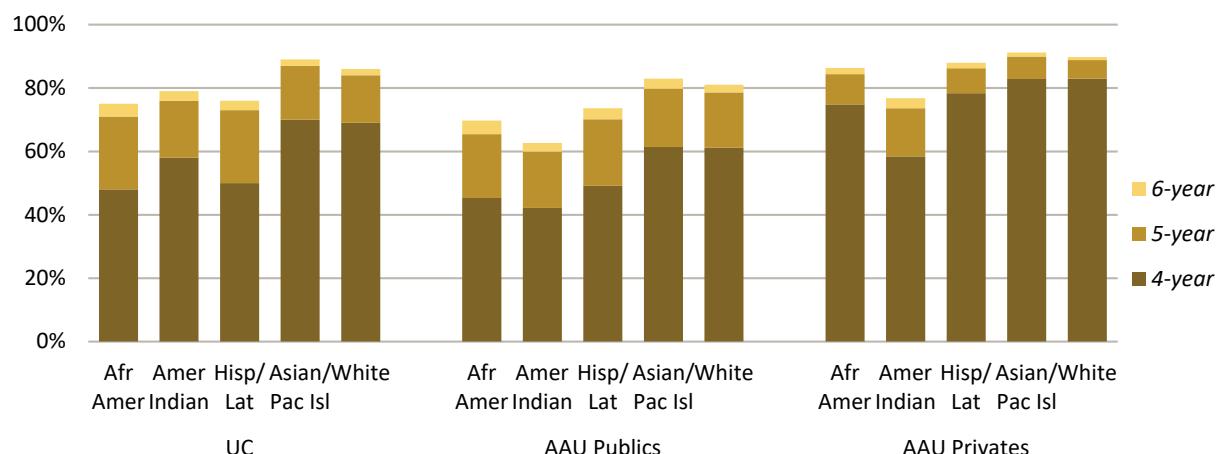
- 3.1.4** Freshman graduation rates by race/ethnicity
Universitywide, AAU public, and AAU private
Cohorts entering fall 2012, 2013, and 2014



By 2030, UC is looking to eliminate graduation gaps for underrepresented groups.

More information on trends in UC freshman graduation rates by campuses and demographic detail can be found at:
universityofcalifornia.edu/infocenter/ug-outcomes.

UC and comparison institutions, cohort entering fall 2011



Source: UC Data Warehouse and IPEDS.

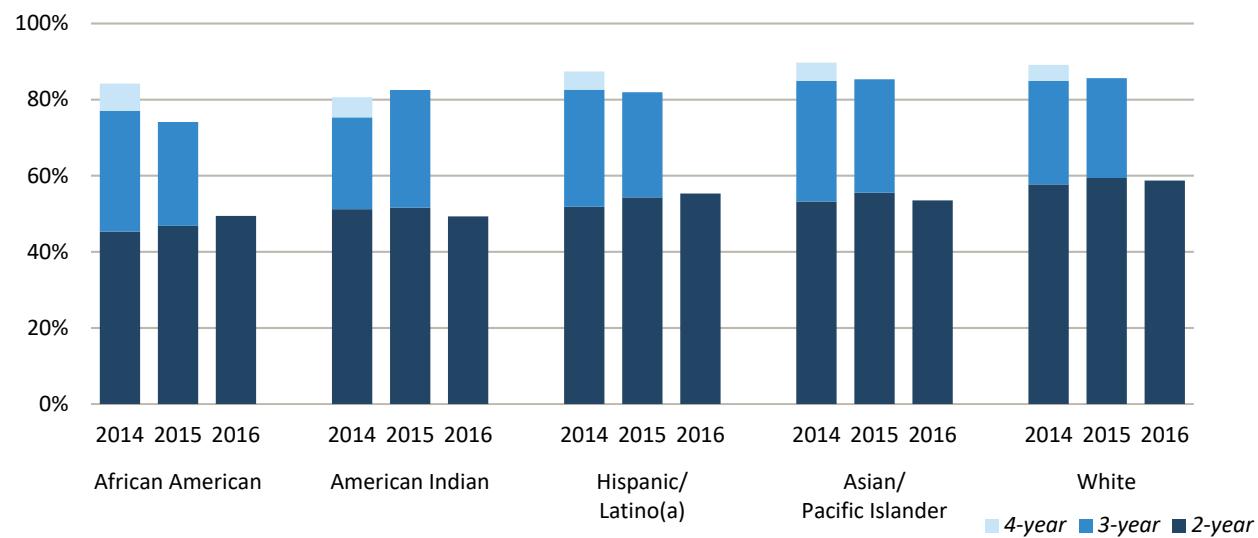
3.1 GRADUATION RATES

Regardless of race/ethnicity, transfer students graduate at a high rate, and the rate for two-year graduates is rising.

3.1.5 Transfer graduation rates by race/ethnicity

Universitywide

Cohorts entering fall 2014, 2015, and 2016



Source: UC Data Warehouse.

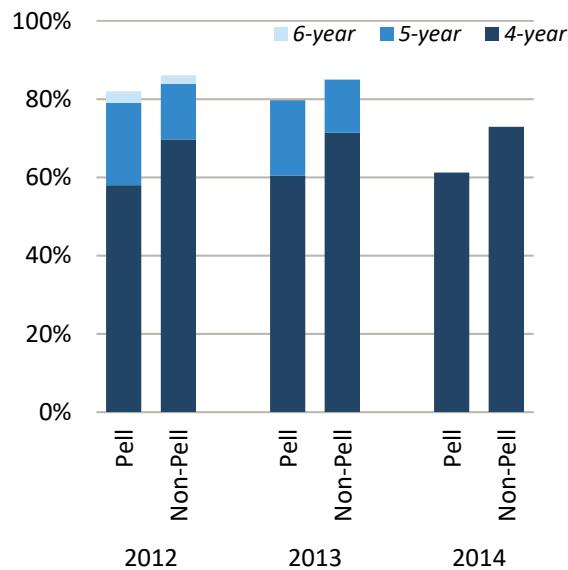
While ontime graduation gaps are smaller for transfer students than for students who enter as freshmen, gaps still remain. By 2030, UC is looking to eliminate graduation gaps for underrepresented groups and raise the overall ontime graduate rate.

More information on trends in UC transfer graduation rates by campus and demographic detail can be found at:
universityofcalifornia.edu/infocenter/ug-outcomes.

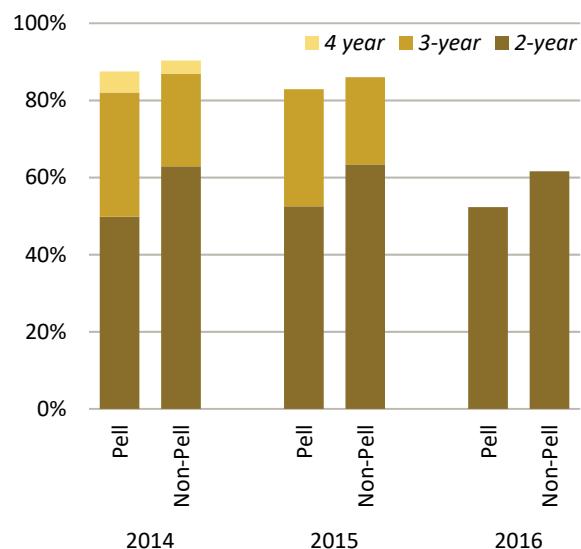
3.1 GRADUATION RATES

Over 82 percent of Pell Grant students graduate within six years.

3.1.6 Freshman graduation rates by Pell Grant recipient status
Universitywide
Cohorts entering fall 2012, 2013, and 2014



3.1.7 Transfer graduation rates by Pell Grant recipient status
Universitywide
Cohorts entering fall 2014, 2015, and 2016



Source: UC Data Warehouse. Pell Grant recipients are those who received a Pell Grant at any point during their time at UC.

Pell Grant recipients graduate at rates comparable to non-Pell recipients: 82 percent and 86 percent, respectively. Although there is a 12 percentage point gap at the four-year mark between Pell recipients (58 percent) and non-Pell recipients (70 percent), this gap is reduced to four percentage points at the six-year mark.

For the 2014 cohort, Pell and non-Pell Grant recipients graduated at comparable rates of 88 percent and 90 percent, respectively, within four years. The two-year graduation rate gap between Pell and non-Pell Grant recipient transfer students is

reduced to ten percentage points from the 2014 cohort to the 2016 cohorts.

UC has adopted goals to eliminate graduation gaps by 2030 and is seeking funds from the state to support investment in programs and services needed to help achieve these ambitious goals.

More information on trends in graduation rates can be found at universityofcalifornia.edu/infocenter/ug-outcomes.

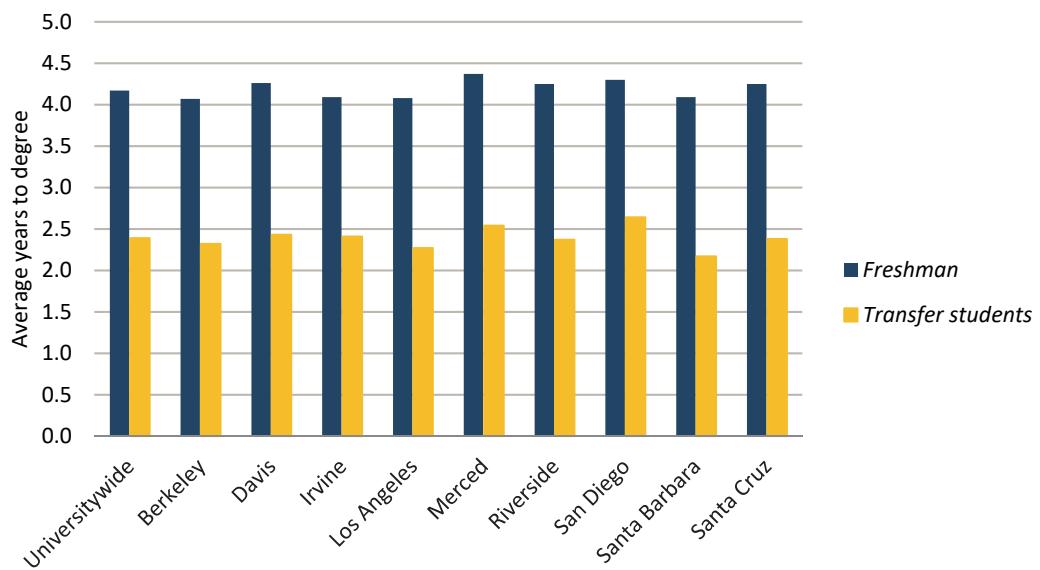
3.1 GRADUATION RATES

As graduation rates rise, undergraduate students at UC are also graduating more quickly.

3.1.8 Average time to degree

Universitywide and UC campuses

Fall 2011 entering freshman and transfer cohorts



Source: UC Corporate Student System.

Average time to graduation includes only students who graduated from UC within seven years.

The average time to earn a bachelor's degree at UC has decreased fairly steadily since 1994. Students entering as freshmen take an average of 4.2 years, about seven percent less time than in 1994.

For students entering as transfers, the average time to degree is 2.4 years, about 12 percent less than in 1994. More information on trends in UC time to degree can be found at universityofcalifornia.edu/infocenter/ug-outcomes.

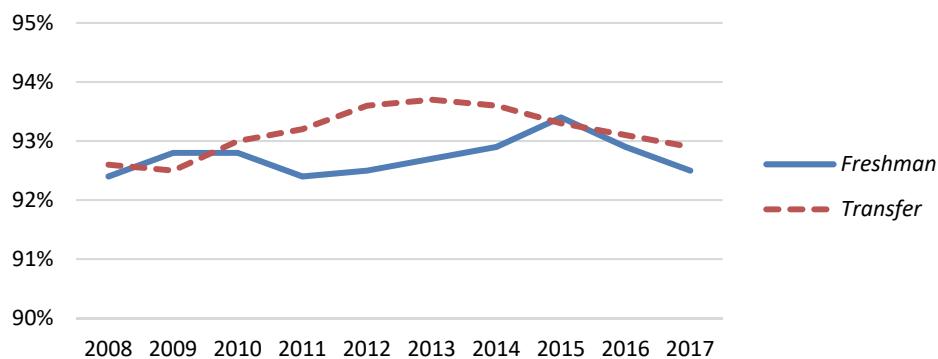
3.2 RETENTION RATES

Retention rates are high, but UC is monitoring possible declining trends.

3.2.1 First-year retention rates

UC systemwide

Cohorts entering fall 2008 to fall 2017

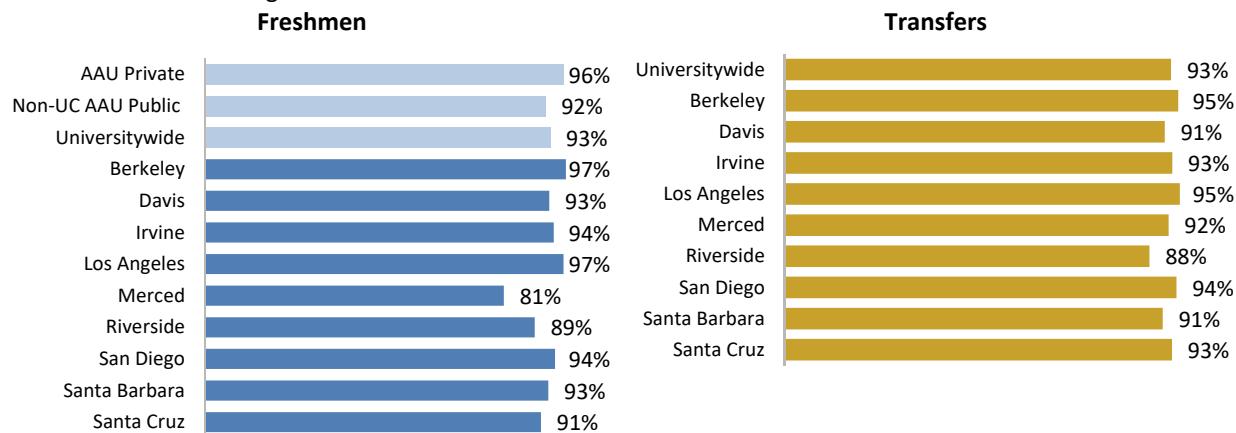


Source: UC Data Warehouse

3.2.2 First-year retention rates

UC and comparison institutions

Cohorts entering fall 2016



Source: Freshman data from IPEDS¹ Transfer data from UC Data Warehouse. Comparison data are not available for transfers.

The current universitywide retention rate is 93 percent. This is higher than non-UC AAU public institutions (92 percent), but lower than AAU private institutions (97 percent).

For students leaving in good academic standing (GPA ≥ 2.0), some campuses are expanding honors programs or providing opportunities for undergraduate research as early as the freshman year. For those leaving in poor academic standing (GPA < 2.0), some UC campuses are using Summer

Bridge or early orientation. Campuses are also looking into housing and residential programs and cohort programs to integrate undergraduates.

Like entering freshmen, transfer students benefit from a smooth transition to. Several UC campuses have summer programs to support transfer students. More information on trends in UC retention rates can be found at: universityofcalifornia.edu/infocenter/ug-outcomes

¹ Freshmen are first-time, full-time, degree-seeking students from the fall who enroll again in the next fall term. The most recent available comparison data available from IPEDS is for 2016.

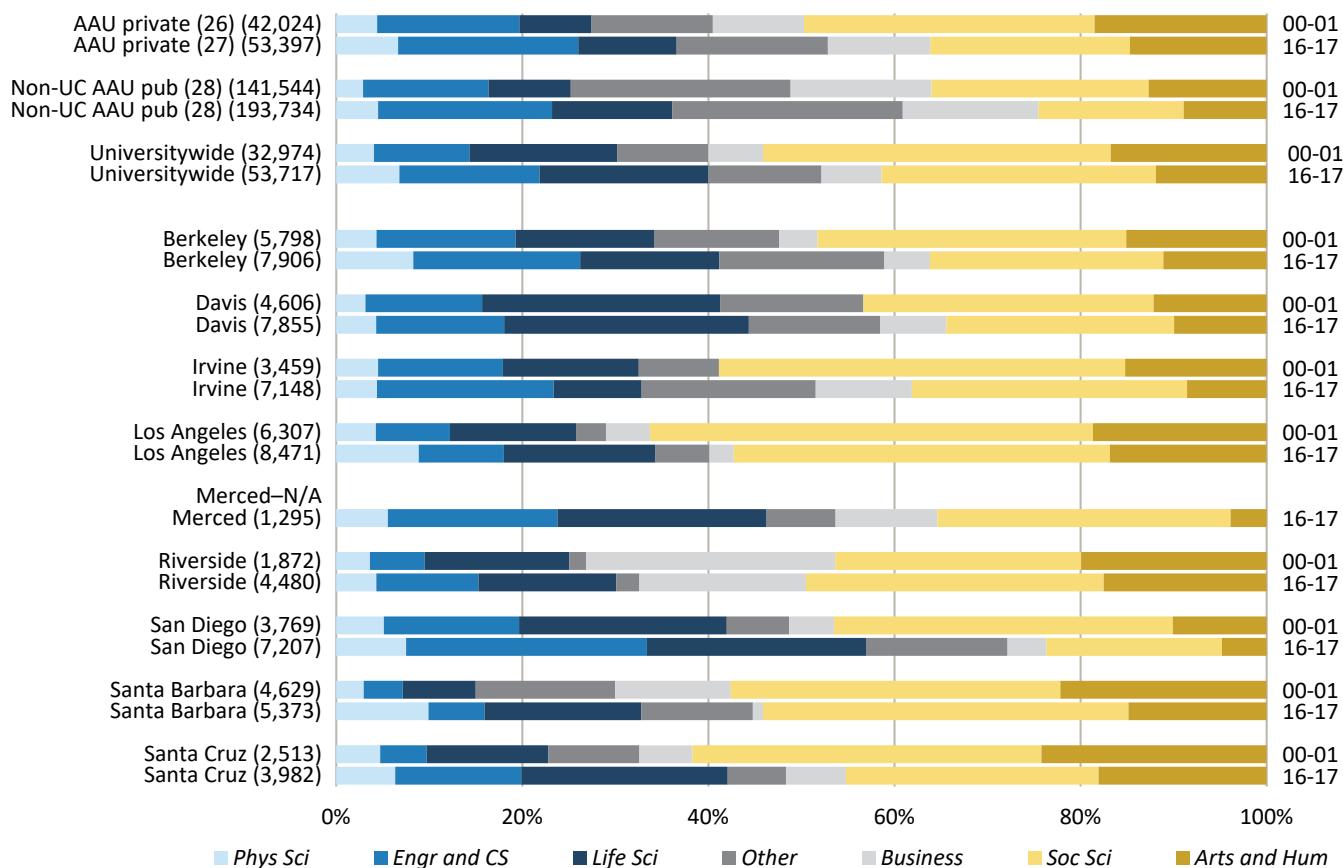
3.3 OUTCOMES

Social science, life sciences, and arts and humanities are the largest segments of bachelor's degree recipients.

3.3.1 Undergraduate degrees awarded by discipline

UC and comparison institutions

2001–02 and 2016–17



Source: IPEDS

About 40 percent of all undergraduate degrees awarded by UC in 2016–17 were in science, technology, engineering, and mathematics (STEM) fields. This is higher than the proportion at AAU public and private comparison institutions (36 and 37 percent, respectively).

3.3 OUTCOMES

Across disciplines, undergraduate degree recipients tend to double their earnings between two and ten years after graduation.

- 3.3.2** Inflation-adjusted average and median alumni wages by selected majors, two, five, and ten years after graduation
 Universitywide
 2000 to 2015 graduating cohorts, combined

| | | After two years | | After five years | | After ten years | |
|------------------------------|--------------------|-----------------|----------|------------------|-----------|-----------------|-----------|
| | | Mean | Median | Mean | Median | Mean | Median |
| Arts & Humanities | Arts | \$32,088 | \$28,144 | \$47,156 | \$42,040 | \$67,900 | \$56,926 |
| | English/Literature | \$36,042 | \$32,991 | \$54,052 | \$49,088 | \$77,488 | \$65,888 |
| | Foreign Language | \$35,891 | \$32,055 | \$53,392 | \$47,938 | \$79,918 | \$66,015 |
| | History | \$36,617 | \$32,773 | \$58,137 | \$50,738 | \$83,937 | \$69,541 |
| | Other Humanities | \$35,744 | \$31,994 | \$53,495 | \$52,951 | \$67,449 | \$65,244 |
| | Philosophy | \$36,786 | \$32,031 | \$55,962 | \$48,115 | \$89,161 | \$70,319 |
| Professional | Nursing | \$80,334 | \$81,017 | \$105,130 | \$103,333 | \$129,183 | \$130,712 |
| | Business | \$53,583 | \$50,202 | \$76,720 | \$68,783 | \$117,382 | \$94,671 |
| | Agriculture | \$51,840 | \$49,827 | \$73,598 | \$67,328 | \$107,744 | \$92,788 |
| | Architecture | \$47,120 | \$44,904 | \$62,799 | \$58,313 | \$80,777 | \$73,991 |
| STEM | Computer Science | \$80,535 | \$74,505 | \$108,152 | \$93,367 | \$145,324 | \$118,681 |
| | Engineering | \$69,138 | \$66,436 | \$94,333 | \$86,459 | \$132,667 | \$113,702 |
| | Physics | \$51,570 | \$47,213 | \$76,150 | \$70,397 | \$109,748 | \$95,974 |
| | Biology | \$38,530 | \$36,646 | \$63,097 | \$55,932 | \$107,390 | \$89,378 |
| | Chemistry | \$44,007 | \$42,573 | \$61,941 | \$57,594 | \$104,144 | \$86,933 |
| | Mathematics | \$53,792 | \$49,376 | \$76,919 | \$68,270 | \$103,623 | \$87,491 |
| Social Sciences | Economics | \$52,799 | \$49,397 | \$76,649 | \$67,905 | \$116,820 | \$93,141 |
| | Political Science | \$41,685 | \$38,095 | \$67,383 | \$57,195 | \$104,116 | \$85,239 |
| | Geography | \$42,101 | \$38,802 | \$64,804 | \$57,044 | \$93,263 | \$76,101 |
| | Psychology | \$36,518 | \$33,231 | \$56,708 | \$50,837 | \$82,710 | \$70,978 |
| | Anthropology | \$34,437 | \$30,351 | \$50,713 | \$45,022 | \$74,845 | \$62,831 |
| | Sociology | \$38,810 | \$35,601 | \$57,741 | \$51,837 | \$79,854 | \$68,804 |
| All Majors | | \$45,202 | \$40,222 | \$66,900 | \$58,609 | \$98,839 | \$81,343 |

Source: California Employment Development Department and UC Corporate Student System. Includes alumni employed in the state of California only. Amounts are inflation-adjusted to 2017 dollars.

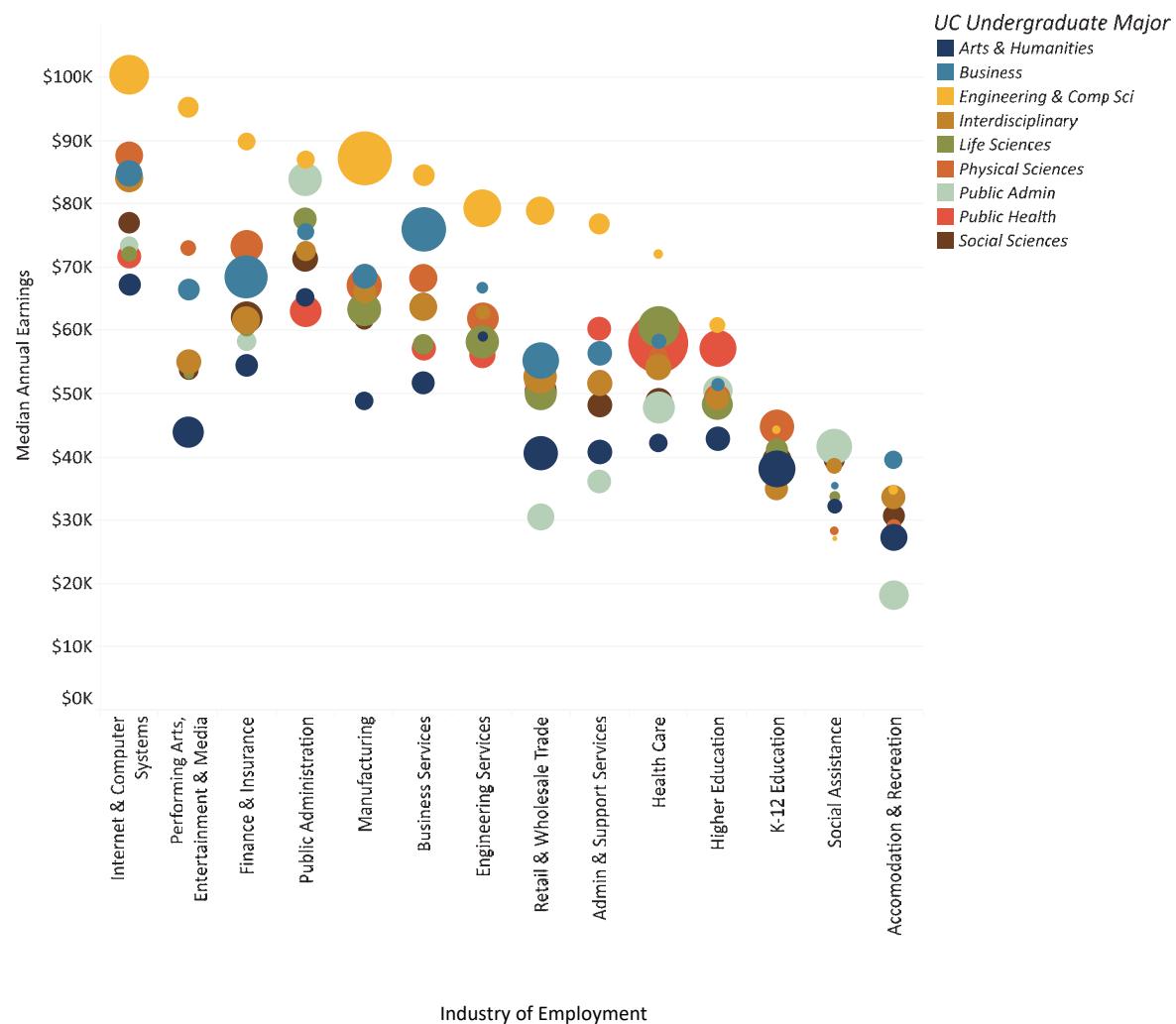
Alumni employment data provide evidence of UC's contribution to the California economy and its role as an engine of economic mobility. UC enrolls a greater percentage of low-income students (from the bottom 20 percent of the income distribution) than other four-year institutions in California. Recent data made available through a partnership with the Equality for Opportunity Project show that more than one in three UC alumni who come from the bottom 20 percent of income rise to the top 20

percent of income as adults, based on the entering cohorts of 1999 to 2005. Moreover, comparisons using this national data show UC bachelor's degree recipients working in California tend to earn about 20 percent more than UC graduates who work outside of California. More information on the Equality of Opportunity Project can be found at: ucop.edu/institutional-research-academic-planning/_files/CLIMB-a-mobility-analysis.pdf.

3.3 OUTCOMES

Engineering and computer science majors tend to earn more than other UC undergraduate alumni, but how much UC alumni make also depends on the industry.

**3.3.3 Median alumni wages by industry of work for selected majors, five years after graduation Universitywide
2000 to 2011 graduating cohorts, combined**



Note: The size of bubble corresponds to percentage of alumni within majors employed in the industry. The largest bubble is 36 percent and the smallest is <1 percent.

Source: California Employment Development Department and UC Corporate Student System. Includes alumni employed in the state of California only. Amounts are inflation-adjusted to 2016 dollars.

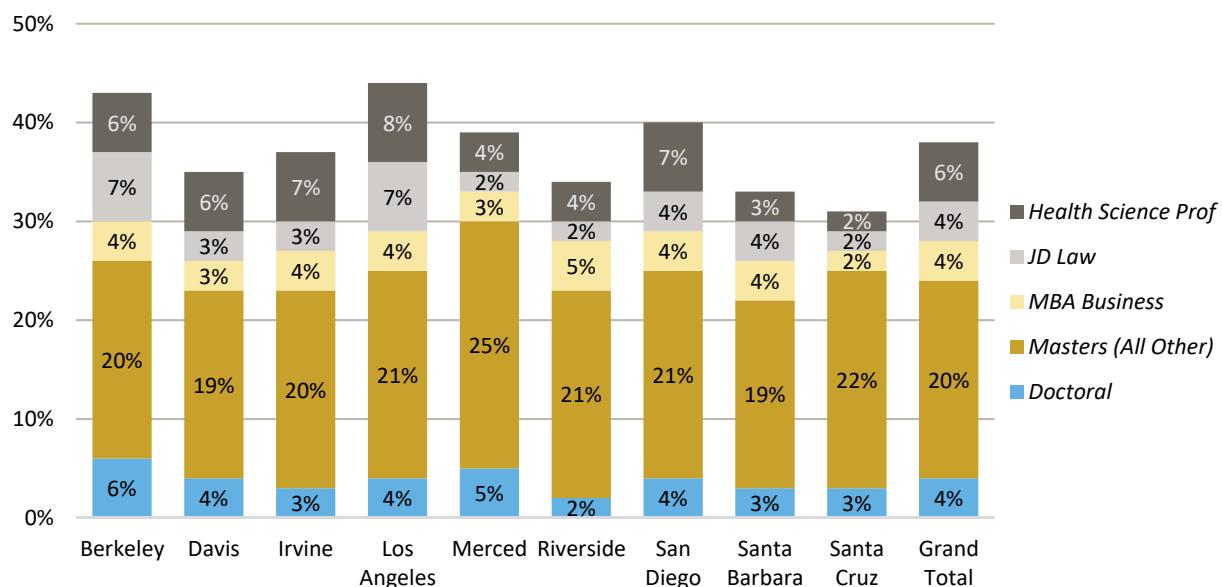
UC graduates go on to work in a wide range of industries in California. A large share of Engineering and Computer Science majors work in the Internet & Computer Systems and Manufacturing industries, with median salaries of about \$100K and \$90K, respectively. Business majors are likely to work in

the business services or finance & insurance industries where median earnings reach \$72K to \$78K. Arts & Humanities graduates are most likely to work in K-12 education, where median salaries are much lower, at about \$54K at five years after graduation.

3.3 OUTCOMES

Thirty-eight percent of undergraduate degree recipients go on to earn a graduate degree, the majority of which are masters-level degrees.

3.3.4 UC undergraduate alumni graduate degree attainment by campus
2000 to 2010 graduating cohorts, combined, as of June 2018



Source: UC Information Center

Earning a graduate degree is a major objective of many undergraduates who attend a research university. Nearly 40 percent of undergraduate students go on to earn a graduate degree after their undergraduate studies at UC.

The UC Information Center (universityofcalifornia.edu/infocenter/alumni-grad-outcomes) provides more details on graduate degree attainment by race/ethnicity, gender, Pell grant eligibility, and entry status. By 2030, UC aims to increase access to graduate degrees for populations that currently are less likely to attend graduate school.

CHAPTER FOUR



Graduate Academic Students and Graduate Professional Students

Violet Barton and Danielle Bermudez have a lot in common: both are UC Merced graduate students and both won prestigious Fulbright Scholarships--the first and second Fulbright U.S. Student scholars ever awarded at UC Merced. Oh, yeah, as mother and daughter, they also have family in common.

Following her daughter, Danielle, to UC Merced for graduate school, Barton will also follow her to El Salvador — the country she was forced to leave 36 years ago during a brutal civil war — for her Fulbright Scholar's work.

Barton has already won several prestigious awards including the Miguel Velez, the UC Humanities Research Institute's Critical Refugee Studies Collective, the Center for the Humanities and the Eugene Cota-Robles fellowships.

"As a young immigrant woman of color, whose life was interrupted by war, I would have never thought I'd be able to get a Fulbright. That's something that happens to other people," Barton said. "And my daughter led the way — that makes me incredibly proud."

GRADUATE ACADEMIC AND GRADUATE PROFESSIONAL STUDENTS

Goals

California's Master Plan for Higher Education gives the University of California the responsibility of enrolling and preparing graduate academic and graduate professional students to help meet the needs of California and the nation and to further the UC mission of teaching, research, and public service. Thus, reviving adequate support for the University of California is important, as its graduate education enterprise fuels California's role as a national and international leader.

UC's goals for graduate education are to offer outstanding degree programs, advance research, support undergraduate instruction, and prepare students to join a professional workforce. UC produces the leaders of the future — the teachers, artists, thinkers, innovators, scientists, inventors, doctors, lawyers, and nurses; it creates an environment of exploration and discovery that stimulates innovation and invention. UC's internationally renowned graduate education enterprise serves to drive California's economy, allowing it to grow, create jobs, and offer its residents the standard of living for which the state is well known.

Types of graduate degrees

UC awards both graduate academic degrees and graduate professional degrees.

Graduate academic degrees — These include academic doctoral and academic master's degrees in education, physical sciences, social sciences, arts, humanities, and engineering/computer science. Other doctoral degrees are offered in various disciplines (such as EdD in education, DrPH in public health, etc.). The largest proportion of graduate academic degrees awarded at UC is in the STEM fields — science, technology, engineering, and mathematics. From the 2014–15 to 2016–17 academic years, more than two-thirds of UC graduate academic degrees were awarded in STEM fields.

Graduate professional degrees — UC's professional degrees include professional master's and professional practice degrees in fields such as law, medicine, nursing, business, education, architecture, public policy, and the arts. The graduate professional category includes professional master's degrees (e.g., M.B.A., M.Ed.) and professional practice degrees (e.g., J.D., M.D.). In the field of medicine, UC offers the nation's largest instructional program in health care and health sciences.

The University maintains multiple funding models for its graduate professional programs. Many state-supported programs (i.e., M.B.A., law, medicine, etc.) assess professional degree supplemental tuition (PDST), which allows the professional schools to ensure their excellence, accessibility, and inclusiveness, and assists with affordability (given the return-to-aid requirement for tuition revenue). Programs assessing PDST commit substantial resources to student financial support, including grants and scholarships. Since PDST began in 1994, both the number of professional degree programs that charge PDST and the amount charged have increased.

Other UC graduate professional programs, primarily master's programs, follow a self-supporting funding model. The largest are business and management programs. These programs receive no state support and are funded entirely by revenues generated by the program and other non-state revenues. Self-supporting programs allow the University to serve additional students beyond those supported through state resources. They also fulfill higher education and workforce needs. Some self-supporting programs serve nontraditional populations such as full-time employees, mid-career professionals, and international students with specialized goals. Many programs are

offered through an alternative mode of delivery, such as online or hybrid instruction, alternative scheduling, or at off-campus locations.

Graduate enrollment share

UC's graduate education enterprise enrolls over 57,000 students, with doctoral students representing the largest number (27,000), and professional (23,000) and master's (7,000) comprising the remainder. Despite its size, UC's graduate education enterprise represents a smaller share of its total enrollment than that of its peers. Graduate students comprise 21 percent of total student enrollment at UC, which is lower than the proportion of graduate enrollment among other Association of American Universities public (27 percent) and private (55 percent) peer institutions. In addition, while the graduate share of UC's total enrollment has remained relatively constant over the last decade at 21 percent, the doctoral enrollment percentage has declined. The graduate professional percentage has risen steadily (4.2.1). Despite these enrollment trends, UC research degree production is comparable to other public university competitors.

UC is proposing a multi-year framework that seeks to improve degree attainment and produce 200,000 more degrees through 2030, in addition to the projected one million degrees. About 12 percent of these additional degrees (over 25,000) would be at the graduate level.

Supporting diverse career paths and making research accessible

To promote and highlight the work of master's and doctoral students across UC campuses, UC holds an annual research communication competition called UC Grad Slam. The event challenges its ten participants — the winners of each campus's own Grad Slam — to distill years of academic research into a three-minute presentation free of technical lingo. Grad Slam encourages students to communicate their research in a clear and compelling way to non-specialists — a skill that employers need and value. Campuses provide workshops and resources for students to develop this skill set. The contest also demonstrates to the public that UC research benefits their lives in both ordinary and quite extraordinary ways. The winner of Grad Slam 2019 was UC Davis student Katie Murphy. Known as the "Corn Queen" to her friends and colleagues, Murphy's research shows how chemical compounds help corn defend itself against pathogens.

Career Pathways Survey

In 2017, UC launched the Ph.D. Career Pathways Survey, which is a partnership between the University of California and the Council of Graduate Schools. The survey will be conducted in three phases through 2020, and its purpose is to better understand the career preparation and pathways of Ph.D. students and alumni. While the Council of Graduate Schools is specifically focused on humanities and STEM Ph.D.'s, the University of California is collecting data from doctoral students and alumni in all disciplines.

Initial results showed high levels of employment and satisfaction with UC Ph.D. programs. Ninety-two percent of respondents were working in a job for pay, 69 percent indicated they were working in a field closely related to their degree, and 54 percent were employed at a higher education institution. Eighty-eight percent of respondents stated that their Ph.D. training prepared them well for their current job, 76 percent stated that they would pursue a Ph.D. in the same field, and 80 percent indicated they would choose the same institution for their Ph.D. education if given the opportunity to choose again.

Equity and inclusion: Expanding academic pathways

A more diverse community of scholars at all levels has been a longstanding goal for UC, but progress at the doctoral, postdoctoral, and faculty levels has been slow. UC's difficulties reflect challenges in both enrolling individuals from underrepresented groups in doctoral programs and in attracting and hiring them as postdoctoral scholars and faculty. Systemwide initiatives aimed at increasing the diversity of UC's academic community include:

UC LEADS — The University of California Leadership Excellence through Advanced Degree program prepares promising UC undergraduate students for advanced education in science, technology, engineering, and mathematics (STEM) fields. The program prepares underrepresented UC undergraduate students for doctoral education opportunities at a UC campus. From its inception in 2000–01 through 2017–18, 1,019 scholars participated in UC LEADS. Of the 851 Scholars who have graduated with their undergraduate degree, 645 (76 percent) are either currently enrolled in graduate school or have already earned degrees in a master’s or doctoral program. Given the importance of gender and ethnic equity within STEM-based doctoral programs, it is notable that 50 percent are women, 53 percent are first-generation college students, and 52 percent are from underrepresented minority groups. Thirty UC LEADS alumni are tenure-track faculty, including seven at UC.

UC-HBCU Initiative — The University of California-Historically Black Colleges and Universities (UC-HBCU) Initiative was established to increase the number of African Americans completing Ph.D.’s at UC by investing in relationships between UC faculty and HBCUs. The program has raised UC’s profile within the HBCU community and facilitated faculty research collaborations in addition to enrolling and retaining students. More information about the UC-HBCU Initiative is presented in Chapter 7.

University of California President’s Postdoctoral Fellowship Program (PPFP) — The PPFP was established to encourage outstanding women and minority Ph.D. recipients to pursue academic careers at UC. The program offers postdoctoral research fellowships, professional development, and faculty mentoring to outstanding scholars in all fields whose research, teaching, and service will contribute to diversity and equal opportunity at UC. More information about the PPFP is presented in Chapters 5 and 7.

Looking ahead

The University continues to develop programs to enhance the graduate student experience. UC’s overall excellence rests on the strength and scope of its graduate programs. Unlike undergraduate enrollment planning, which is based on California’s Master Plan, graduate enrollment planning includes the assessment of state and national needs, faculty expertise, program quality (which includes international competitiveness), and financial support. In early 2018, Provost Michael Brown convened a workgroup on graduate education to examine the adequacy of doctoral student financial support, both as compared to other institutions and in light of rapidly growing living costs in California. This is a subcommittee of the Academic Planning Council, which is examining and addressing issues in graduate education such as providing multiyear guaranteed funding packages, prioritizing mental health and well-being, actively improving diversity and inclusion, and improving professional development support. The workgroup is expected to report its findings and recommendations to the provost in early summer 2019.

[For more information](#)

UCOP Graduate Studies: ucop.edu/graduate-studies

Time to doctorate at UC: universityofcalifornia.edu/infocenter/time-to-doctorate

Doctoral completion rates: universityofcalifornia.edu/infocenter/doctoral-rates

Graduate student financial support and net cost of attendance: universityofcalifornia.edu/infocenter/net-cost

Employment and doctoral experience of Ph.D. recipients: universityofcalifornia.edu/infocenter/employment-and-doctoral-experience-phd-recipients

Doctoral program data: universityofcalifornia.edu/infocenter/doctoral-program

UC Grad Slam: gradslam.universityofcalifornia.edu

UC LEADS: ucleads.org/

UC-HBCU Initiative: ucop.edu/uc-hbcu-initiative/index.html

President's Postdoctoral Fellowship Program: ppfp.ucop.edu/info/index.html

UCOP Research and Graduate Studies: ucop.edu/research-graduate-studies

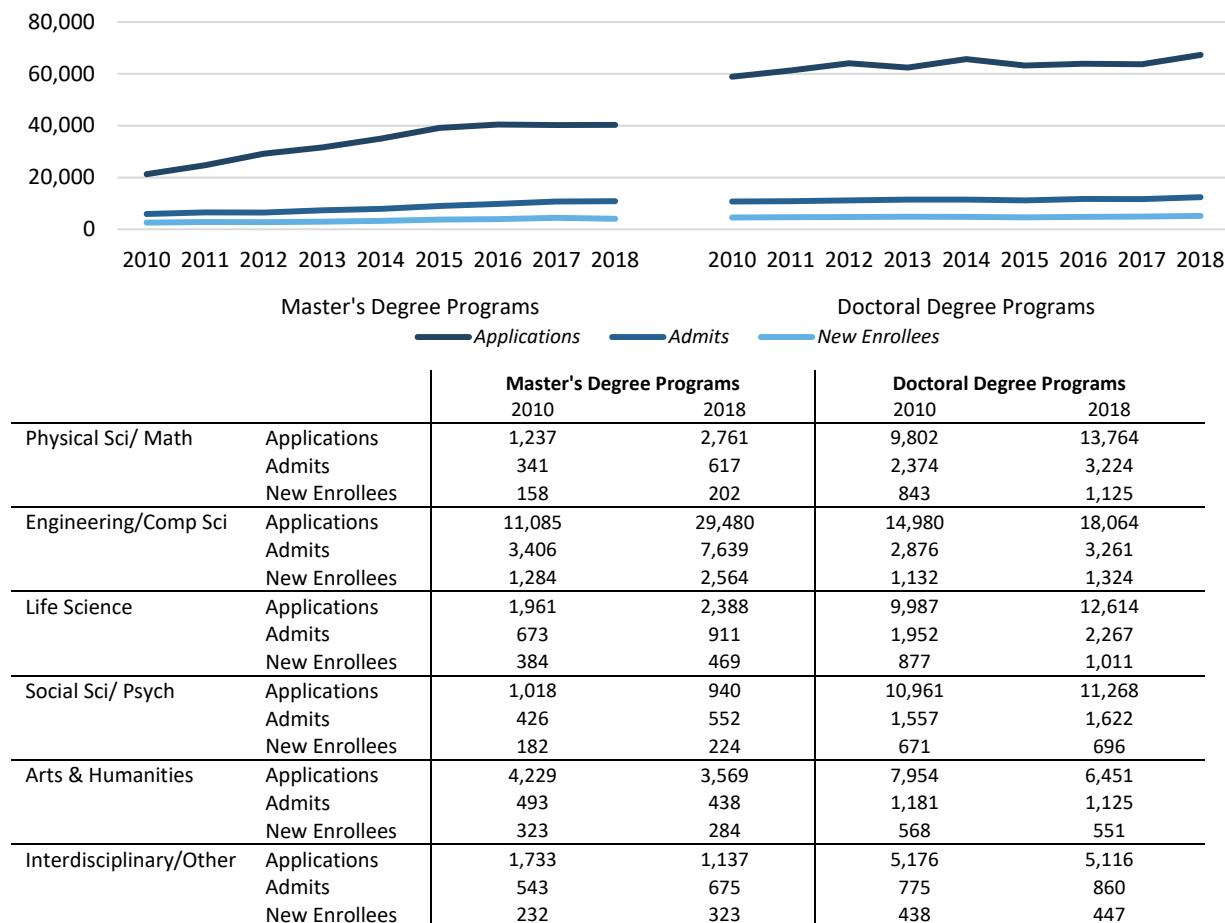
4.1 GRADUATE ACADEMIC ADMISSIONS

Universitywide graduate academic applications have increased substantially since 2010, while admits and new enrollments have remained relatively flat.

4.1.1 Graduate academic applications, admits, and new enrollees by degree program and citizenship

Universitywide

Fall 2010 to Fall 2018



Source: UC Corporate Student System. A small number of professional doctoral programs are also included in these data. Universitywide applications and admits are duplicated in this report since students often apply to more than one campus.

The demand for UC academic master's and doctoral programs has increased steadily since 2010.

Applications for admission grew from 80,000 in 2010 to 107,500 in 2018. Nearly all of this increased demand has come from prospective international students, with international applications growing from 34,400 to 62,400 — a rate of almost eight percent per year.

Engineering and computer science programs have significantly higher demand from international students than do other disciplines. Recent survey data compiled by the Council of Graduate Schools show a

similar nationwide trend of growth in applications from international students, with engineering as the most popular field for international applicants.¹

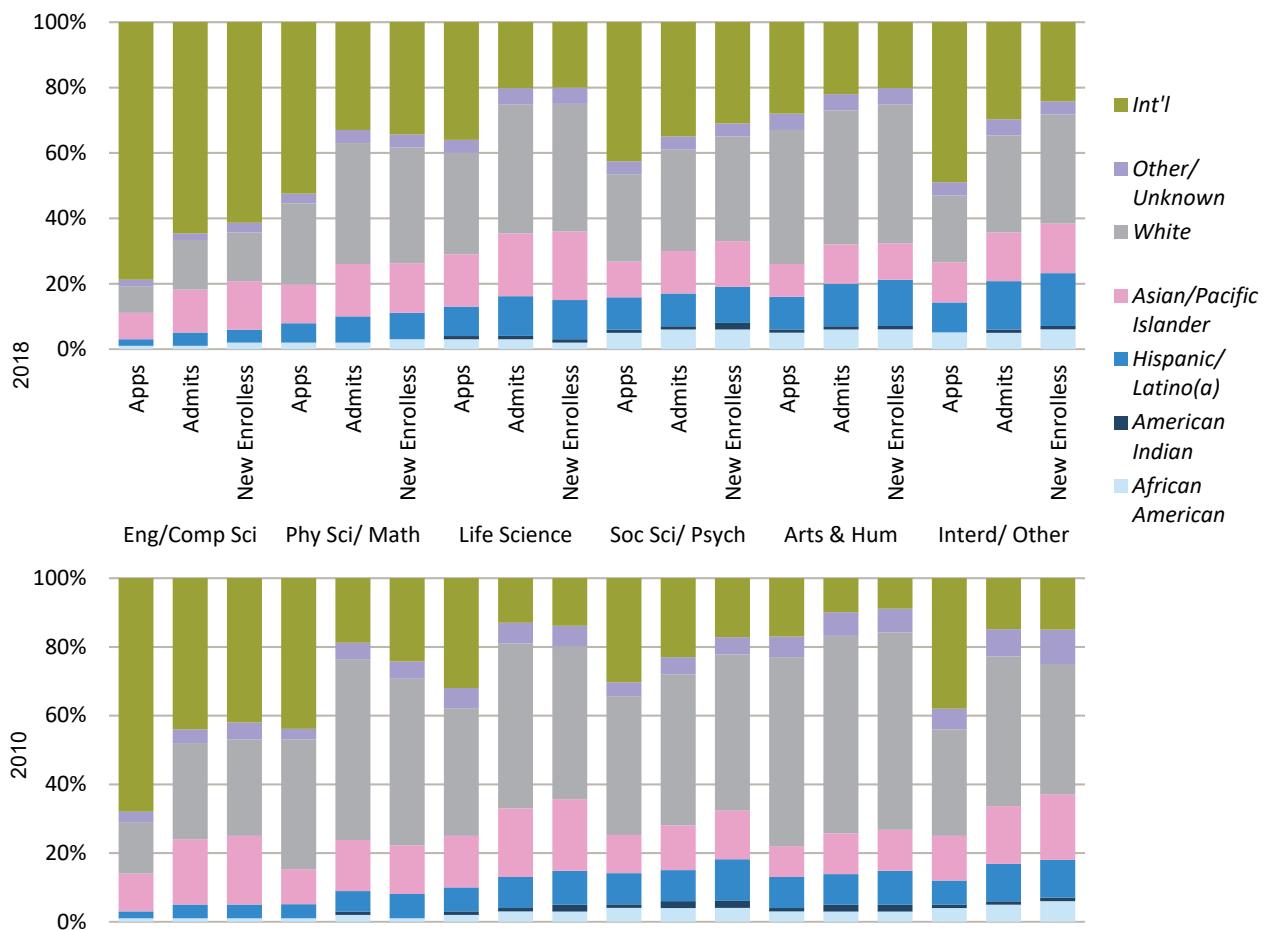
Since 2010, admits increased from 16,500 to 23,100 in 2018, and new enrollments increased from 7,200 to 9,200. Though applications are now predominantly (58 percent) from international students, both admits and new enrollments of domestic students exceed those of international students.

¹ cgsnet.org/ckfinder/userfiles/files/2017_International_Survey_Report_Final.pdf

4.1 GRADUATE ACADEMIC ADMISSIONS

Since 2010, the number and share of graduate academic admissions have significantly increased for international students.

- 4.1.2** Graduate academic applications, admits, and new enrollees by race/ethnicity and discipline
Universitywide
Fall 2010 and 2018



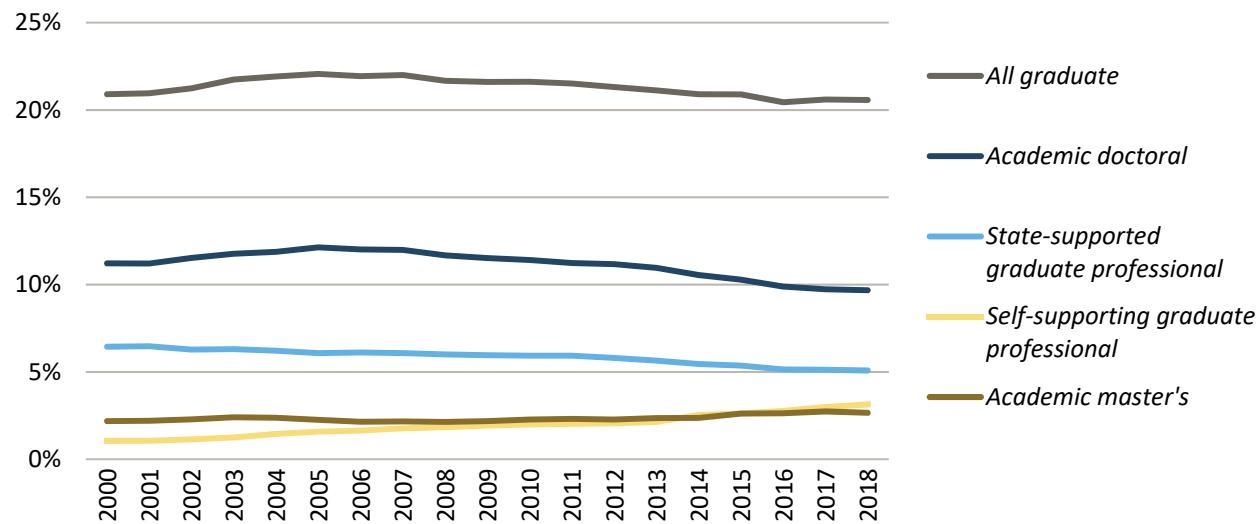
Source: UC Data Warehouse

International students represent the majority of applicants, admits, and new enrollees in engineering and computer science graduate programs. The share of international students in all other disciplines also increased between 2010 and 2018. Social science and humanities programs have the highest shares of enrollment among underrepresented minority students, and those shares increased between 2010 and 2018.

4.2 GRADUATE ACADEMIC AND PROFESSIONAL ENROLLMENT

Graduate enrollment, as a share of UC's total undergraduate and graduate enrollment, has remained relatively steady since 2000.

4.2.1 Graduate enrollment share of total Universitywide
Fall 2000 to Fall 2018



Source: UC Corporate Student System. Academic master's students include post-baccalaureate, teaching-credential students. Graduate professional includes professional master's (e.g., M.B.A., M.Ed.) and professional practice (e.g., J.D., M.D.) degrees.

With 21 percent graduate enrollment in 2018, including health science students, UC was lower than the average for non-UC AAU¹ public institutions, at 27 percent, and the average for AAU private institutions, at 55 percent.

In fall 2018, the proportion of academic doctoral students varied across UC's general campuses, from seven percent at Merced and Santa Cruz to 13 percent at Berkeley. At San Francisco, an exclusively graduate health-sciences campus, academic doctoral students made up 27 percent of fall 2018 enrollments. Since 2008, the share of academic doctoral students has declined at most campuses due to more rapid growth in the undergraduate, master's, and professional populations.

UC awards 20 percent of California's graduate academic master's degrees, 62 percent of its academic doctoral degrees, and 21 percent of its graduate professional practice degrees.

Percent of students who are academic doctoral

| | Fall 2008 | Fall 2018 |
|----------------|-----------|-----------|
| San Francisco | 29% | 27% |
| Berkeley | 17% | 13% |
| Los Angeles | 12% | 11% |
| Davis | 11% | 9% |
| Santa Barbara | 11% | 9% |
| San Diego | 11% | 9% |
| Riverside | 10% | 9% |
| Irvine | 10% | 8% |
| Santa Cruz | 7% | 7% |
| Merced | 6% | 7% |
| Universitywide | 12% | 10% |
| (25,922) | (27,249) | |

Source: UC Data Warehouse

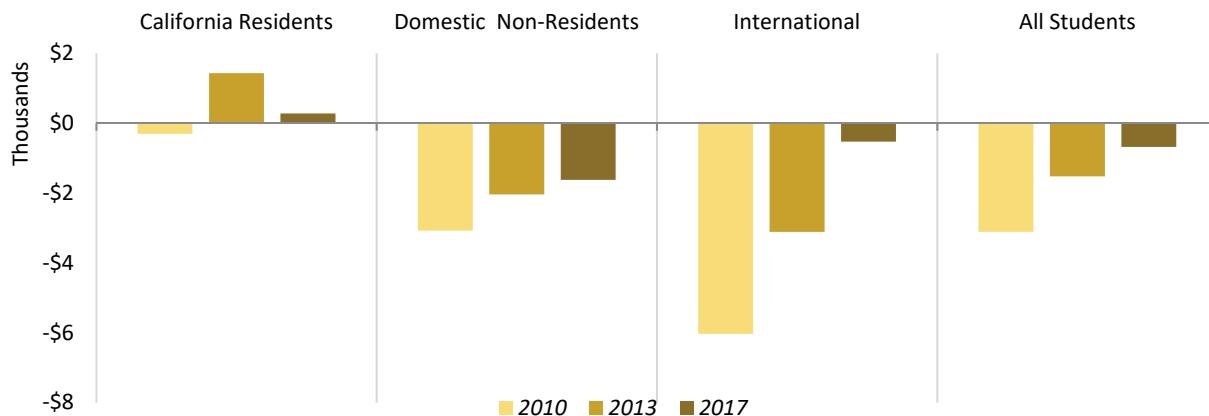
¹ A list of the institutions in the AAU comparison groups can be found in the data glossary.

4.2 GRADUATE ACADEMIC AND PROFESSIONAL ENROLLMENT

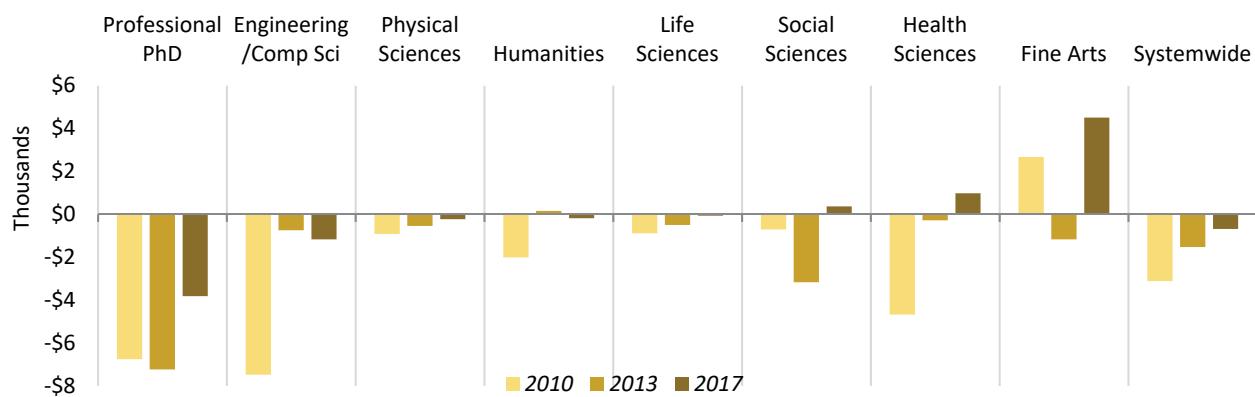
UC net stipends remain below competitive offers, although the gap decreased substantially between 2010 and 2017.

- 4.2.2** Average net stipend offered to graduate academic doctoral students admitted to UC compared with their first-choice non-UC schools
Universitywide
2010, 2013, and 2017

By residency



By broad discipline



Source: UC Graduate Student Support Survey. Graduate academic professional doctoral programs include EdD, D.Env., DrPH., D.P.T. and D.N.S.

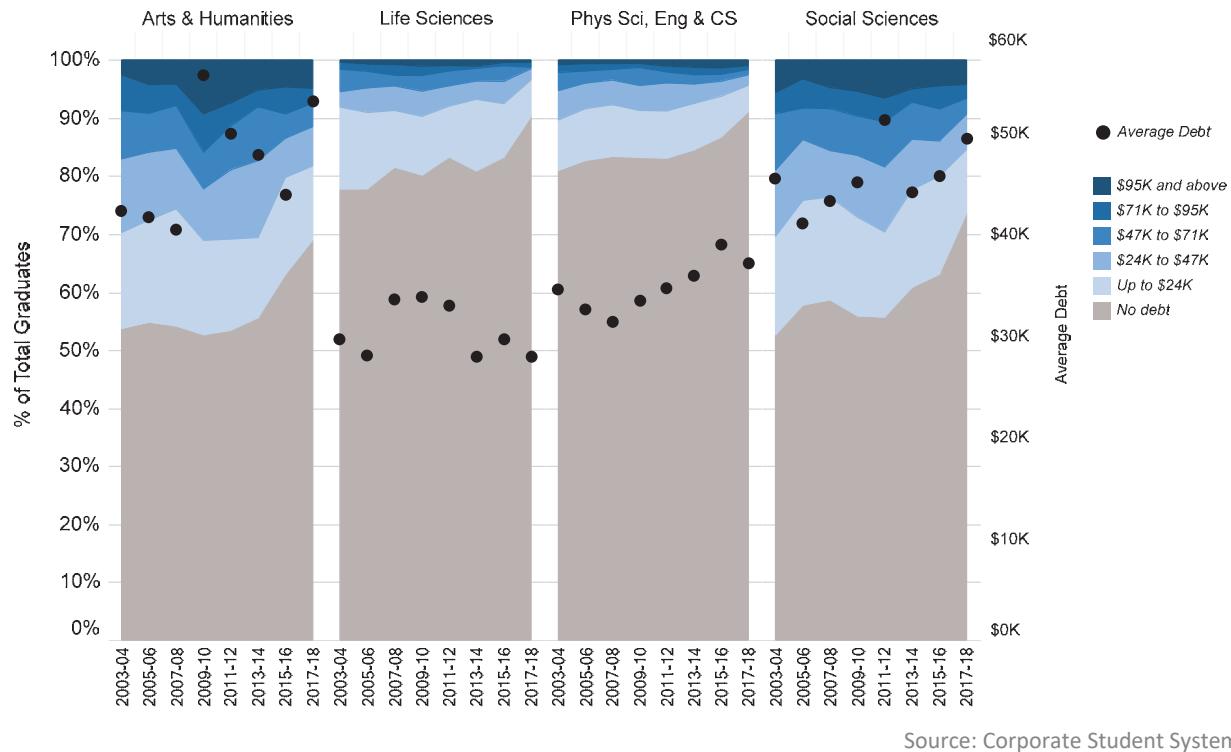
Doctoral students are crucial to a university's research enterprise and instructional programs. To attract the most highly qualified applicants, universities offer aid packages that include the cost of tuition and stipends. Net stipend is the amount of aid that students have for living expenses after tuition and fees are paid. It does not include loans that the student may be offered. The "stipend gap"

varies by discipline, as shown in the chart above. Since 2010, UC has made considerable progress in closing the net stipend gap with competing institutions, reducing it from \$3,000 to about \$700 in 2017. However, a considerable gap remains between UC's average net stipend and growing living costs in California.

4.2 GRADUATE ACADEMIC AND PROFESSIONAL ENROLLMENT

More than half of UC doctoral students graduate without debt. Doctoral students in the physical and life sciences have seen smaller increases in debt since 2003–04, and graduate with less average loan debt than those in the social sciences and arts and humanities.

4.2.3 Academic doctoral students' graduate debt at graduation, by discipline, domestic students Universitywide Graduating classes of 2003–04 to 2017–18 (every two years)



Source: Corporate Student System¹

Depending on the field of study, between 70 percent (arts and humanities) and 90 percent (physical and life sciences) of UC doctoral students take on no additional debt during graduate school.

Several factors account for the difference in debt burden between doctoral students in the physical and life sciences and those in other disciplines. Physical and life science students are more likely to be supported by research grants. In addition, their programs take less time on average to complete than do programs in the social sciences or arts and humanities.

¹ Debt categories are inflation-adjusted in 2017 dollars using CA CPI-W. "Other" includes interdisciplinary and professional fields. Life sciences include health sciences.

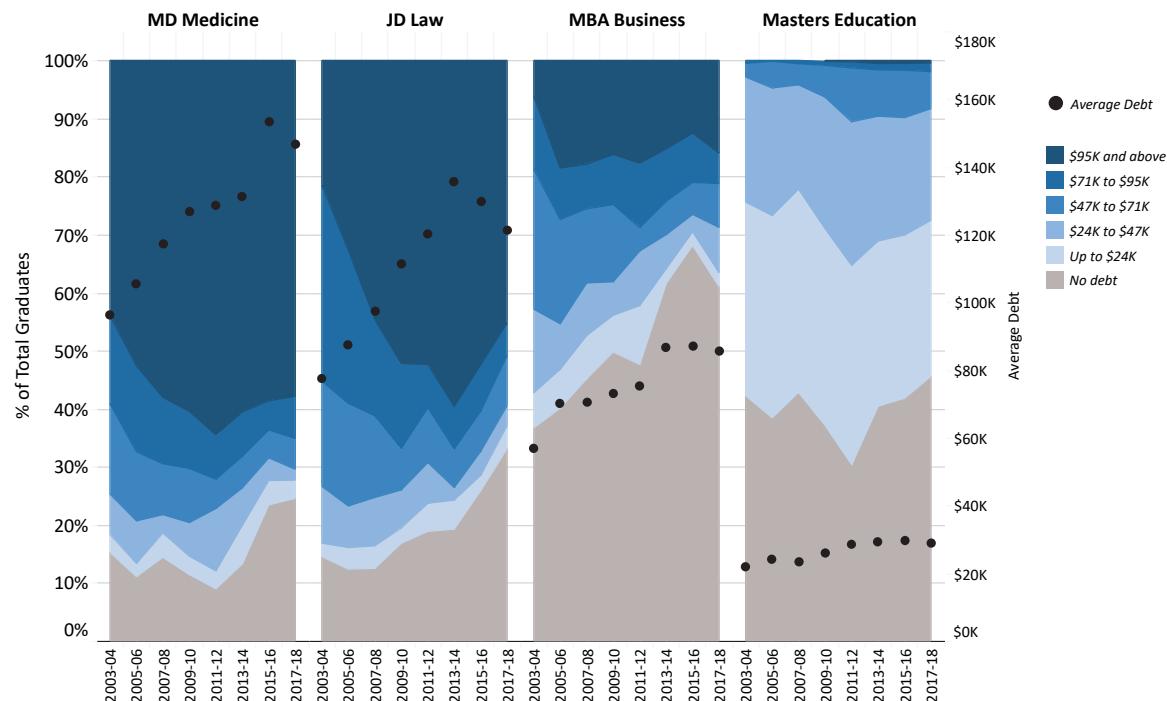
4.2 GRADUATE ACADEMIC AND PROFESSIONAL ENROLLMENT

Graduates with the highest debt levels come from professional schools that charge higher supplemental tuition.

4.2.4 Graduate professional degree student debt at graduation, by discipline, domestic students

Universitywide

Graduating classes of 2003–04 to 2017–18 (every two years)



Source: UC Corporate Student System¹

On average, about 55 percent of the aid awarded to graduate professional degree students comes in the form of loans rather than fellowships or grants. By comparison, loans constitute less than five percent of the aid awarded to graduate academic students. Graduate funding models require greater reliance on loans for professional degree students as their programs are of shorter duration, and many fields offer potentially higher incomes after graduation.

Most graduate professional degree students finance part of their education by borrowing. The increases since 2002–03 in average inflation-adjusted debt levels of graduating professional degree students vary considerably. Increases in graduate debt result from a combination of factors, including steady growth in tuition, cost of living increases, and greater student reliance on federal student loan programs.

¹ Average debt is among graduates with debt. Debt categories are inflation-adjusted in 2017 dollars using CA CPI-W.

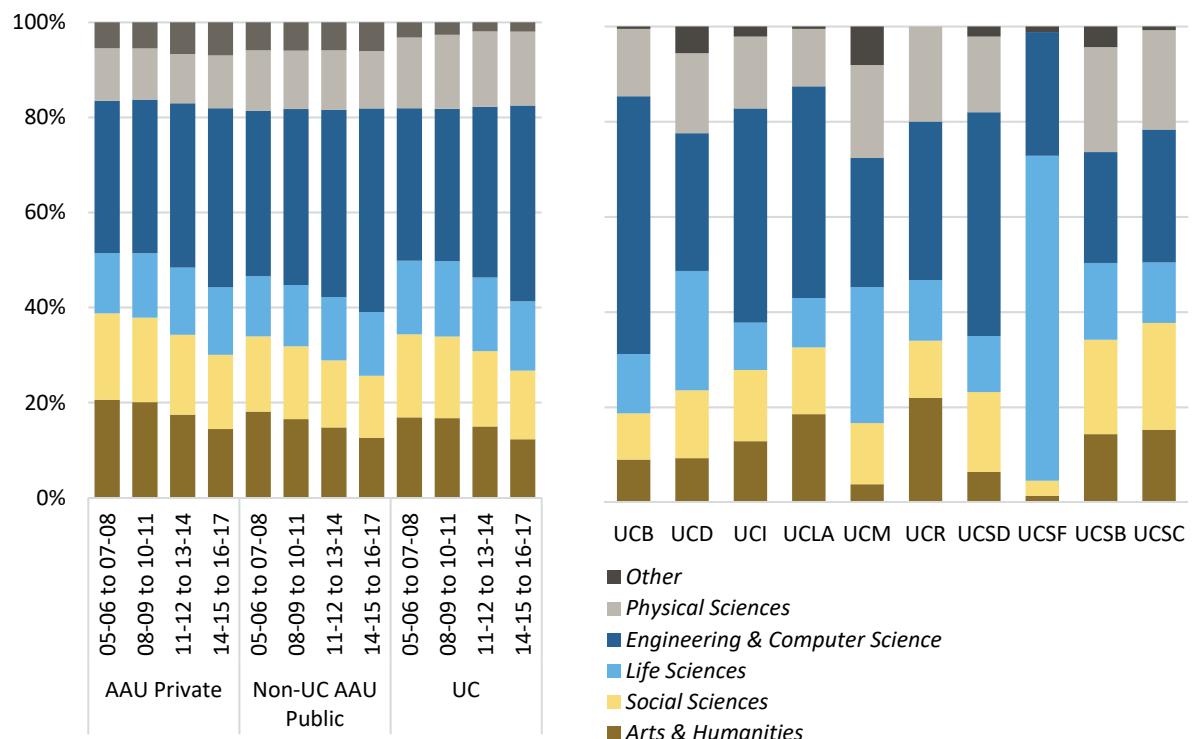
4.3 GRADUATE ACADEMIC STUDENT OUTCOMES

Like other major research universities, UC awards a high proportion of graduate academic degrees in science, technology, engineering, and mathematics (STEM) fields.

4.3.1 Graduate academic degrees awarded by discipline

UC and AAU private and public comparison institutions

Number of degrees grouped in 3-year intervals: 2005–06 to 2007–08, 2008–09 to 2010–11, 2011–12 to 2013–14, 2014–15 to 2016–17; campus-level data for 2014–15 to 2016–17



Source: IPEDS¹

UC graduates have had major impacts on the nation and the world — creating much of California’s biotechnology and computer industries, developing research breakthroughs that have led to major medical advances, shaping ideas about our world and culture, creating the economic and social infrastructure of our communities, and assuming political leadership in California and the nation.

UC’s graduate STEM programs reflect the predominant industries in California’s economy. In addition to leading all California institutions in the production of engineering and computer science

degrees, UC far outpaces them in the production of degrees in the biological sciences — key to driving the growth of California’s biotechnology sector.

More than 25 UC Ph.D. recipients have been awarded Nobel Prizes.

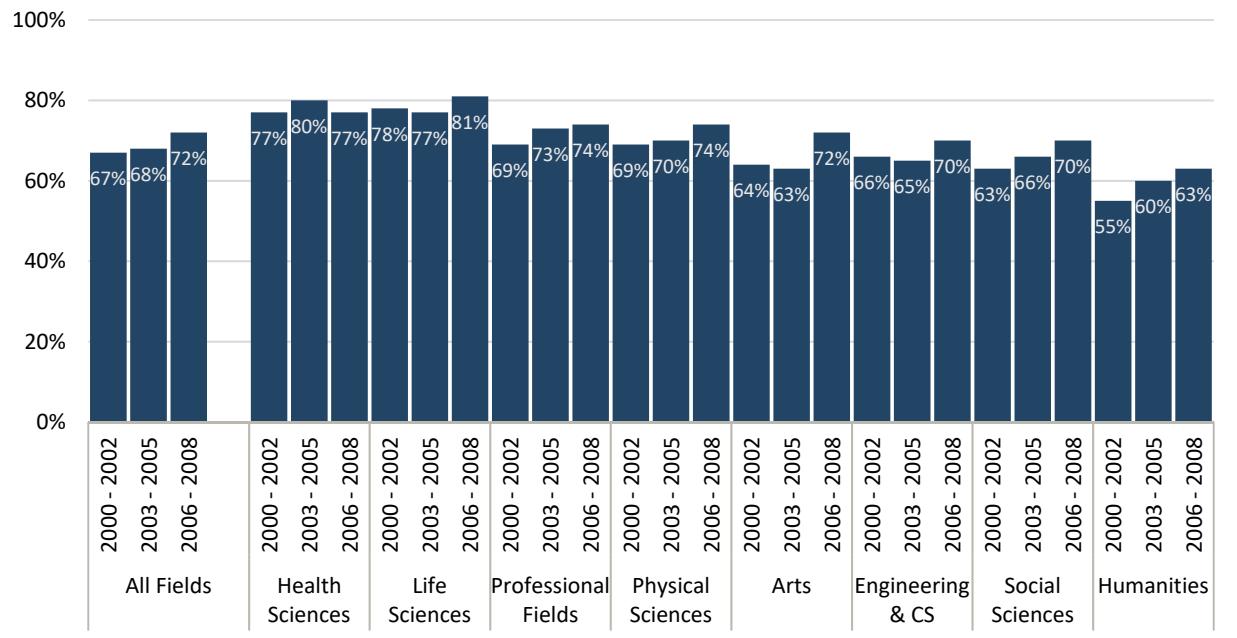
Since 2005–06, the number of graduate academic degrees awarded at UC grew by 25 percent, compared to 43 percent at the group of AAU private institutions and 27 percent for the group of non-UC AAU public institutions.

¹ “Other” includes interdisciplinary and academic degrees in otherwise professional fields, such as architecture, communications, and public administration.

4.3 GRADUATE ACADEMIC STUDENT OUTCOMES

UC's doctoral completion rate increased in nearly every field over the two most recent cohorts studied.

4.3.2 Doctoral completion rates after ten years, by broad field
Universitywide
 Fall 2000–2002, 2003–2005, and 2006–2008 entry cohorts



Source: UCOP Corporate Student System

The Universitywide ten-year doctoral completion rate across all fields for the fall 2006–08 entering cohorts was 72 percent. This is an increase from the 68 percent completion rate reported for the 2003–05 cohort. Among broad disciplines, life sciences and health sciences continue to have the highest completion rates. Engineering and computer sciences, social sciences, and humanities showed the lowest rates, owing to the longer normative time in those fields and different financial support models, although both experienced an increase compared to previous cohorts.

The overall improvement in ten-year completion rates may be attributed to at least two factors. First, student demographics have shifted to include a larger percentage of international students, who, as a group, have a higher ten-year completion rate than the overall cohort's rate. (A variety of factors influence this difference, including different tuition rates for international students.) Second, shifts over time in enrollment toward disciplines with higher completion rates (STEM fields) affect the overall ten-year completion rate.

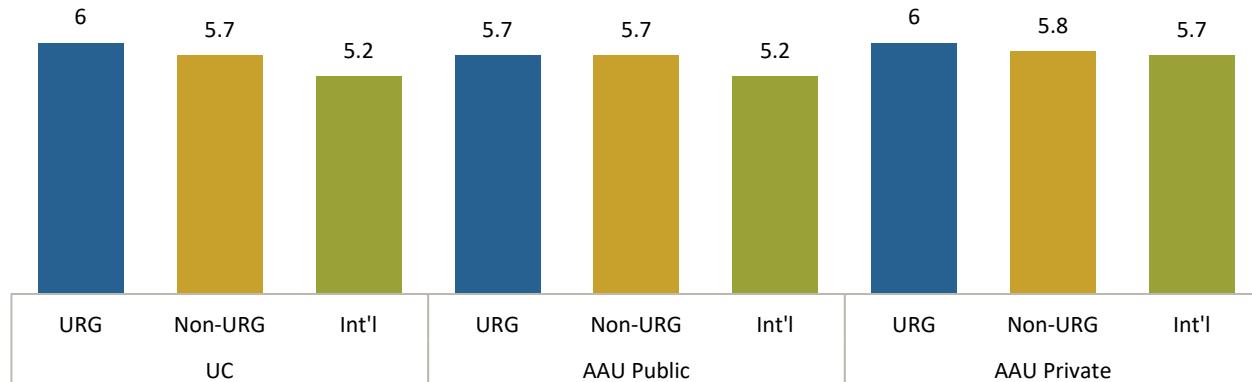
The Doctoral Completion Rates dashboard is available at:
universityofcalifornia.edu/infocenter/doctoral-rates

4.3 GRADUATE ACADEMIC STUDENT OUTCOMES

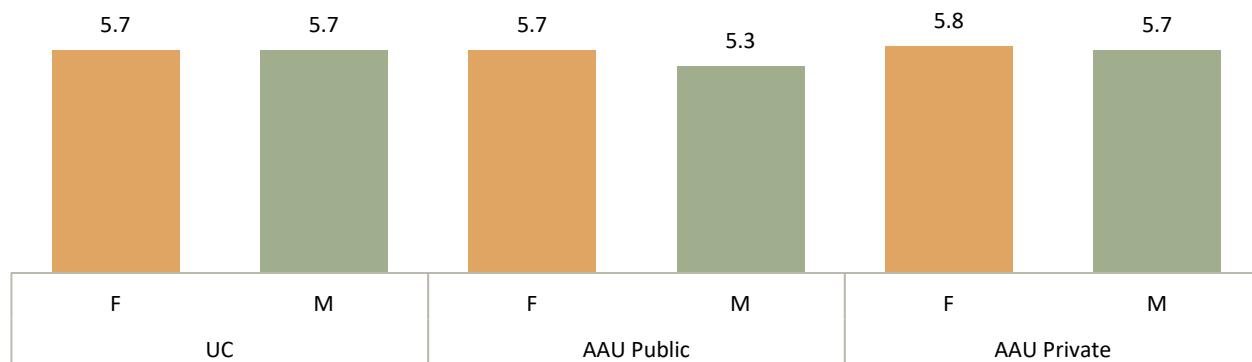
UC's median ten-year time to doctorate by ethnicity and gender compares well with AAU institutions.

4.3.3 Median ten-year time-to-doctorate, by ethnicity and gender
Universitywide, AAU public and AAU private comparison institutions
2012 to 2014 exit cohort

By race



By gender



Source: Survey of Earned Doctorates, National Opinion Research Center

The median number of years required to complete a doctoral degree at UC (elapsed time-to-doctorate) is comparable to that at other major research universities. Men and women complete the doctorate in about the same amount of time at UC, compared to AAU public institutions where women's time-to-doctorate is nearly half a year longer than men's. Students from underrepresented groups (URG) have slightly longer time-to-doctorate at UC and comparison institutions, whereas international students required substantially less time to complete the doctorate.

The Time to Doctorate dashboard is available at:
universityofcalifornia.edu/infocenter/time-to-doctorate

4.3 GRADUATE ACADEMIC STUDENT OUTCOMES

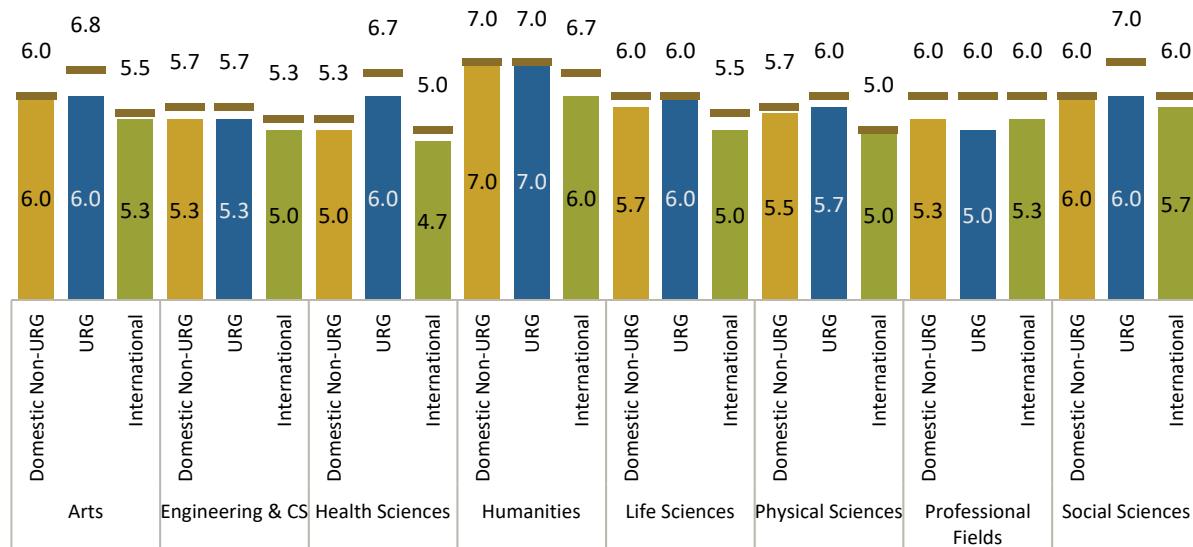
UC's median ten-year time-to-doctorate varies by ethnicity, gender, and discipline.

4.3.4 Median ten-year time-to-doctorate, by ethnicity and gender, by discipline

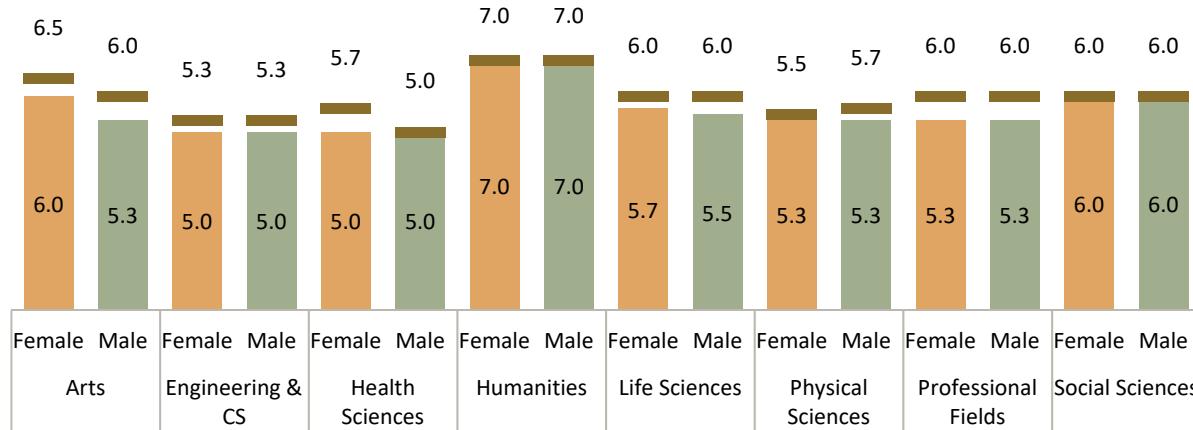
Universitywide

2015 through 2017 exit cohort

By discipline and ethnicity



By discipline and gender



■ Registered — Elapsed

In three of eight disciplines, students from underrepresented groups (URG) have higher registered time-to-doctorate (RTD) than non-URG and international students. URG students have slightly lower RTD than non-URGs in the professional fields. The elapsed time-to-doctorate (ETD) for URGs are higher than or equal to non-URGs. International students generally have lower ETD and RTD in all disciplines.

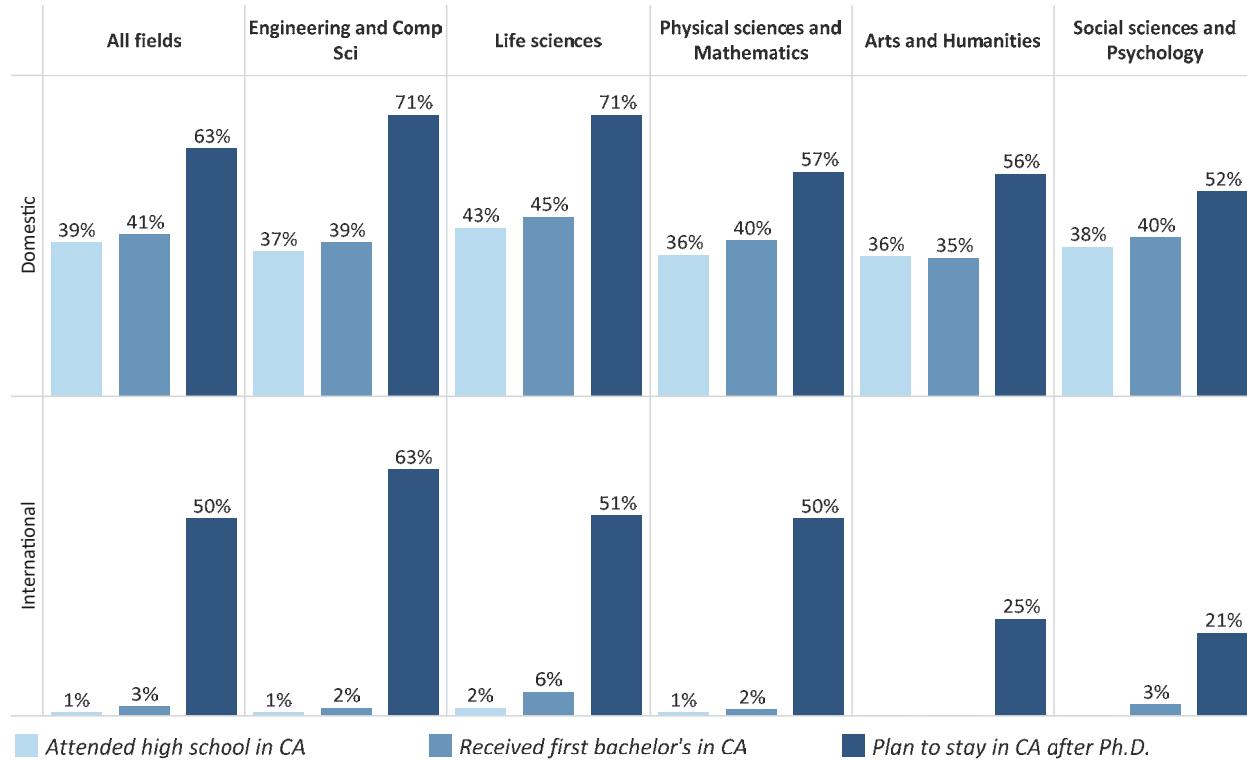
Source: Survey of Earned Doctorates. Excludes UC Merced. Men and women generally have comparable time-to-doctorate, with exceptions in health sciences, where women have a longer ETD, and the arts, where women have a longer ETD and RTD.

The Time to Doctorate dashboard is available at: universityofcalifornia.edu/infocenter/time-to-doctorate

4.3 GRADUATE ACADEMIC STUDENT OUTCOMES

More than half of UC's academic doctoral degree recipients plan to stay in California, a greater share than those who attended high school or college in California.

4.3.5 Origin and planned destination of UC academic doctoral degree recipients
Universitywide
2010–11 to 2015–16



Source: Survey of Earned Doctorates. Excludes UC Merced.

The most recent data for UC's doctoral degree recipients, based on those graduating between 2010–11 and 2015–16, show that over half plan to stay in California. Sixty-three percent of domestic doctoral degree recipients intend to stay, though only 41 percent of this cohort received their bachelor's degrees in California, and only 39 percent attended high school in California. This proportion is higher in science, technology, engineering, and mathematics (STEM) fields, indicating that UC graduates are contributing to California's robust economy in these areas.

Though a negligible share of UC's international (not a U.S. citizen nor permanent resident) doctoral recipients attended high school or college in California, half intend to stay after graduation.

The Survey of Earned Doctorates (SED) is conducted for all individuals receiving a research doctoral degree. It is sponsored by the National Science Foundation, National Institutes of Health, U.S. Department of Education, U.S. Department of Agriculture, National Endowment for the Humanities, and NASA.

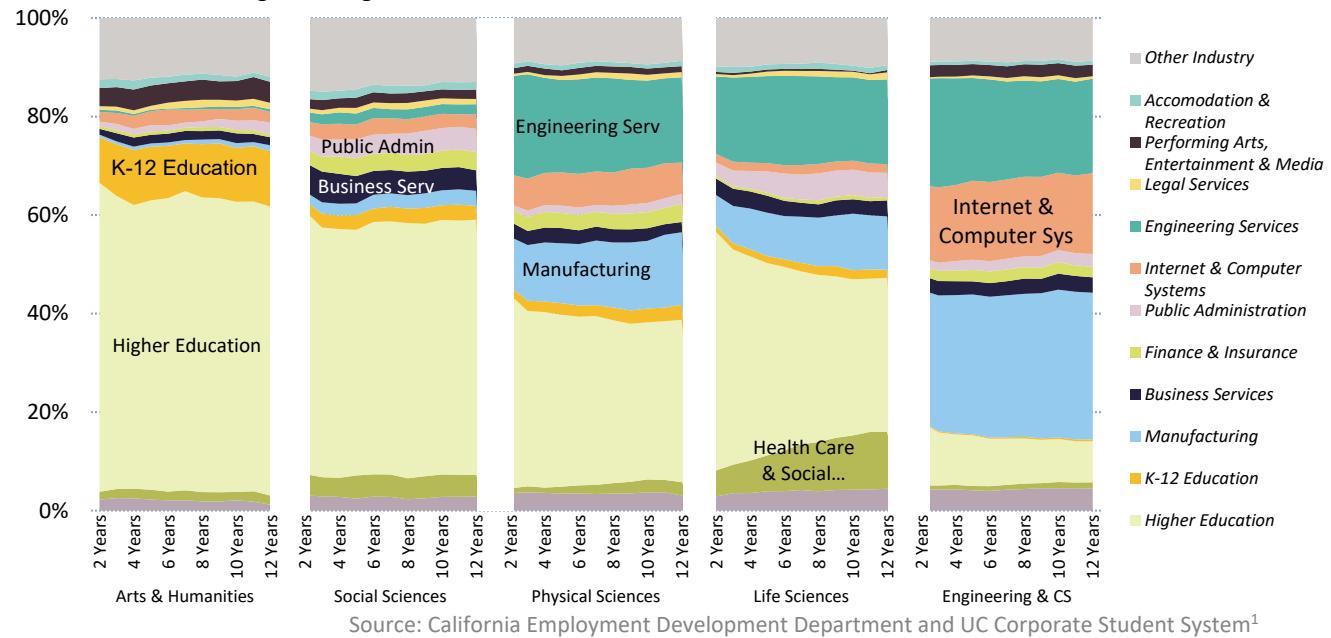
4.3 GRADUATE ACADEMIC STUDENT OUTCOMES

Half of UC academic doctoral and master's graduates who stay in California work in higher education.

4.3.6 Industry of employment of UC graduate academic students in CA, by year after graduation

Universitywide

2000 to 2015 graduating cohorts



More than 30,000 graduates of UC academic doctoral and master's degree programs in fields other than engineering/computer science have entered the California workforce since 2000. Over half of them (51 percent) have gone on to work in the state's higher education workforce, which includes all of the two-year and four-year colleges, both public and private. This highlights the critical role of UC's graduate academic programs in producing the cadre of faculty who teach California's future college-educated workforce and conduct research that advances the state and national economies.

The contributions of UC academic doctoral and master's graduates to the state workforce go beyond higher education. About 11 percent of the employed graduates of UC physical sciences and life sciences programs work in the state's manufacturing sector, while another 18 percent work in the engineering

industry. This shows that the skills gained in UC academic doctoral and master's programs are both applicable and relevant to key high-tech industries.

UC graduate academic programs in engineering and computer science supply workers to the state's high-skilled and high-tech industries. Since 2000, over 18,000 graduates of these programs have entered the California workforce, with 35 percent working in the manufacturing sector and 30 percent working in engineering services. Another 22 percent go on to work in the state's fast-growing internet and computer services industry. About 14 percent of engineering and computer science graduates go on to teaching and research positions in the state's college and university systems.

The job market for doctoral and master's degree recipients is nationwide, and those who leave California are not tracked in this data source.

¹ Includes very small numbers of graduate professional students, who do not affect the overall picture.

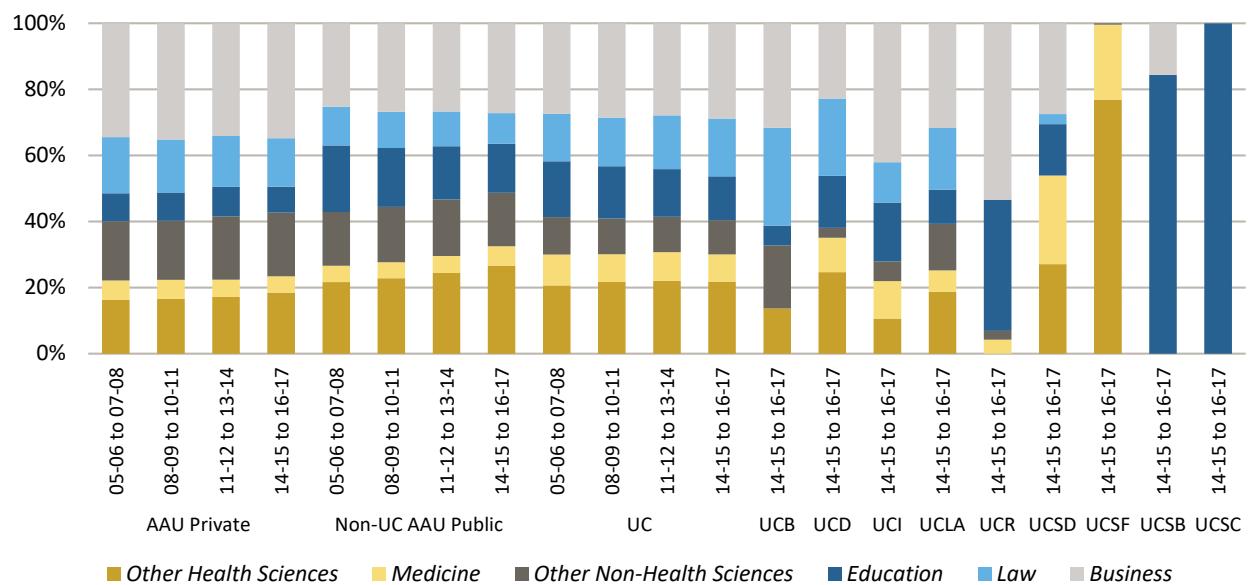
4.4 GRADUATE PROFESSIONAL STUDENT OUTCOMES

Like other major research universities, UC awards a high proportion of professional degrees in business.

4.4.1 Graduate professional degrees awarded by discipline

UC and AAU private and public comparison institutions

Number of degrees grouped in 3-year intervals: 2005–06 to 2007–08, 2008–09 to 2010–11, 2011–12 to 2013–14, 2014–15 to 2016–17



Source: IPEDS¹

The proportion of professional degrees awarded by UC is comparable to AAU private and public institutions, with the greatest proportion of degrees awarded in business. The number and size of graduate professional degree programs vary by campus, with UCLA awarding the greatest number of professional degrees.

UC is also showing a growth in the proportion of law degrees, in part due to the School of Law at UC Irvine, which opened in 2006.

Since 2003, UC has opened new professional schools in several other areas, including the Rady School of Management at UC San Diego in 2003, the School of Medicine at UC Riverside in 2013, and the Sue and Bill Gross School of Nursing at UC Irvine in 2017.

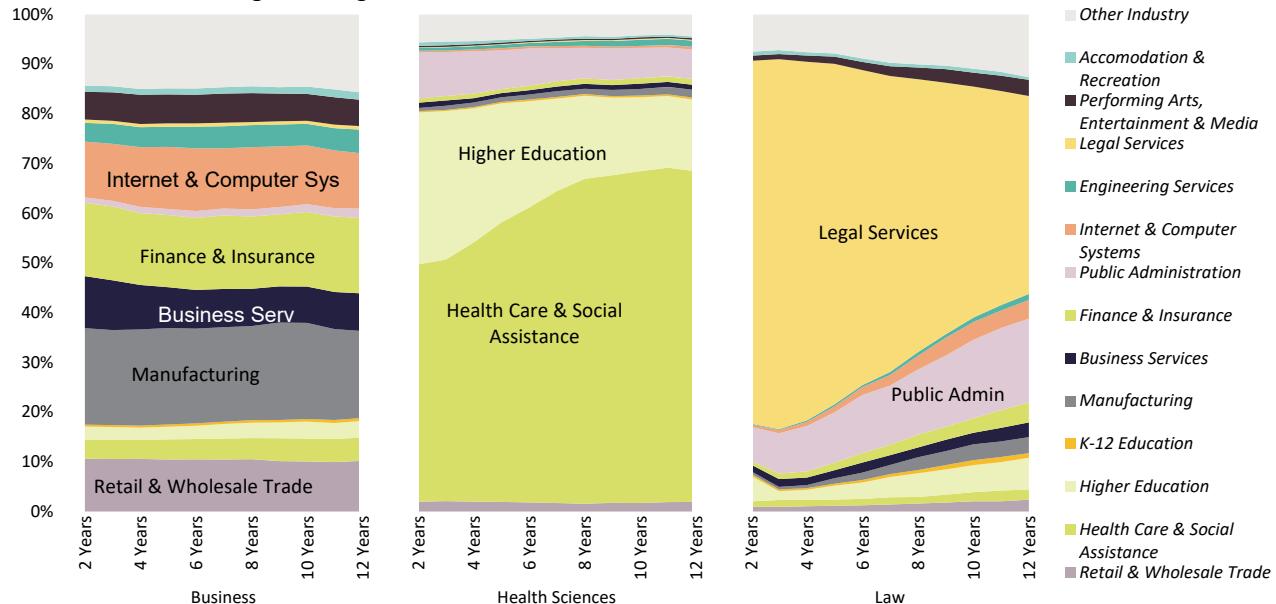
¹ UC Merced has no professional degree students. “Other” includes disciplines such as public administration, architecture, communications, and library science.

4.4 GRADUATE PROFESSIONAL STUDENT OUTCOMES

UC professional programs prepare graduates for careers related to their field of study.

4.4.2 Industry of employment of UC graduate professional students in California, by year after graduation Universitywide

2000 to 2015 graduating cohorts



Source: California Employment Development Department and UC Corporate Student System¹

Graduates of UC Master of Business Administration (MBA) programs contribute significantly to the state's high-skilled and high-tech industries. The 18,000 UC MBA graduates who have entered the California workforce since 2000 have worked in a wide array of industries, including manufacturing (26 percent), finance and insurance (20 percent), retail and wholesale trade (18 percent), and internet and computer systems (20 percent).

Over 10,000 graduates of UC health science professional practice programs (e.g., M.D., D.D.S., Pharm.D.) have gone on to work in California since 2000. The majority of these graduates (61 percent) go on to work in the state's health care and social assistance sector. This highlights UC's role, per the Master Plan, as the state's sole public provider of many health science professional practice degrees and validates UC's success in fulfilling that role. UC health science graduates also play key roles in other

areas of public service in the state, including 35 percent who go on to work in the state's higher education system and 13 percent who work in state government.

UC law school graduates go on to work in two main areas — legal services and government. Of the 9,300 UC law school graduates who have worked in California since 2000, about 79 percent eventually find positions in the legal services industry. Another 14 percent go on to work in the public sector as government prosecutors and public defenders, and in other public agency roles. A large percentage of law school graduates start off in legal services initially after receiving their degree (76 percent), but by ten years after graduation this percentage has fallen to about 48 percent. The percent of UC law school graduates in government rises from seven percent to 15 percent over the same period.

¹ Includes very small numbers of graduate academic students (e.g., Ph.D. business), which do not affect the overall picture.

CHAPTER FIVE



Faculty and Other Academic Employees

Laura E. Enriquez, UC Irvine assistant professor of Chicano/Latino studies, is leading a two-year, multicampus study on the impact of federal immigration policy on the University of California student population. Funded by a \$270,000 UC Multicampus Research Programs & Initiatives grant, the project launched in January. Enriquez is working with colleagues at UC Berkeley, UC Irvine, UCLA, UC Merced, and UC Riverside.

The research team will survey students who are undocumented as well as citizen students who have undocumented relatives to determine the effects of recent immigration policy shifts on their education and well-being. Additionally, the grant will fund development of a cohort of scholars conducting policy-relevant research, including conferences, reports, and working papers highlighting key findings and best practices to promote immigrant and student equity.

FACULTY AND OTHER ACADEMIC EMPLOYEES

Overview

The University of California's distinguished faculty and academic employees serve as a rich source of innovation, discovery, and mentorship. They provide top-quality education to students, develop groundbreaking research, and serve California communities. No other public institution can claim so many distinguished academics: 65 Nobel Prizes, 63 National Medals of Science, 89 MacArthur Genius Awards, nine National Humanities Medals, and 42 Pulitzer Prizes, to name a few. President Napolitano has said, "We teach for California ... [and] we research for the world."

Describing the academic workforce

Faculty are the most prominent face of UC's academic workforce, but there are several types of faculty and other academic roles as well, totaling nearly 48,000 full-time equivalents (FTE) across over 70,000 individuals. About 60 percent of academic roles are support the general campuses, while the other 40 percent support the health sciences and medical centers. Since 2000, all faculty groups have grown, with lecturers increasing by over 70 percent, while ladder-rank and equivalent faculty increased by 35 percent.

Non-faculty academic positions have grown as well, notably student assistants and medical interns. Postdoctoral scholars are sponsored by faculty and typically paid through research contracts and grants, so their numbers concentrate in the medical and STEM fields and vary with available grant funding.

| Academic FTE and Headcount, October 2018 | | |
|--|-----------------|---------------|
| | FTE | Headcount |
| Faculty - Ladder-rank and Equivalent | 10,322.9 | 11,277 |
| Faculty - Clinical/In-residence/Adjunct | 7,199.5 | 8,122 |
| Faculty - Lecturers | 2,369.3 | 3,940 |
| Other Academic Employees | 6,143.5 | 8,381 |
| Postdoctoral Scholars | 5,373.0 | 6,502 |
| Medical Interns/Residents | 5,891.2 | 6,075 |
| Student Teaching/Research Assistants | 10,558.9 | 26,056 |
| Grand Total | 47,858.3 | 70,353 |

Diversity

The University of California is committed to diversity in its faculty and academic workforce. The proportion of women and underrepresented groups (African American, American Indian, and Hispanic/Latino(a)) in the faculty continues to grow at a modest pace. Younger faculty cohorts are noticeably more diverse than older cohorts.

Compared to ladder-rank faculty, many other academic positions are more ethnically diverse and gender-balanced because they experience more rapid turnover. Still, UC compares favorably in terms of female faculty and underrepresented faculty relative to the comparison eight peer research institutions¹. UCOP continues to work with campuses to identify opportunities to diversify the faculty and improve recruitment processes and campus climate by tracking recruitment data, by sharing best practices in mentoring and professional development, and by enhancing work-life balance programs.

¹ The comparison eight institutions are University of Illinois, University of Michigan, State University of New York at Buffalo, University of Virginia, Harvard University, Massachusetts Institute of Technology, Stanford University and Yale University. See glossary for additional details.

A variety of programs have been put in place to strengthen faculty diversity:

Advancing Faculty Diversity — The State of California has awarded UC \$2 million for the last three years to develop an innovative and focused program to increase faculty diversity at UC. The Advancing Faculty Diversity program awards funds on a competitive basis to the campuses to support new interventions in the faculty recruitment process to improve faculty diversity, that can be measured for their effectiveness. Eleven pilot projects on faculty recruitment have been funded by the state, including projects located in colleges, schools, and departments. In addition, in 2018–19, six awards have been funded by the Office of the President to support efforts in faculty retention and in building inclusive academic climates. Some of the successful interventions from the first two years of the pilot program that correlate with hiring a diverse faculty included the use of contributions to diversity statements early in the evaluation process; targeting potential faculty earlier in their careers through support for postdoctoral work; a variety of efforts by faculty to actively recruit candidates; revised evaluation practices, including the use of rubrics to guide decision-making; strong leadership and sustained and strategic involvement from unit leaders; and involving new voices, including students, in the recruitment and evaluation process. Encouraged by the success of this program, the President is providing additional funding of \$7.1 million that will build the pipeline to the faculty. These funds will support additional projects in faculty recruitment, retention, and academic climate that will pilot innovative recruitment practices and create academic climates that support our diverse student body and allow us to engage our diverse faculty throughout their UC careers.

President's Postdoctoral Fellowship Program (PPFP) — Established in 1984, the program recruits top scholars who are committed to underserved and minority communities to pursue faculty careers at UC. Between 2016–17 and 2018–19, 60 fellows were hired as UC ladder-rank faculty at all ten UC campuses. In addition, more than 20 fellows have reported being successfully recruited for UC faculty positions that will begin in 2019–20. Through Presidential support, UC has increased the number of incentives available to departments who hire fellows and expanded eligibility for hiring incentives to include the health sciences and professional schools. The program is nationally recognized and leads a partnership of top universities that participate in recruiting top postdoc talent.

Grant-funded research — Since 2015, UC has administered two National Science Foundation grants to study the faculty hiring process. The study is identifying steps in UC's hiring process susceptible to bias, characteristics that amplify or mitigate disparities, as well as policies to promote faculty equity, inclusion, and diversity. UC was also awarded a five-year grant to establish the Center for Research, Excellence, and Diversity in Team Science (CREDITS), a research and training program to enhance the capacity, effectiveness, and excellence of team science efforts at UC and CSU. CREDITS researches gender and racial/ethnic diversity in team science, particularly barriers to diverse participation and how diversity shapes the formation of science teams and the implications for promotion and tenure.

Hiring and retention

Overall hiring of UC faculty generally outpaces availabilities of U.S. doctoral degree recipients by race, ethnicity, and gender, with some notable differences by field. STEM fields have more limited ability to diversify, based on Ph.D. availabilities.

Faculty hires have stabilized after several years of increases as UC recovered from severe budget cuts, and as enrollment growth demanded greater teaching capacity. Faculty separations have grown modestly — especially due to increasing retirements. Average faculty salaries at UC have improved somewhat in recent years; however, they still trail those at many comparison institutions, particularly a benchmark of the average of salaries at the "Comparison 8," a group of four public and four private institutions. UC continues to pursue efforts to close the gap.

As part of the multi-year framework adopted by the UC Regents in early 2019, known as UC 2030—Advancing the California Dream, UC is hoping to receive additional state support to hire 1,100 ladder-rank faculty over the next four years (5.3.5). With growth, UC is hoping to continue to increase the diversity of its ladder-rank faculty, but that also involves retaining faculty who contribute to that diversity. Data from UC system records of new hires and separations of tenure-track and tenured faculty show that although faculty for historically underrepresented minority communities made up 14.3 percent of all tenure-track (Assistant Professor and Lecturer with Potential Security of Employment) new hires between 2008–09 and 2017–18, they comprised 15.7 percent of tenure-track resignations. The racial/ethnic retention gap was more pronounced among domestic faculty, where faculty from historically underrepresented minority communities comprised 15.8 percent of new hires, but 20 percent of separations, and 19.5 percent of resignations among tenure-track faculty.

For more information

UC Academic Senate: universityofcalifornia.edu/senate

UCOP Academic Personnel and Programs: ucop.edu/academic-personnel-programs

UC employee headcount data: universityofcalifornia.edu/infocenter/uc-employee-headcount

UC employee FTE data: universityofcalifornia.edu/infocenter/employee-fte

UC employee diversity data: universityofcalifornia.edu/infocenter/uc-workforce-diversity

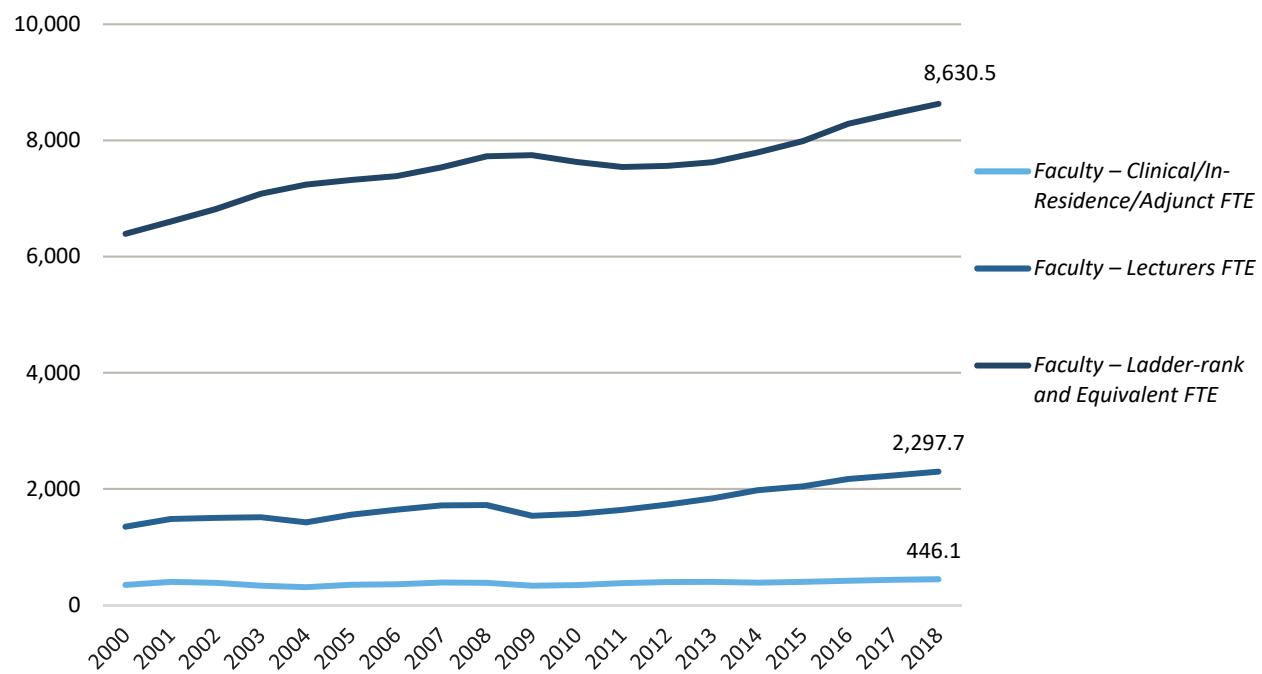
Faculty diversity website: ucop.edu/faculty-diversity/index.html

5.1 ACADEMIC WORKFORCE

UC faculty have increased to accommodate a growing student body, relying more on non-senate faculty today than in years past.

5.1.1 General campus faculty FTE total by type

Universitywide
October 2000 to 2018



Source: UC Corporate Personnel System

Since 2000, faculty size has increased by nearly 3,300 FTE, or 40.6 percent. While all faculty types have grown, the most pronounced increase has been among lecturers, who grew over 70 percent during this period. Lecturers made up more than 20 percent of general campus faculty FTE in October 2018, a slight increase from 17 percent in 2000.

Ladder-rank faculty have grown by a more modest 35 percent, but they still make up 76 percent of faculty FTE. FTE in the Clinical/In-Residence/Adjunct faculty series are typically associated with health sciences, so they represent only a small portion (four percent) of overall general campus faculty.

Reliance on lecturers has become more common in higher education in recent years. At UC, lecturers do not have research responsibilities and therefore focus on teaching. These faculty help meet the instructional needs of UC's growing enrollment.

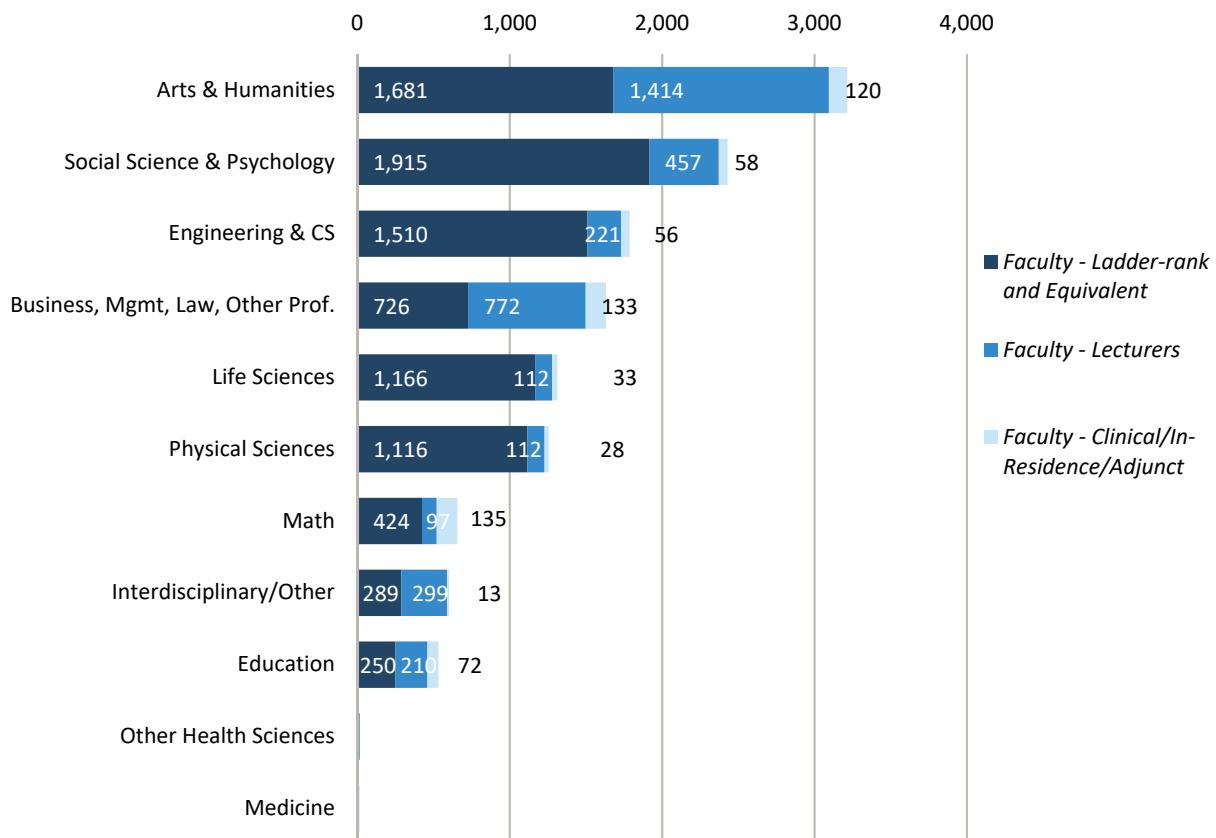
5.1 ACADEMIC WORKFORCE

General campus faculty are mostly concentrated in arts and humanities and the social sciences.

5.1.2 General campus faculty headcount by discipline

Universitywide

October 2018



Source: UC Corporate Personnel System

Faculty are employed in hundreds of departments across the ten campuses. While most health sciences faculty are classified under medicine and other health sciences, general campus faculty are spread across a spectrum of disciplines. The disciplines with the most undergraduate majors tend to represent the largest groups. Arts & Humanities may have especially high numbers, due the smaller class sizes required to teach many general education courses.

Different disciplines rely on varying types of faculty to fulfill their teaching and research missions. Lecturers are concentrated in certain disciplines, such as the arts and humanities, often to support general education requirements in those areas. Lecturer positions are also common in the professional schools.

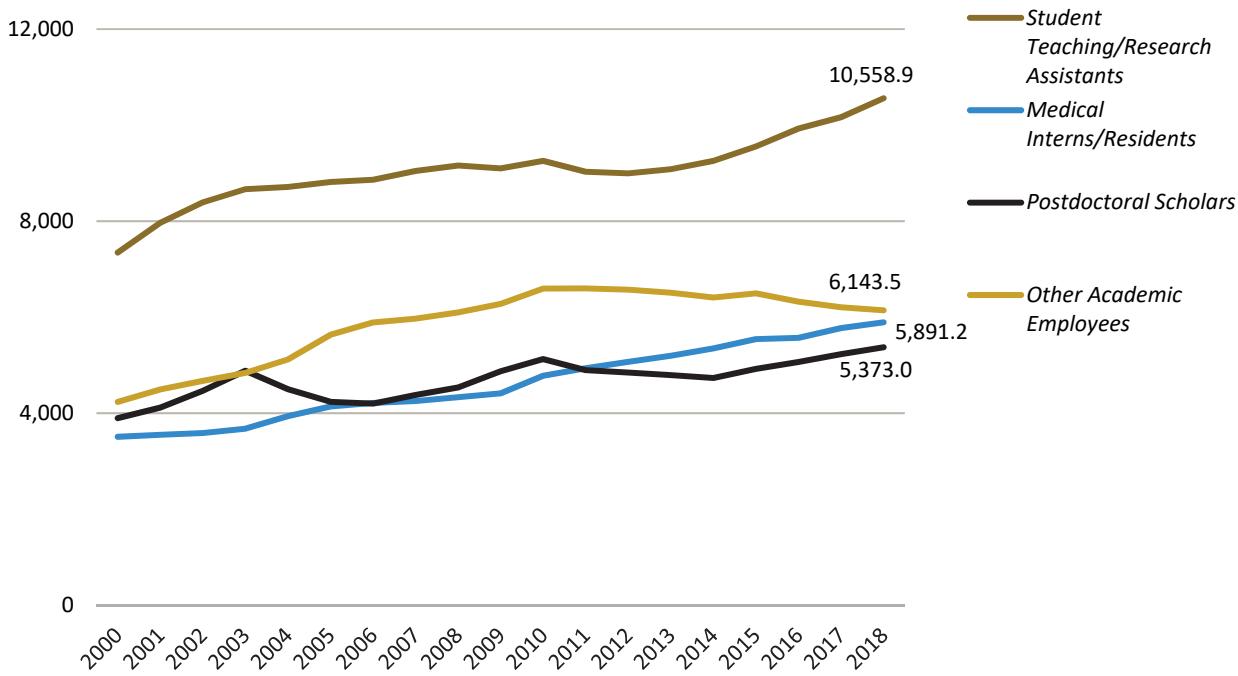
5.1 ACADEMIC WORKFORCE

The non-faculty academic workforce has increased steadily, particularly among student assistants and medical interns. Other academic and postdoctoral growth aligns closely with faculty growth and the availability of research funding.

5.1.3 Non-faculty academic workforce FTE

Universitywide

October 2000 to 2018



Source: UC Corporate Personnel System

The non-faculty academic workforce has expanded alongside student and faculty growth since 2000, increasing by nearly 9,000 FTE, or 47 percent, over this period.

Student teaching and research assistants as well as medical interns/residents have increased in number considerably, constituting almost 5,600 of the FTE growth. Most student assistants are graduate students and therefore part-time, which means that the FTE growth equates to a larger headcount growth of close to 8,300 individuals. Enrollment increases and expansion of medical programs over this time explain this growth.

Postdoctoral scholars and other academics, two groups heavily concentrated within the research mission, have also grown in line with faculty. Contracts and grants from external sponsors support the vast majority of researchers in the academic workforce, with the federal government providing most research funding. A drop in federal research funds after 2010 flattened other academic growth and reduced postdoctoral FTE in the years following. Chapter 9, Research, provides additional details on the composition of the research workforce.

5.1 ACADEMIC WORKFORCE

Postdoctoral scholars are concentrated in medicine, science, and engineering, as well as at campuses with larger research programs in those fields.

5.1.4 Postdoctoral scholar headcount

By campus and discipline

October 2018

| | Berkeley | Davis | Irvine | Los Angeles | Merced | Riverside | San Diego | San Francisco | Santa Barbara | Santa Cruz | ANR/ UCOP/SWP | |
|-------------------------------------|----------|-------|--------|-------------|--------|-----------|-----------|---------------|---------------|------------|------------------|-------|
| Arts & Humanities | 7 | 1 | 5 | 8 | 1 | 4 | 2 | | 8 | 2 | 38 | |
| Business, Mgmt, Law, Other Prof. | 38 | 3 | 5 | 7 | 1 | 8 | 3 | | | | 65 | |
| Education | 8 | 5 | 9 | 10 | | 1 | 2 | | 2 | | 37 | |
| Engineering & CS | 273 | 95 | 55 | 132 | 21 | 30 | 176 | 149 | 21 | 1 | 953 | |
| Interdisciplinary/Other | 189 | 34 | 8 | 42 | 3 | 3 | 5 | 1 | 32 | 1 | 3 | 321 |
| Life Sciences | 366 | 346 | 114 | 66 | 9 | 103 | 130 | | 12 | 28 | 6 | 1,180 |
| Math | 20 | 6 | 5 | 7 | 2 | 3 | 8 | | 3 | 3 | | 57 |
| Medicine | | 185 | 44 | 367 | | 16 | 670 | 981 | | | | 2,263 |
| Other Health Sciences | 18 | 87 | 21 | 77 | 1 | | 4 | 156 | | | | 364 |
| Physical Sciences | 240 | 60 | 80 | 132 | 21 | 51 | 242 | | 99 | 71 | 2 | 998 |
| Social Science & Psychology | 57 | 35 | 12 | 49 | 3 | 7 | 40 | | 18 | 5 | | 226 |
| | 1,216 | 857 | 358 | 897 | 62 | 226 | 1,282 | 1,138 | 323 | 131 | 12 | 6,502 |

Source: UC Corporate Personnel System

Note: ANR/UCOP/SWP is Agricultural and Natural Resources/UC Office of the President/Systemwide Programs

Postdoctoral scholars have doctorate degrees and conduct research with faculty. Because most of their funding comes from contracts and grants, they are particularly prevalent in fields that receive large amounts of grant funding such as medicine, life sciences, physical sciences, and engineering. Campuses with large research programs in these fields consequently have larger postdoctoral populations.

Beyond direct research, postdoctoral scholars mentor graduate and undergraduate students in the laboratory and may have formal supervisory functions.

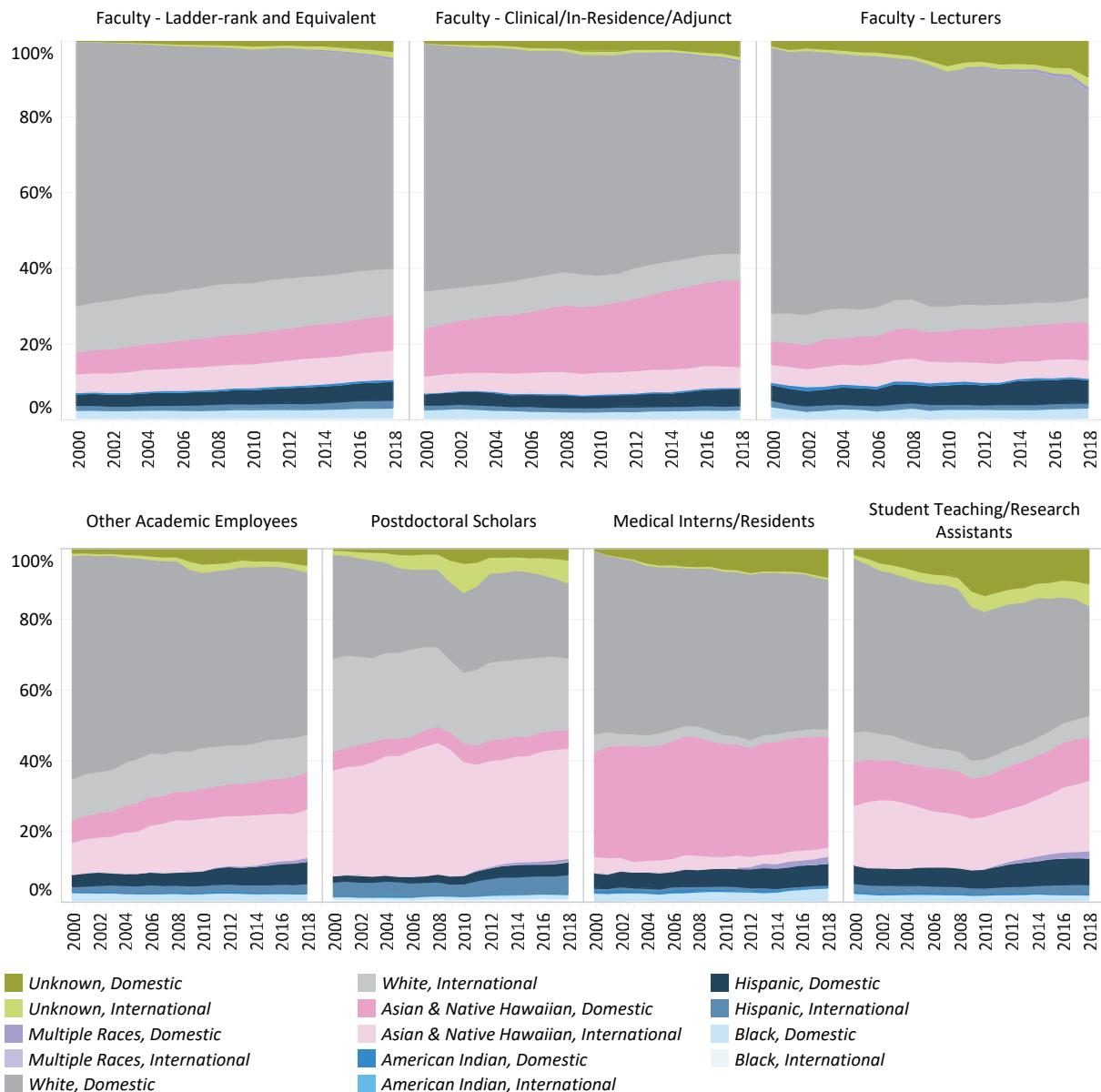
5.2 ACADEMIC WORKFORCE DIVERSITY

The diversity of UC's academic workforce differs among the types of employees.

5.2.1 Academic workforce race/ethnicity by type

Universitywide

October 2000 to 2018



Source: UC Corporate Personnel System

All academic positions have increased in racial/ethnic diversity since 2000. Positions with shorter durations (e.g. Students, Interns/Residents) tend to be more diverse, since turnover allows for increased diversity in hiring. Ladder-rank faculty diversity has been the slowest to change, due to long

tenures and limited availability of candidates in some disciplines. Overall, a great number of academics are international, reflecting a global academic marketplace. Campus, discipline, and age detail is available through the UC Information Center.

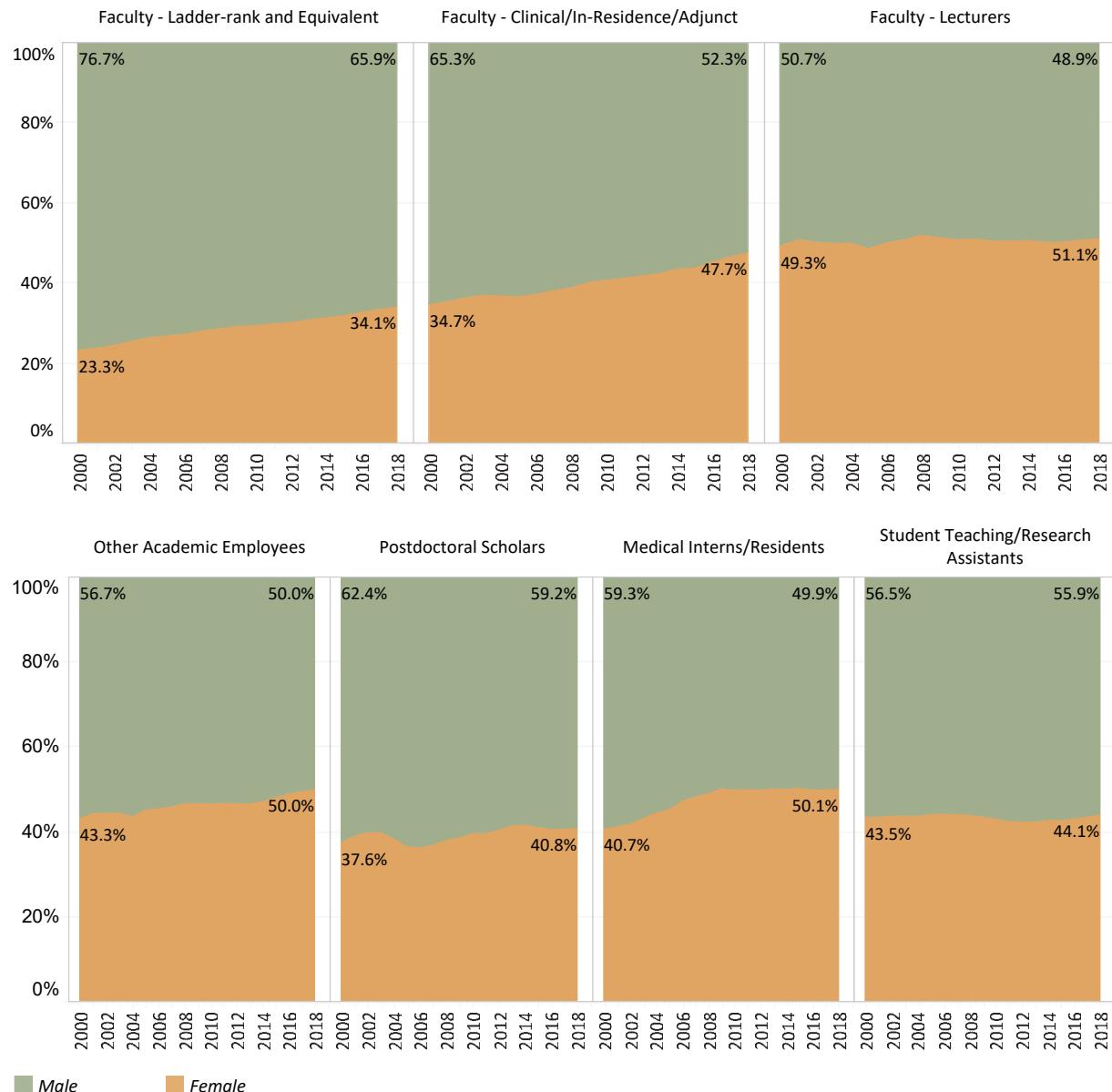
5.2 ACADEMIC WORKFORCE DIVERSITY

Gender diversity has increased or maintained parity for every academic group but still falls short of parity in several academic appointee categories.

5.2.2 Academic workforce gender by type

Universitywide

October 2000 to 2018



Source: UC Corporate Personnel System

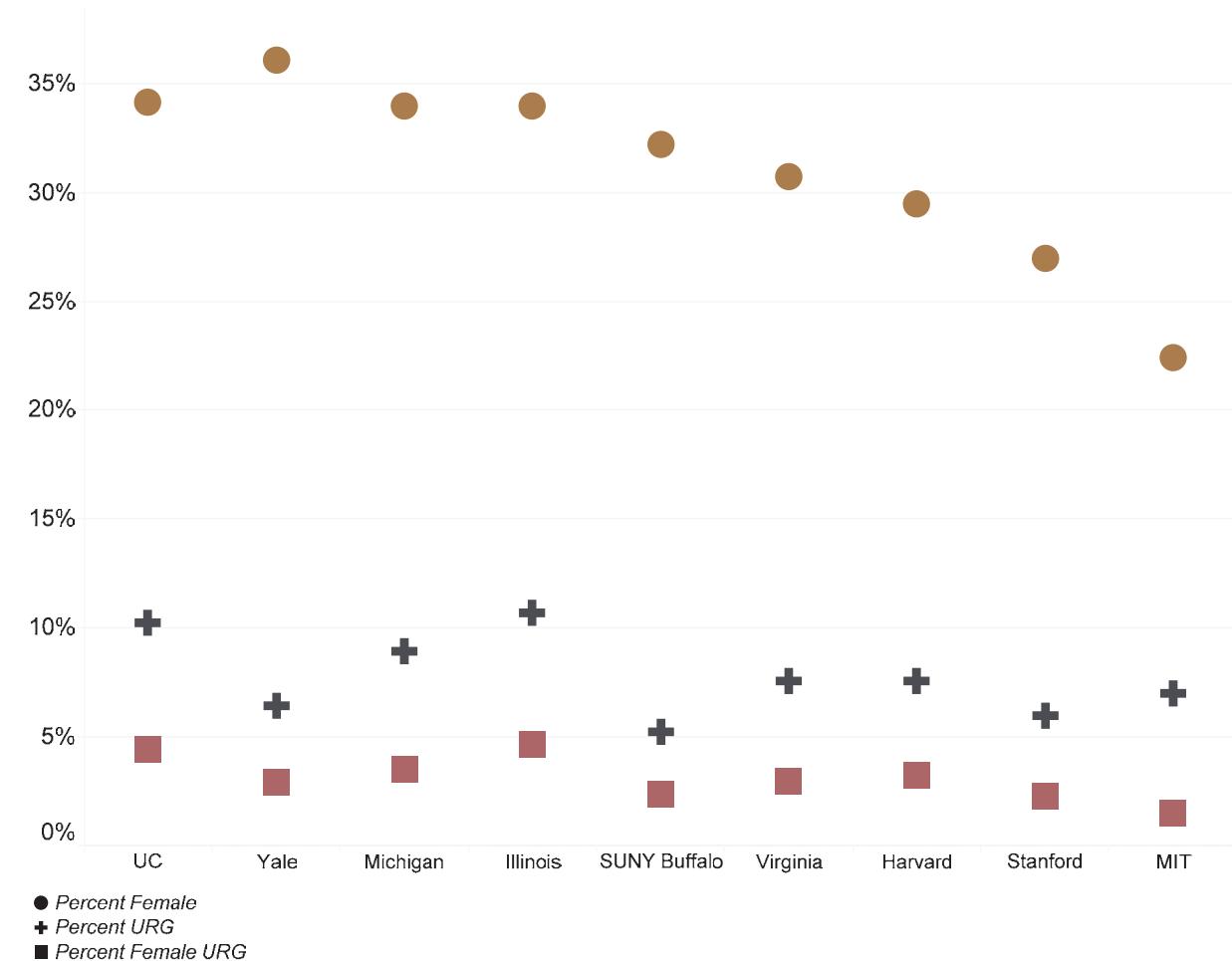
Today, women make up half of lecturers, other academics, and medical interns/residents. The ratio of women among Clinical/In-residence/Adjunct faculty and ladder-rank faculty has risen steadily. Gender diversity initiatives take longer to change

populations such as ladder-rank professors, where turnover is low and tenures are long. Postdoctoral scholars and student assistant ratios have remained relatively flat, likely related to the concentrations of those roles in fields with more men in the pipeline.

5.2 ACADEMIC WORKFORCE DIVERSITY

UC has greater faculty diversity in terms of women and underrepresented minorities than many peers.

5.2.3 Percent of tenure and tenure-track faculty who are female and/or an underrepresented group (URG)
UC and comparison institutions
Fall 2017



Source: IPEDS, Fall 2017

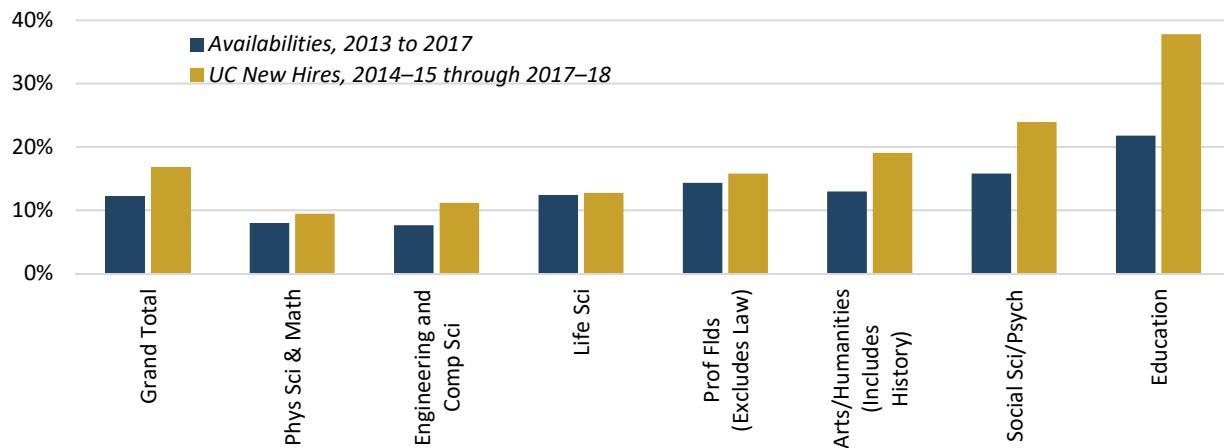
UC's efforts to recruit women and underrepresented groups (American Indian, African American, and Hispanic/Latino(a)) into faculty roles puts it near the top among peer research institutions in faculty diversity.

Relative to the “Comparison 8” universities (four public institutions: Illinois, Michigan, University at Buffalo, Virginia; four private institutions: Harvard, MIT, Stanford, Yale), UC is the second highest in terms of its proportion of women faculty (34.1 percent), its proportion of overall URG faculty (10.2 percent), and its proportion of female URG faculty (4.4 percent).

5.3 ACADEMIC HIRING AND RETENTION

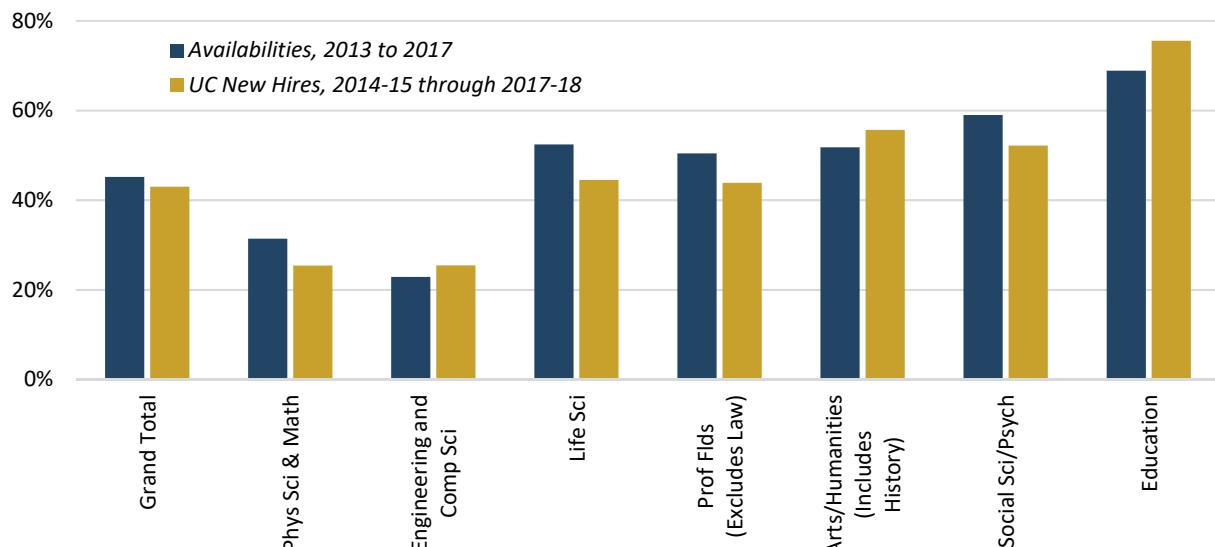
UC's hiring of underrepresented and female faculty overall exceeds or meets the national availability of doctorates, with variation among discipline groups.

- 5.3.1** Underrepresented* new assistant professors compared with national availability by discipline group
 Universitywide
 2013–14 to 2017–18



* Underrepresented at UC includes those who identify as Black/African American/African, Chicano/Latino/Hispanic, and American Indian/Native American.

- 5.3.2** Female new assistant professors compared with national availability by discipline group
 Universitywide
 2013–14 to 2017–18



Source: UC Academic Personnel and Program Administration and Survey of Earned Doctorates

UC remains committed to diversifying its faculty and taking full advantage of the available pools of qualified candidates. Between 2013 and 2017, underrepresented groups accounted for 12.3 percent of nationwide new doctoral degree recipients and 16.8 percent of UC's new assistant

professor hires. Between 2013 and 2017, women constituted 45.2 percent of nationwide new doctoral degree recipients and 43 percent of UC's new hires. Some disciplines exhibit greater success in outreach, recruitment, and hiring efforts at UC than others, relative to the availability pools in their field.

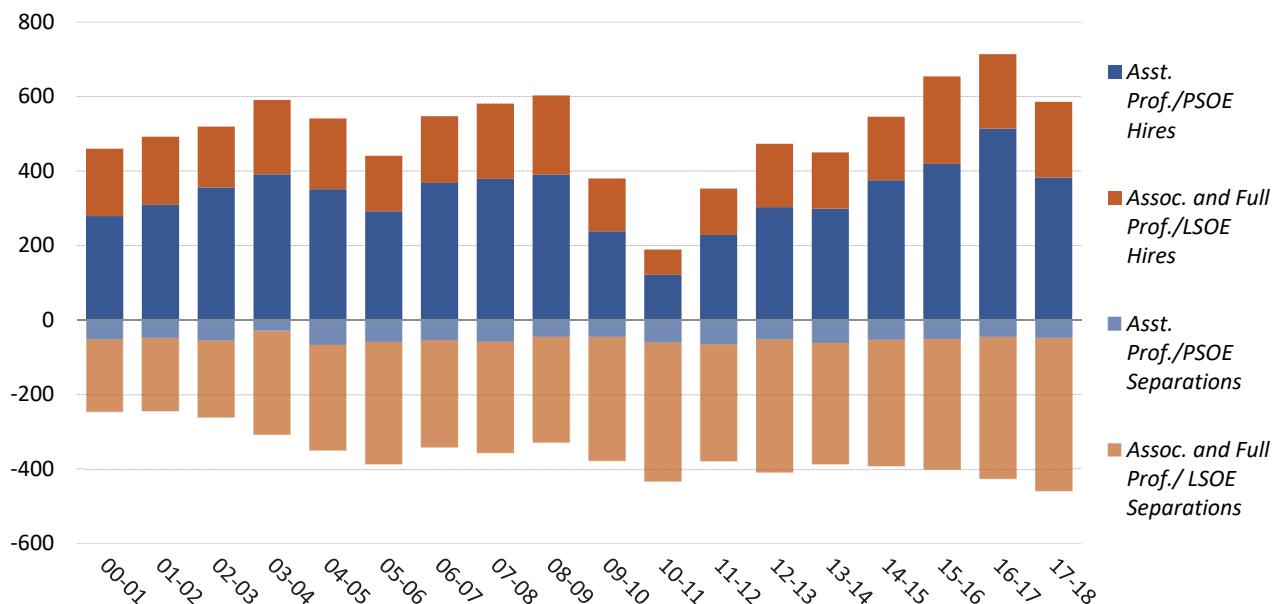
5.3 ACADEMIC HIRING AND RETENTION

Hiring of new faculty has ebbed and flowed over the years in response to budget cuts and enrollment growth. Separations have been more consistent, year over year.

5.3.3 New hires and separations of ladder-rank and equivalent faculty

Universitywide

2000–01 to 2017–18



Source: UC Academic Personnel and Program Administration

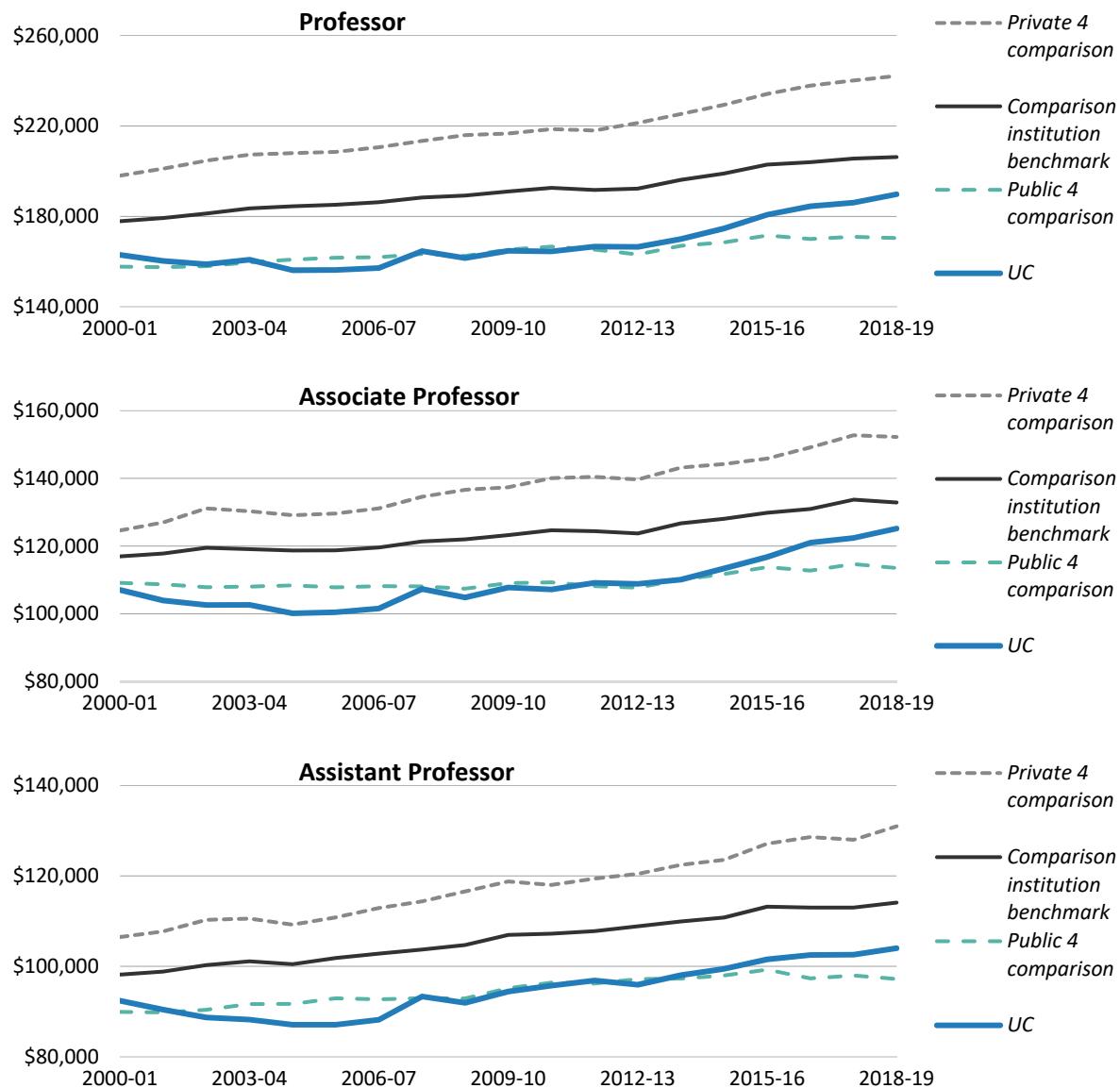
As faculty numbers have grown, hiring has generally outpaced separations. Separations have grown modestly over time as the faculty population has grown, with only minor effects from shifts in demographics, the economy, and state funding.

UC has partnered with Harvard's Collaborative on Academic Careers in Higher Education (coache.gse.harvard.edu/) on a research project to survey faculty who leave UC for employment at other universities. This Retention and Exit Study, now in its fifth year, is part of an effort to better understand and improve the experience of UC faculty members, as well as improve recruitment and retention.

5.3 ACADEMIC HIRING AND RETENTION

UC faculty salaries are below the comparison institution benchmark.

- 5.3.4** Average ladder-rank general campus faculty salaries by rank
UC and comparison institutions
2000–01 to 2018–19



Source: UC Corporate Personnel System, AAUP faculty salary survey

UC faculty salaries have improved in recent years, yet they continue to lag behind the comparison benchmark UC uses to assess the competitiveness of its faculty salaries. UC sets the benchmark using the average salaries of the “Comparison 8” universities (four public: Illinois, Michigan, University at Buffalo, Virginia; four private: Harvard, MIT, Stanford, Yale).

UC’s faculty salaries fall significantly below those of the comparison private institutions, and are just recently pulling above the four public institutions. Notably, this comparison does not factor in the cost of living, which is especially high in most of California compared to the regions of the public peers assessed here.

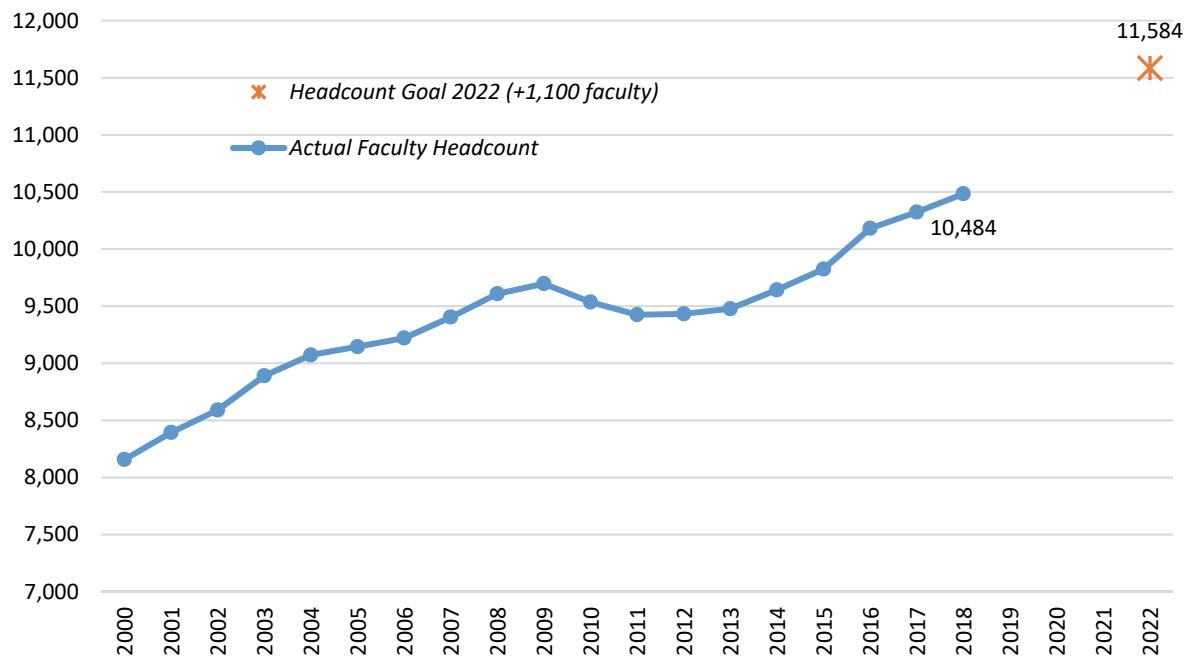
5.3 ACADEMIC HIRING AND RETENTION

Growth in UC ladder-rank faculty is critical to upholding quality in instruction, research, and public service.

5.3.5 UC ladder-rank faculty headcount, excluding recall faculty*

Universitywide

October 2000 to 2018



Source: UC Corporate Personnel System

* Recall faculty are retired faculty brought back part-time for temporary instruction and/or research needs. They are excluded here to focus on more permanent faculty appointments only.

Growth among UC ladder-rank and equivalent (LRE) faculty has been modest over the last couple of decades, relative to the growth in the student body. One of UC's goals in the multiyear framework adopted by the UC Regents in 2019 is investing in the next generation of the professoriate.

To fulfill this, UC seeks to grow non-recall LRE faculty by 1,100 over the next four years.

After four years, UC leadership will assess progress toward advancing undergraduate and graduate degree attainment and diversifying the professoriate.

CHAPTER SIX



Staff

With their determination, work ethic, and singular focus, veterans have the skill set to succeed as entrepreneurs. But they need connections and a strong network.

Marine Corps veteran Michael Hayden hopes to provide that through Veteran Ventures, a ten-week accelerator program at UC San Diego that he leads as program manager. The program draws on participants' camaraderie and sense of duty to help them form fruitful business relationships. Participants learn how to deliver an elevator pitch, write a business plan and find capital. But they also work together to assess each other's ideas.

"We look at: What works? What's problematic? What would make this even better? Our motto is, 'No one of us is smarter than all of us,'" Hayden said.

The approach has yielded some ingenious and even improbable ventures, from an immersive virtual sleep therapy to treat PTSD-related insomnia to a mail-order business that creates and delivers beef jerky bouquets.

"There's real honest feedback from people you can trust," Hayden said. "It's a band of brothers with no ulterior motives but to help each other get their ideas off the ground."

STAFF

Overview

The three-pronged mission of the University of California includes undergraduate, graduate, and professional education, research, and public service, none of which can be accomplished without the support of staff who organize and facilitate all that is required to do the work of the University.

Non-academic staff employees constitute nearly 75 percent of UC's workforce and are responsible for health services, student services, instruction and research support, compliance, and general administration (6.1.1). In October 2018, this group included 157,433 individuals, with about 36 percent of them part-time. Many of these part-time employees are student workers. Overall, this workforce represented 114,568.7 full-time equivalent (FTE) employees in that month.

Staff groups and workforce diversity

- UC Health employs over half of staff FTE (62,699.1) as doctors, nurses, administrators, technicians, and allied health professionals. About 97 percent of these employees are supported by non-core funds, typically the revenues generated by hospital services.
- Student workers for the general campus (non-health) are predominately part-time. While their headcount is 34,731, they comprise only 8,485.7 FTE. Students often work on campus as part of their financial aid packages or for research experience.
- General campus, non-student staff are the remainder, at 43,383.9 FTE. This includes student services employees, librarians, IT specialists, research administration, laboratory staff, food and auxiliary service workers, accountants, maintenance and janitorial staff, safety workers, and analysts (6.1.1).

UC is dedicated to building a more diverse workforce, particularly including those from underrepresented racial and ethnic populations in the U.S. Staff at UC are majority female and increasingly ethnically diverse across all employee groups. However, there are variations among the different employee groups, with less diversity and female representation among senior positions. A more diverse academic and staff population is an increasingly important measure of a great university.

Staff compensation

Over the past decade, UC has relied less on core funds (state funds, tuition and fees, and other general funds) to cover staff. While UC has over 20,000 more staff than ten years ago – largely due to UC Health and Student Staff growth – nearly 2,200 fewer FTE are paid on core funds (6.2.1). Even as tuition has increased to cover losses in state funding, less than 20 percent of staff are paid using core funds of any type.

General campus career staff salaries have stayed relatively flat compared to inflation for the past 15 years and have increased modestly for some UC Health professionals. Staff salaries tend to lag behind comparable market positions, and the lack of increases beyond inflation could affect staff satisfaction and turnover (6.2.2, 6.2.3). Chancellor and system leader compensation falls on the lower end when compared to peer institutions (6.2.4).

Staff separations and satisfaction

UC's separation rate among career staff is about 9.2 percent (6.3.1), which has been relatively steady for the past decade. About 23 percent of staff separations are due to retirement and reflect the baby-boomer generation exiting the workforce. Still, a large portion of separations is due to resignation for other reasons (6.3.2). The 2017 UC Overall Employee Engagement Survey shows some improvement since 2015 in engagement, communication, and performance management, but that UC is still below the national norm in eight out of nine employee satisfaction categories.

For more information

Employee headcount data: universityofcalifornia.edu/infocenter/uc-employee-headcount

Employee FTE data: universityofcalifornia.edu/infocenter/employee-fte

Workforce diversity data: universityofcalifornia.edu/infocenter/uc-workforce-diversity

Workforce profile: ucop.edu/institutional-research-academic-planning/_files/workforce-profile-dashboard.pdf

Employee trends report: ucop.edu/institutional-research-academic-planning/_files/employee-trends-at-uc.pdf

Chancellors: ucop.edu/institutional-research-academic-planning/_files/uc-salary-compare-system-leaders.pdf

System leaders: ucop.edu/institutional-research-academic-planning/_files/uc-salary-compare-aau-chancellors.pdf

Staff engagement survey: ucop.edu/human-resources/staff/employee-relations-staff/engagement-survey.html

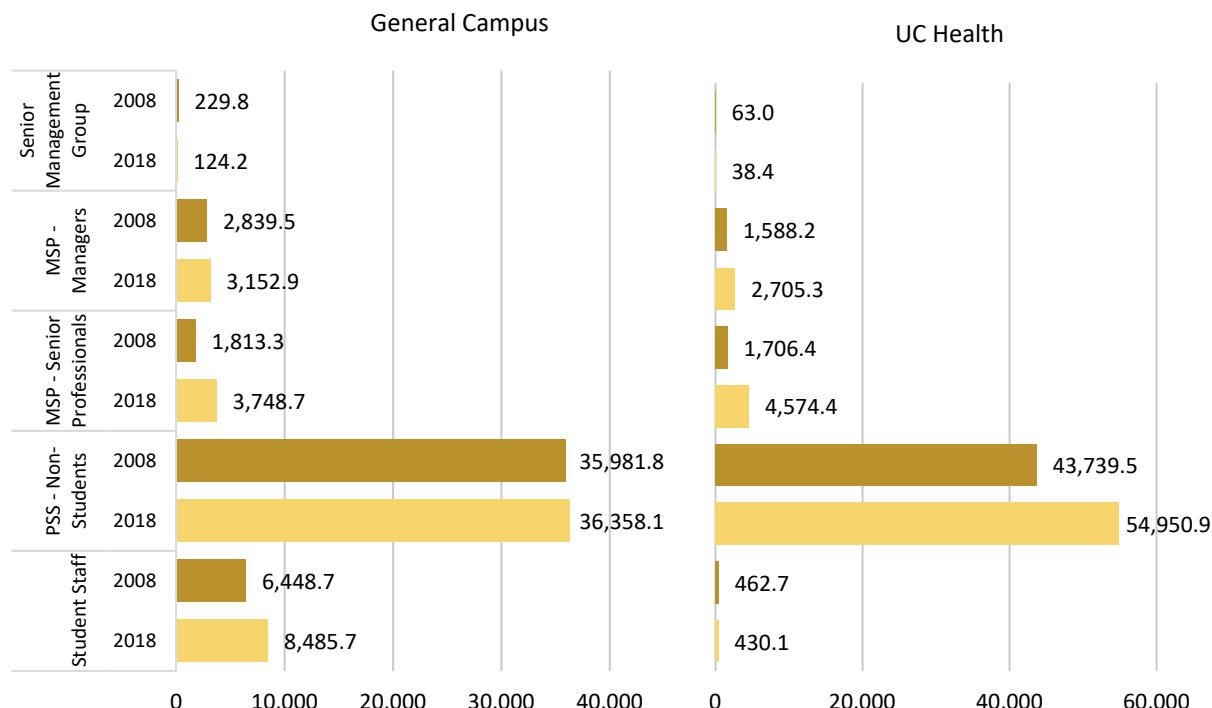
6.1 STAFF WORKFORCE

UC Health staff has grown significantly as health services have expanded, while general campus, non-student support staff growth has lagged behind enrollment over the past decade.

6.1.1 Staff Full-time Equivalent (FTE)

Universitywide

October 2008* to 2018



Source: UC Corporate Personnel System

* The Oct 2008 Senior Management FTE includes 81 positions (mostly Deans) that in 2010 were recategorized as academic employees. Excludes Lawrence Berkeley National Laboratory, Hastings School of the Law, and Associated Students UCLA.

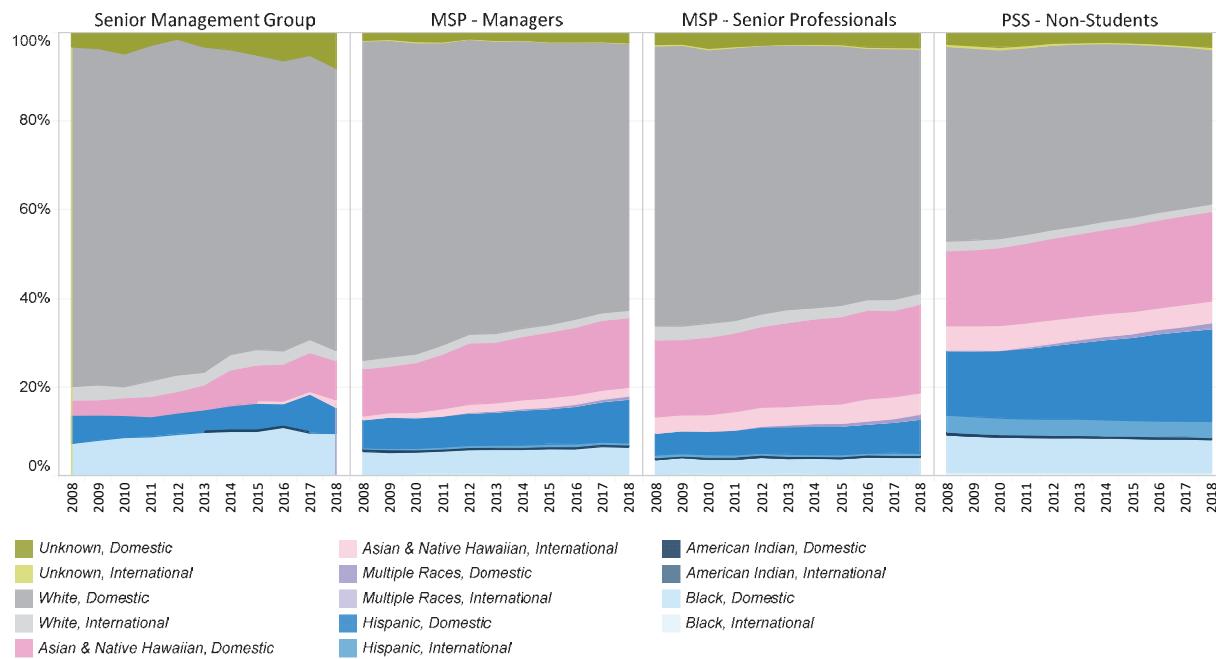
UC operates six health systems with five academic medical centers as well as schools of medicine, dentistry, nursing, and other health sciences education and research programs. Altogether, UC Health accounts for nearly 75 percent of non-academic staff growth over the past ten years. The growth has been driven by service expansions such as increases in inpatient days as well as outpatient/emergency visits. General campus student employees increased by 2,037 FTE, largely related to the additional 60,000 students UC enrolled over this period. Increased enrollment translates to more student employees working on campus as part of their financial aid packages.

General campus, non-student staff has seen the greatest growth amongst Senior Professionals, due to both the implementation of Career Tracks and the professionalization of UC's workforce towards higher-skilled analysis and technical capabilities. Career Tracks is a function-specific, market-aligned job classification system that applies consistent interpretations of which positions are Management and Senior Professional (MSP) and which are Professional and Support Staff (PSS). Within PSS, there has been a significant shift away from clerical roles into student services positions and administrative analysis to manage growing campuses and student bodies.

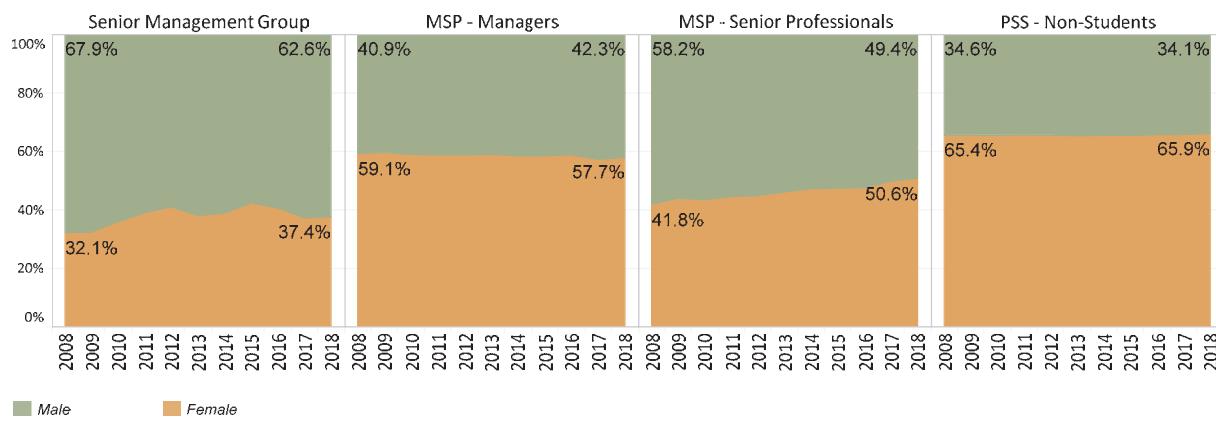
6.1 STAFF WORKFORCE

The proportion of nonwhite staff has grown modestly at all levels in the last decade. Female representation has grown at the Senior Professional levels, and has stayed high at the Manager and Support Staff levels.

6.1.2 Racial/ethnic diversity of non-student staff by personnel program Universitywide October 2008 to 2018



6.1.3 Gender diversity of non-student staff by personnel program Universitywide October 2008 to 2018



Source: UC Corporate Personnel System

UC has sought to improve representation of historically underrepresented domestic racial/ethnic groups. Diversity has increased steadily at all staffing levels; however, management and more senior positions are notably less diverse. Manager and PSS

positions are well over 50 percent female. The percentage of female employees has grown steadily within the Senior Management Group (SMG), while Senior Professionals have nearly equal gender representation.

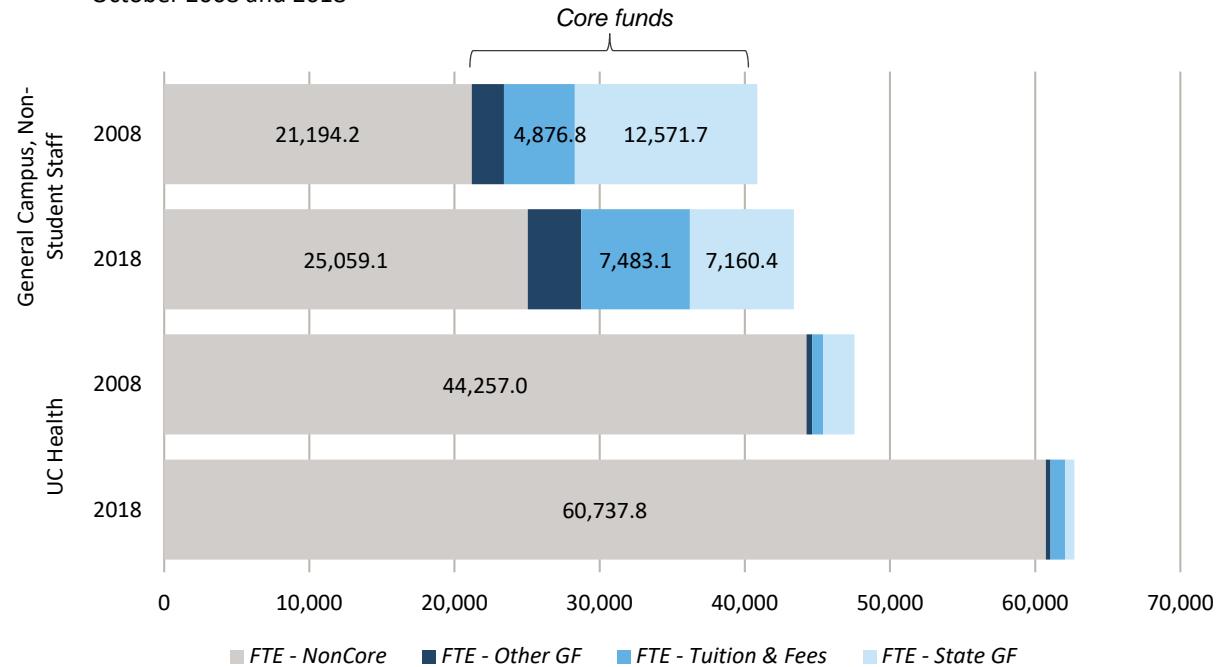
6.2 STAFF COMPENSATION

Since 2008, the number of staff supported by core funds has fallen as state funding for the University has decreased. Non-core funds supported all of the UC Health and non-student, general campus staff increases over the past decade.

6.2.1 Non-student staff FTE by fund source

General campus and UC Health

October 2008 and 2018



Source: UC Corporate Personnel System

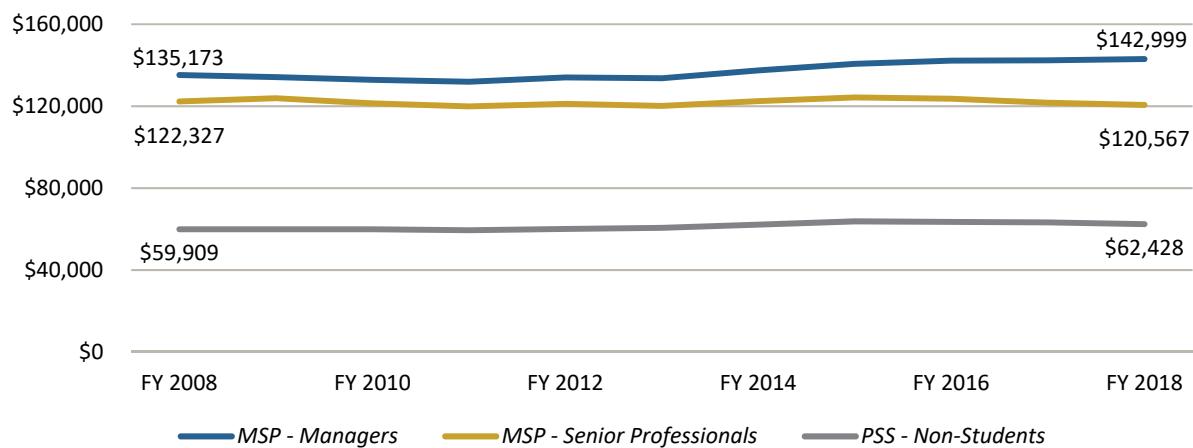
General campus employees are increasingly paid with non-core funds such as research funds, auxiliary revenues, and other sources. Though overall general campus staff increased modestly, overall core-funded staff has decreased. This is due to a drop of over 5,400 FTE in state-funded staff, which more than offsets the increases in staff funded by tuition and fees as well as other general funds.

UC Health almost exclusively relies on non-core funds, particularly from hospital revenues, to support its staff. Despite adding more than 16,000 FTE, even fewer FTE today are paid on core funds than ten years ago.

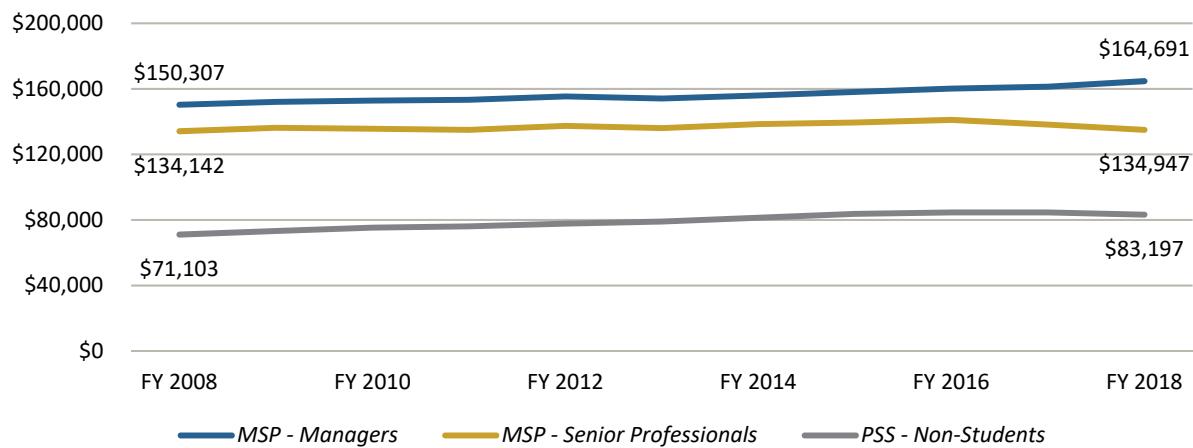
6.2 STAFF COMPENSATION

In the past decade, inflation-adjusted salaries have been relatively flat for general campus staff, with moderate increases for some UC Health staff.

6.2.2 General campus career staff average inflation-adjusted base salaries by personnel program, FY 07–08 to 17–18



6.2.3 UC Health career staff average inflation-adjusted base salaries by personnel program, FY 07–08 to 17–18



Source: UC Corporate Personnel System; California CPI-W used for inflation adjustment

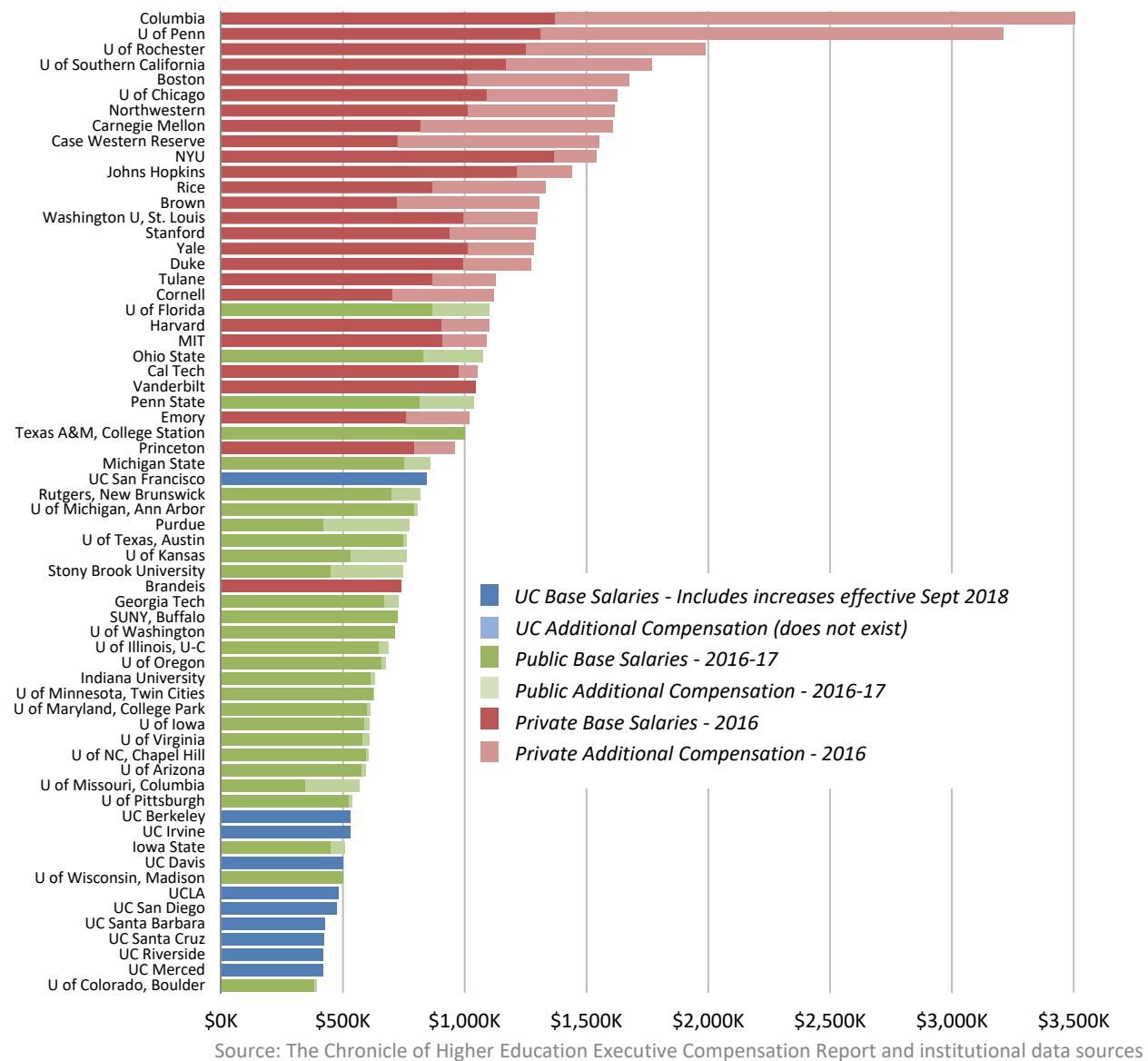
Over the past ten years, salaries in real dollars have increased modestly for general campus career Managers and Support Staff, and have decreased slightly for Senior Professional staff. At the same time, UC employees are contributing more to health care costs and to the UC retirement system, putting downward pressure on the competitiveness of UC's total compensation compared with the regional labor markets where University centers are located.

Salaries among UC Health career staff have been increasing moderately in real dollars for Professional and Support Services (PSS) staff and for Managers. This reflects market trends in wages for hospital staff and growing demand for health care professionals. These UC employees are also contributing more to health care costs and to the UC retirement system.

6.2 STAFF COMPENSATION

UC chancellors are among the lowest-paid when compared to their Association of American Universities (AAU) peers. The UC president's salary also remains modest compared to public peers.

6.2.4 Base salaries and additional pay for UC and AAU institution leaders



Source: The Chronicle of Higher Education Executive Compensation Report and institutional data sources

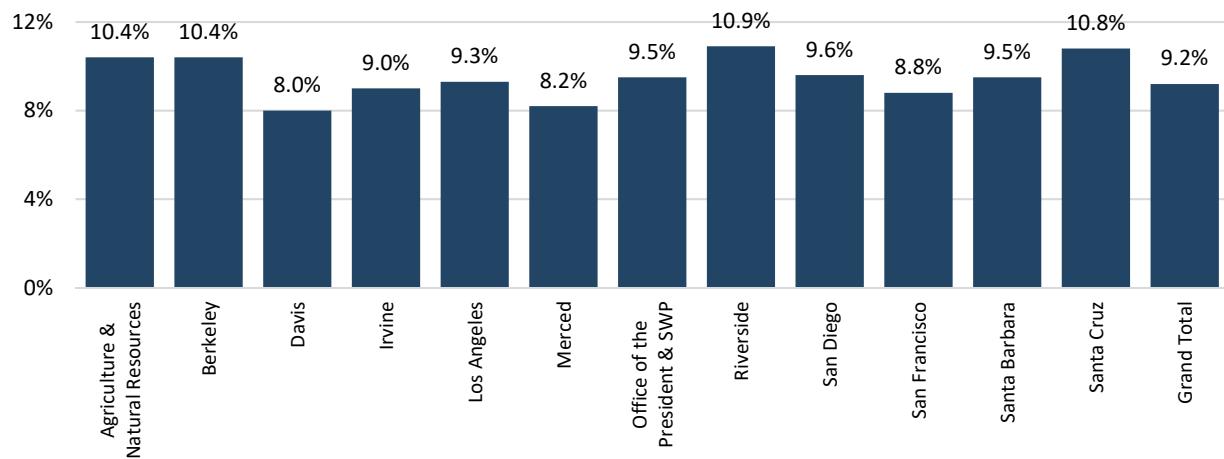
UC chancellors continue to place among the lowest-paid university leaders compared with their AAU peers. Nine UC chancellor salaries fall among the lowest quarter in this group. UC San Francisco, an exclusively graduate health science campus, is the only exception.

Among public system leaders (a chancellor or president who administers or coordinates multiple campuses), the compensation for UC's president ranked 75th, even with a budget twice as large as the next comparator. The UC president's compensation has not increased since September 2013.

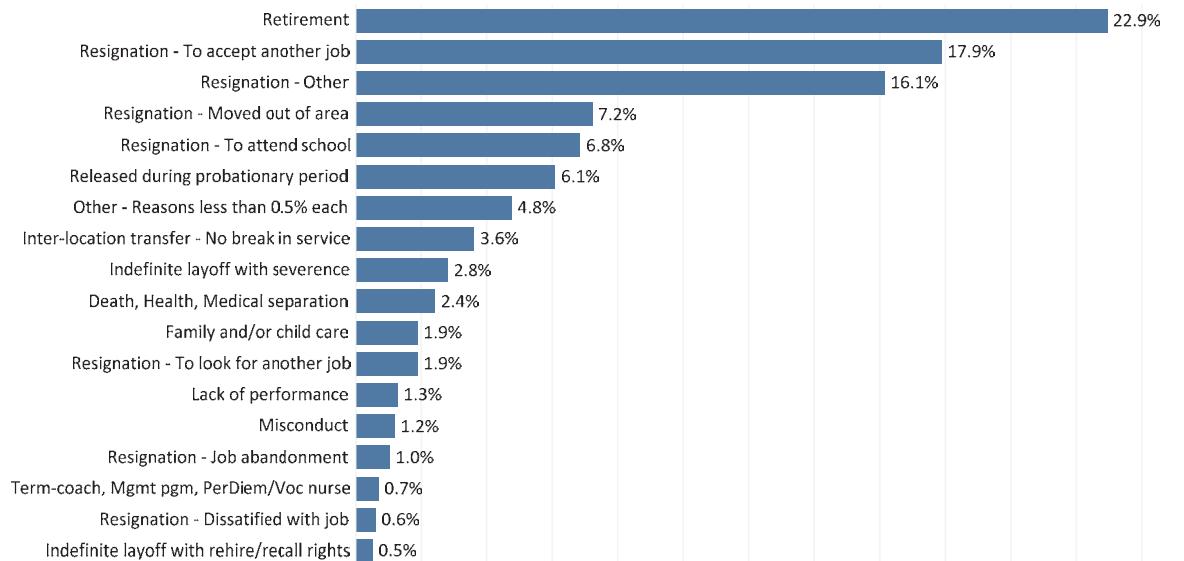
6.3 STAFF SEPARATIONS

Separation among staff is about 9.2 percent, with significant campus variation. Retirement is the number one reason for separation.

6.3.1 Separation rates for career staff by campus and overall, FY 2017–18



6.3.2 Separation reasons for career staff, FY 2017–18



Source: UC Corporate Personnel System

Campuses experience a wide range of separation rates among their career staff, which may reflect different mixes of employees and different work environments. High turnover is often costly in terms of lost productivity, lost institutional knowledge, and replacement costs.

Nearly 23 percent of separations are due to retirement, a result of the aging baby-boomer population. While about half of separations are resignations, 27 percent of those are due to people moving away or choosing to attend school.

CHAPTER SEVEN



Diversity

As a young woman, Wai Wai Nu spent seven years in a Myanmar prison as a member of the Rohingya ethnic minority. After being released in 2012 as part of series of promised policy reforms in the country, she emigrated to America. Nu earned her law degree, enrolled in a political education program, and launched the Women's Peace Network-Arakan to promote better understanding of and between ethnic minorities in western Burma.

She earned her degree in August from UC Berkeley Law and now leads Justice for Women, a network of female lawyers that promotes democracy- and peace-building efforts, works to combat sexual harassment and domestic violence, and promotes civic participation. She also initiated the popular #MyFriend campaign, which countered hate by urging social media users to post photos of themselves with friends of diverse ethnic and religious backgrounds.

She has received numerous honors including Time Magazine Next Generation Leaders award (2017) and the Hillary Rodham Clinton Award for Advancing Women in Peace and Security (2018).

DIVERSITY

Goals

The University of California strives to create diverse, equitable, and inclusive communities for students, faculty, and staff. The University aspires to achieve this goal by supporting initiatives that foster an inclusive living, learning and working environment.

The University's diversity goals are established in Regents Policy 4440: University of California Diversity Statement, which states, in part:

- Because the core mission of the University of California is to serve the interests of the State of California, it must seek to achieve diversity among its student bodies and among its employees.
- The State of California has a compelling interest in making sure that people from all backgrounds perceive that access to the University is possible for talented students, staff, and faculty from all groups.
- Therefore, the University of California renews its commitment to the full realization of its historic promise to recognize and nurture merit, talent, and achievement by supporting diversity and equal opportunity in its education, services, and administration, as well as research and creative activity.
- The University particularly acknowledges the acute need to remove barriers to the recruitment, retention, and advancement of talented students, faculty, and staff from historically excluded populations who are currently underrepresented.

Findings

UC is making progress in several key areas related to diversity, equity, and inclusion. These include:

- An increase in the percentage of African American and Hispanic/Latino(a) undergraduate enrollment.
- An increase in transfer admittance and enrollment for all main domestic racial/ethnic groups.
- Increasing proportions of female ladder-rank faculty across all discipline groups and a slight increase in the percentage of Hispanic/Latino(a) ladder-rank faculty.
- An increase in people from underrepresented groups (URGs) admitted to doctoral programs, particularly in physical sciences/math and life sciences.
- An increase in the number of Hispanic/Latino(a) career staff at UC campuses and UC Health, especially among managers and senior professionals (MSP).

At the same time, there are challenges and areas in which progress needs to be made. These include:

- Enrollment rates are low for African American and American Indian undergraduates, compared to the actual admission rate.
- Undergraduate African American students are less likely than other groups to agree that their race/ethnicity is respected on campus.
- A graduation gap persists between underrepresented undergraduates and White and Asian undergraduates (presented in Chapter 3 of this report).
- The proportion of women and underrepresented faculty is low, compared to availability pools in most disciplines (presented in Chapter 5).
- Senior Management (SMG) is significantly lacking in racial/ethnic diversity.

Evaluating Diversity

UC evaluates its diversity outcomes in a variety of ways: current demographic characteristics and trends of its students, faculty, and staff; analysis of the academic pipeline from entry to exit; and survey data that reveal perceptions of campus climate and respect.

Chapters 1 through 6 present an overview of trends for undergraduate, graduate academic and graduate professional students, faculty, and staff. This feeds into an overview of the University by race/ethnicity and gender.

As shown in indicator 7.3.1, trend data illustrate growing proportions of underrepresented and international students in the undergraduate population. Over the last 15 years, the proportion of Hispanic/Latino(a) undergraduates has grown tremendously, reflecting both the growing number of Hispanic/Latino(a) students in California and improvements in high school graduation rates. Five UC campuses (Irvine, Merced, Riverside, Santa Barbara, and Santa Cruz) are designated by the federal government as Hispanic-Serving Institutions (HSIs). A sixth institution, UC Davis, has met the requirements to be eligible for HSI designation status, and UCLA and UC San Diego have seen significant growth in their Hispanic student populations, and UC Berkeley has a goal to become an HSI as well.

Chapter 4, indicator 4.1.2, shows that among graduate academic students, underrepresented populations display steady increases across disciplines, with growth in international students, primarily in physical science and engineering. Women are the majority in all disciplines except for physical science and engineering. Graduate professional degree programs show similar patterns for underrepresented and international students, with variation by discipline. Education programs have a larger proportion of underrepresented students, and business and other professional degree programs have growing international populations. The proportion of women in graduate professional degree programs is around 50 percent or higher for all disciplines except business and engineering.

The proportion of women and underrepresented groups in the faculty continues to grow at a modest pace. Compared with ladder-rank faculty, many other academic positions are more ethnically diverse and gender-balanced because they experience more rapid turnover. Still, comparing UC's faculty diversity with peer research institutions, UC places second in terms of female faculty and in terms of faculty from URGs (5.2.3).

For staff, the proportions of nonwhite and female managers and senior professional (MSP) and senior management group (SMG) positions are smaller than their proportions in professional and support staff (PSS) positions. The proportion of women among ladder-rank faculty is lower than proportions among other academic employees, as shown in Chapter 5.

Pipeline

UC diversity outcomes are also assessed by examining the various steps along the academic pipeline.

In the undergraduate pipeline from high school graduation to the end of the first year at UC, about six in ten California public high school twelfth-graders come from historically underrepresented groups. However, only less than four in ten of these twelfth-graders who enrolled in UC and persisted past their first year came from underrepresented ethnic groups. This is a strong indication that UC is not keeping pace with the diversity of California high school graduates.

Surveying Students about Diversity on Campus

This chapter presents responses to the UC Undergraduate Experience Survey (UCUES), administered every two years to all undergraduates. The University's goal is to have all its students feel respected on campus, regardless of race/ethnicity, religious affiliation, gender identity, gender expression, sexual orientation, or political beliefs.

University of California Undergraduate Experience Survey (UCUES) data show most undergraduates feel students of their race/ethnicity are respected on campus, but the proportion of African American respondents sharing this perspective is lower than other groups. Among religious identifications, Muslim and Jewish students are less likely to feel respected. LGBTQ+ students are also less likely to feel respected, as are students identifying as conservative politically.

Looking Forward — Diversity Initiatives

UC has made considerable investments in 2018 and 2019 to diversify the faculty, staff, and senior leadership. It has also created meaningful opportunities for historically underrepresented populations to be fully recognized and build inclusive communities.

In the 2017 Budget Act, the State allocated \$2 million to the University of California in one-time funding to support equal opportunity in faculty employment. UC's budget from the State for 2018–19 included another year of \$2 million in funding, which was matched by an additional commitment of \$454,000 from President Napolitano. Ten campus proposals have been funded. These include four faculty recruitment pilots (Life Sciences at UC Berkeley; campus-level at UC Davis; Schools of Natural Sciences and Engineering at UC Merced; and the Department of Math at UC Riverside) and six retention/climate pilots (School of Public Health at UC Berkeley; STEM schools at UC Irvine; College of Humanities, Arts, and Social Sciences at UC Riverside; Division of Arts and Humanities at UC San Diego; Departments of Engineering and Physics at UC Santa Barbara; and campus-level at UC Santa Cruz). These initiatives will enable campus-level departments and disciplines to continue investing in programs and practices that yield and retain a diverse and talented professoriate.

Two systemwide convenings were held to focus on the infrastructure, capital, and staffing needed as more UC campuses move toward becoming HSIs. The UC Chicano(a)/Latino(a) Leadership Summit brought together campus teams of faculty, staff, administrators, and graduate students to network, to gain a greater understanding of Chicano(a)/Latino(a) representation at UC, and to help develop strategies for engaging UC's next generation of leaders. The Summit was followed by the Hispanic-Serving Institution Retreat, where campus teams learned from current HSI campus representatives and national HSI scholars about attributes of model HSIs.

2018 and 2019 also marked the passage and implementation of the Gender Recognition Act (California Senate Bill 179). The bill streamlines the process for Californians to change their gender designations on state documents and creates a new nonbinary gender code option (the letter "X" or "NB") on California birth certificates, driver licenses, identity cards, and gender-change court orders. This enables gender minority populations (e.g., transgender, intersex, and nonbinary people) to have fuller recognition in California.

To honor the spirit of the Gender Recognition Act, Systemwide Human Resources has updated the University's new systemwide payroll system (UCPath) to provide employees the opportunity to self-identify as a nonbinary gender. Changes to student data systems are also being studied.

For More Information

March 2014 UC campus climate regents item: regents.universityofcalifornia.edu/regmeet/mar14/e2.pdf

UC workforce diversity: universityofcalifornia.edu/infocenter/uc-workforce-diversity

Undergraduate admissions data: universityofcalifornia.edu/infocenter/admissions-residency-and-ethnicity

Graduate admissions data: universityofcalifornia.edu/infocenter/graduate-admissions

Degrees awarded data: universityofcalifornia.edu/infocenter/degrees-awarded-data

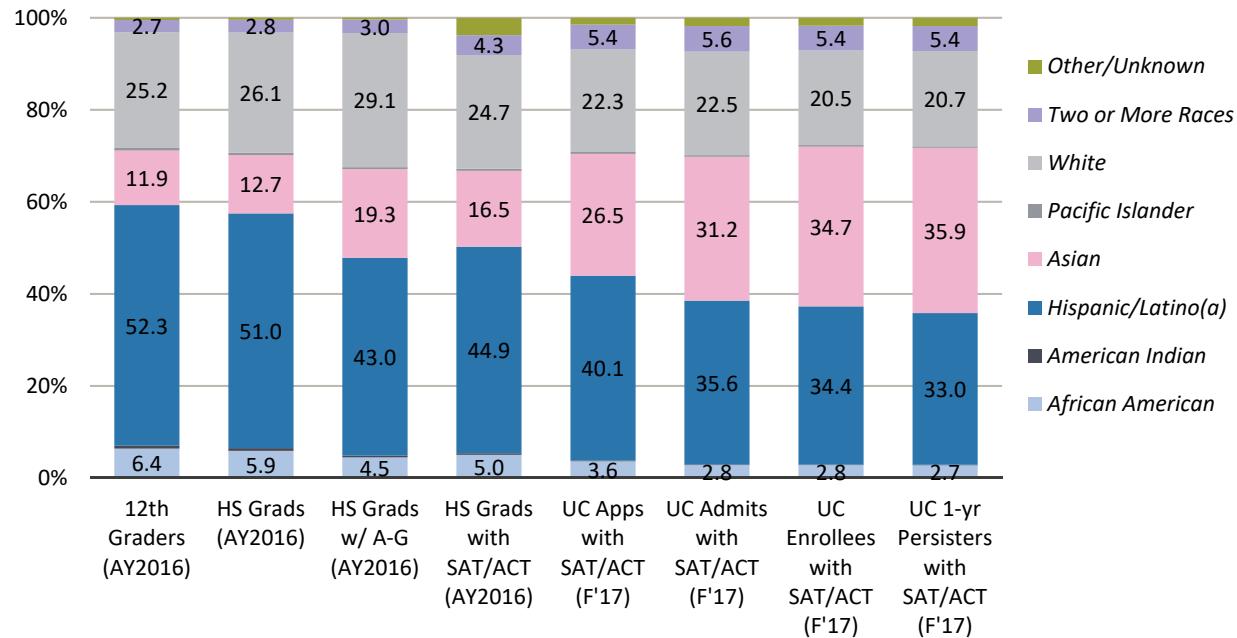
7.1 UNDERGRADUATE PIPELINE

UC is not keeping pace with the ethnic diversity of California high school graduates.

7.1.1 Racial/ethnic distribution of the UC undergraduate pipeline

Universitywide

Fall 2017 new freshman cohort from California public high schools



Sources: California Department of Education; College Board; UC Information Center Data Warehouse

In 2016-17, about six in ten California public high school 12th-graders were from historically underrepresented ethnic groups (American Indian, African American, Hispanic/Latino(a)). However, less than four in ten of these 12th-graders who enrolled in UC and persisted past their first year were from underrepresented ethnic groups. At almost every point of the eligibility and enrollment process, fewer students from underrepresented ethnic groups are represented relative to all California 12th-graders.

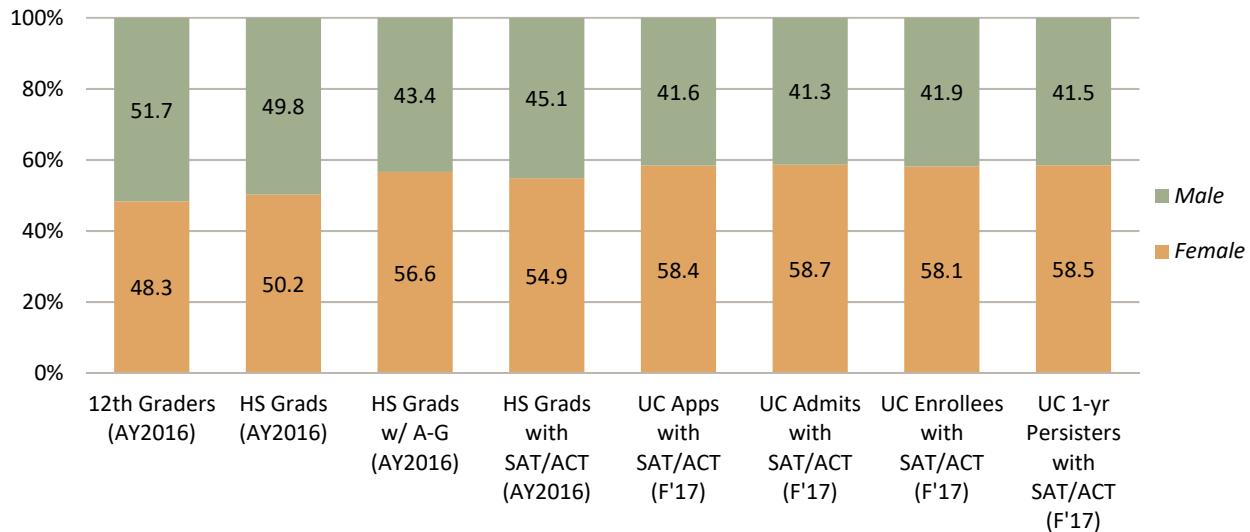
7.1 UNDERGRADUATE PIPELINE

UC enrolls a greater share of women undergraduates, compared to California high school graduates.

7.1.2 Gender distribution of the UC undergraduate pipeline

Universitywide

Fall 2017 new freshman cohort from California public high schools



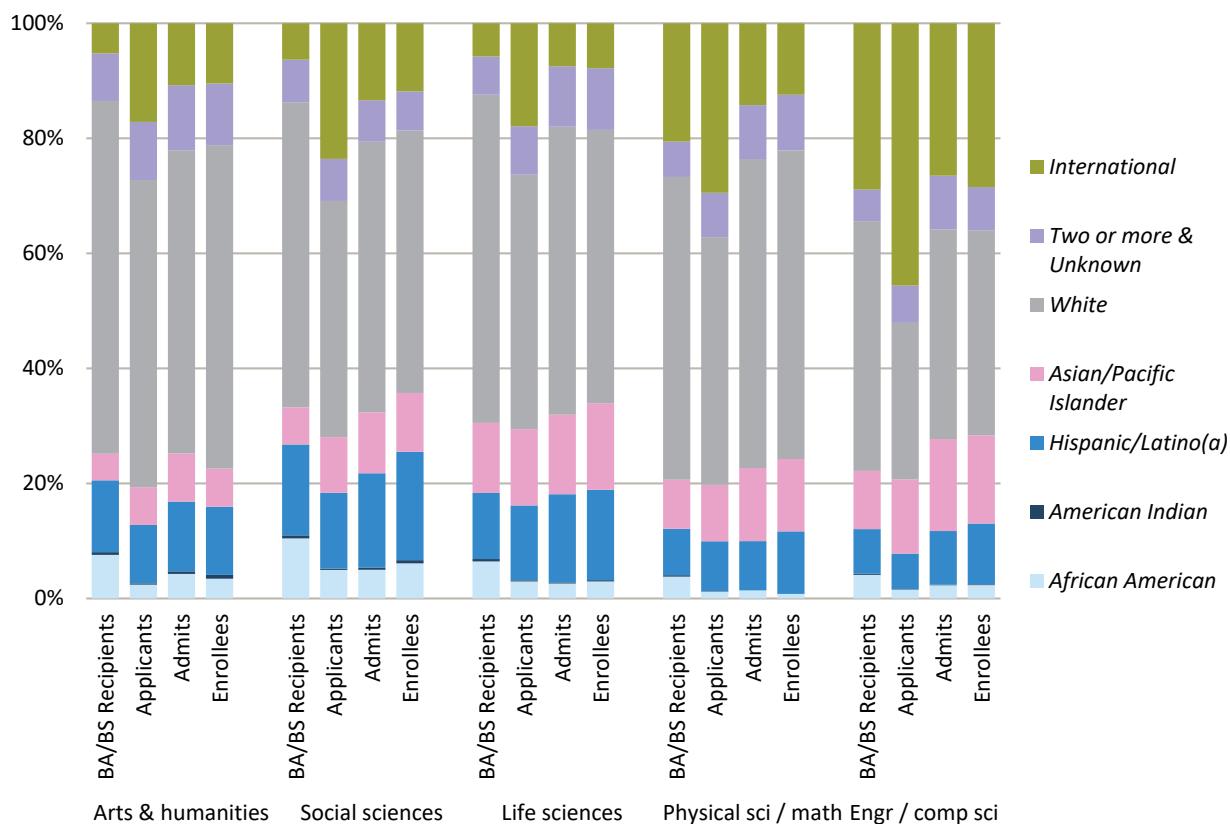
Sources: California Department of Education; College Board; UC Information Center Data Warehouse

In 2016–17, about half of California public high school 12th-graders were female. However, 60 percent of these 12th-graders who enrolled in UC and persisted past their first year were female. Women become more represented than men at almost each point of the eligibility and enrollment process relative to California 12th-graders.

7.2 GRADUATE STUDENT PIPELINE

In graduate academic doctoral fields, UC is keeping pace with the racial/ethnic diversity of U.S. bachelor degree recipients.

- 7.2.1** Racial/ethnic distribution of US BA/BS degree recipients from US institutions compared to UC doctoral applicants, admits, and enrollees from U.S. institutions
Universitywide
2016–17



Sources: Integrated Postsecondary Educational Data System; UC Information Center Data Warehouse

In 2016–17, the proportion of UC doctoral applicants, admits and enrollees from underrepresented ethnic groups (African American, Hispanic/Latino(a), and American Indian) closely matched the pool of Bachelor's degree recipients from U.S. colleges/universities, in most fields.

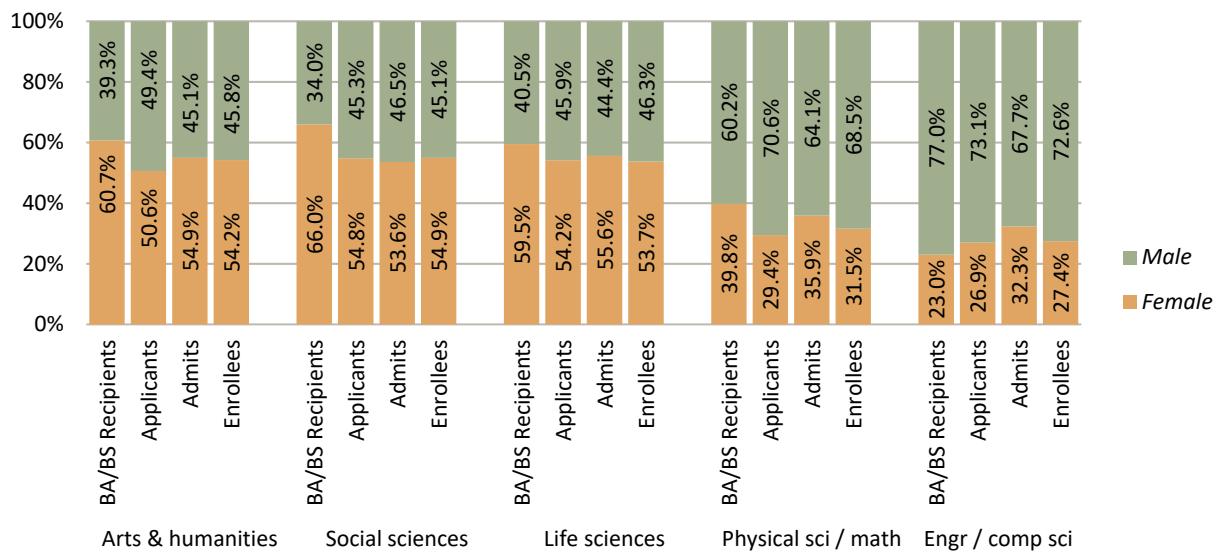
UC's graduate programs draw students from across the nation and around the world, including its own undergraduate students, who make up about one-tenth of UC's graduate students. As a result, UC's efforts to diversify its undergraduate students also help to diversify its graduate academic population.

Because recent Ph.D. recipients create the talent pool for new faculty, a critical means for increasing the diversity of the faculty is to increase the diversity of doctoral degree recipients.

7.2 GRADUATE STUDENT PIPELINE

In graduate academic doctoral programs, UC is approaching parity with the gender diversity of U.S. institutions, in most fields.

- 7.2.2** Gender distribution of US BA/BS degree recipients from US institutions compared to UC doctoral applicants, admits, and enrollees from US institutions
Universitywide
2016–17



Sources: Integrated Postsecondary Educational Data System; UC Information Center Data Warehouse

Female representation among UC doctoral enrollees from U.S. colleges and universities is within five percentage points of the female representation among all U.S. Bachelor's degree recipients in all fields except Engineering & Computer Science, where the representation of women is higher than that of U.S. Bachelor degree recipients. However, female students make up less than half of the U.S. Bachelor's degree recipients and UC doctoral students in Physical Sciences and Engineering & Computer Science.

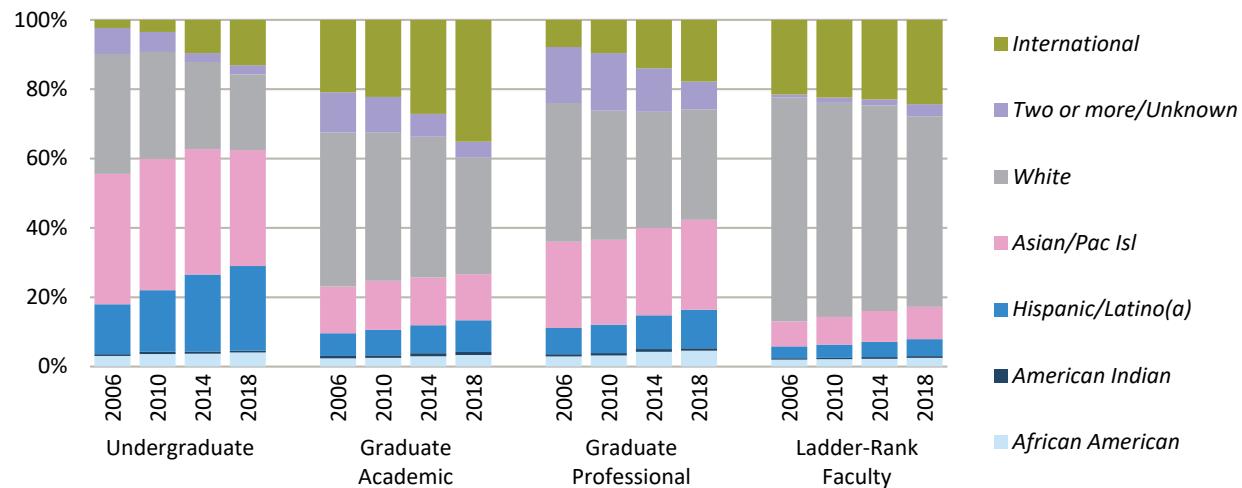
7.3 DIVERSITY OF THE UNIVERSITY COMMUNITY

Undergraduates have the highest proportion of underrepresented students. Graduate professional and academic populations vary in their share of international students. Ladder-rank faculty are less diverse overall.

7.3.1 Racial/ethnic distribution of students and ladder-rank faculty

Universitywide

Selected years, fall 2006 to 2018



Source: UC Information Center Data Warehouse. Undergraduates include approximately 300 postbaccalaureate teaching credential students. “Two or more” are included in unknown/other.

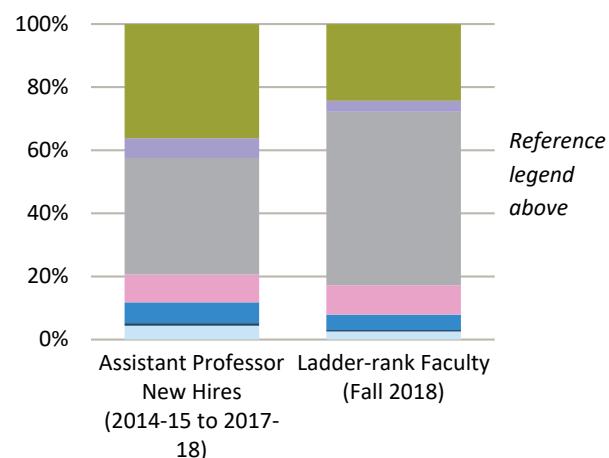
Twenty-nine percent of undergraduate students are from underrepresented (Hispanic/Latino(a), American Indian, and African American) groups. About 13 percent of graduate academic and 16 percent of graduate professional students are from underrepresented groups. International students represent 35 percent of graduate academic and 18 percent of graduate professional students.

A comparison to ladder-rank faculty is presented because these faculty have the primary responsibility for the delivery of instruction and the supervision of research. They are also responsible for admissions and curriculum. Compared to the student population, a higher proportion of faculty identify as white or are international citizens. More information on faculty diversity is available in chapter 5.

The graph below compares recent assistant professor (tenure-track) hires to all ladder-rank faculty. Information on availabilities compared to hires by discipline group is presented in chapter 5.

7.3.2 Assistant professor hires compared to ladder-rank faculty

2014–15 to 2017–18 (hires) and fall 2018 (current faculty)



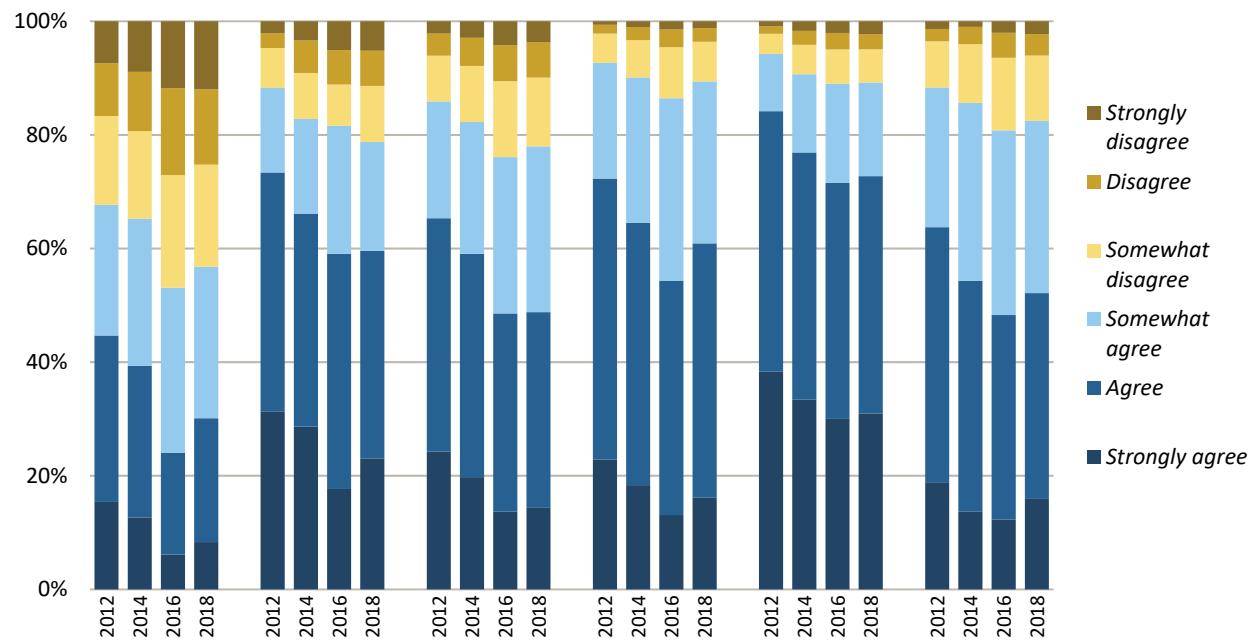
7.4 UNDERGRADUATE CAMPUS CLIMATE

African American students are less likely to feel that students of their race/ethnicity are respected on their campus than other students.

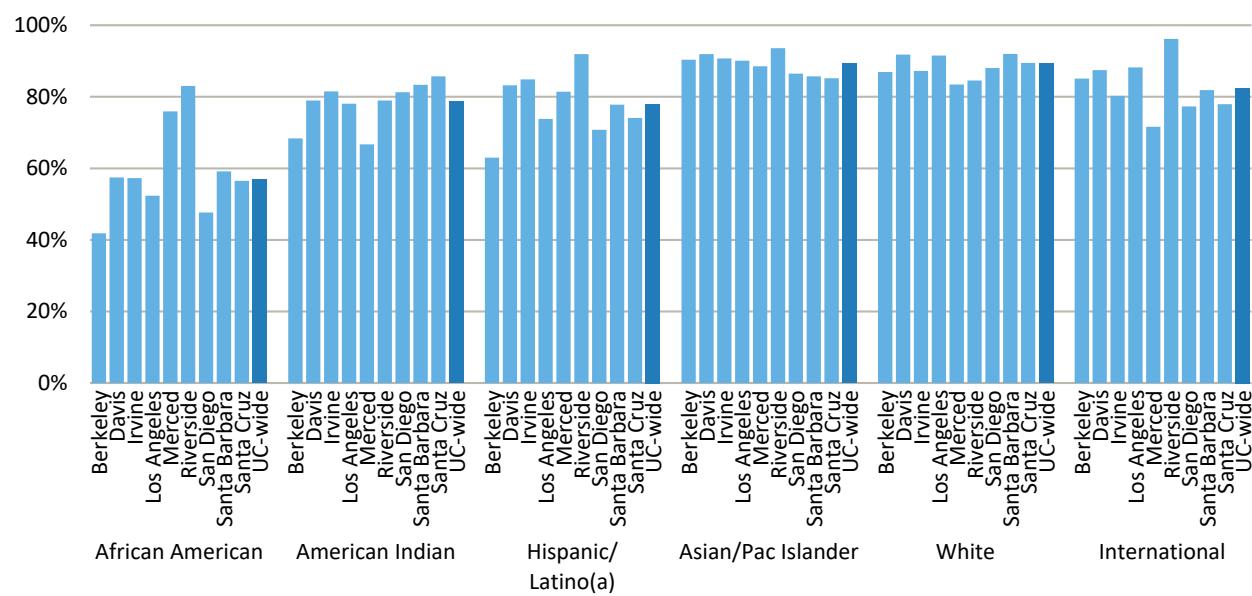
7.4.1 Response to “Students of my race/ethnicity are respected on this campus”

Universitywide and UC campuses

Spring 2012, 2014, 2016, and 2018



Percent who somewhat agree, agree, or strongly agree, 2018



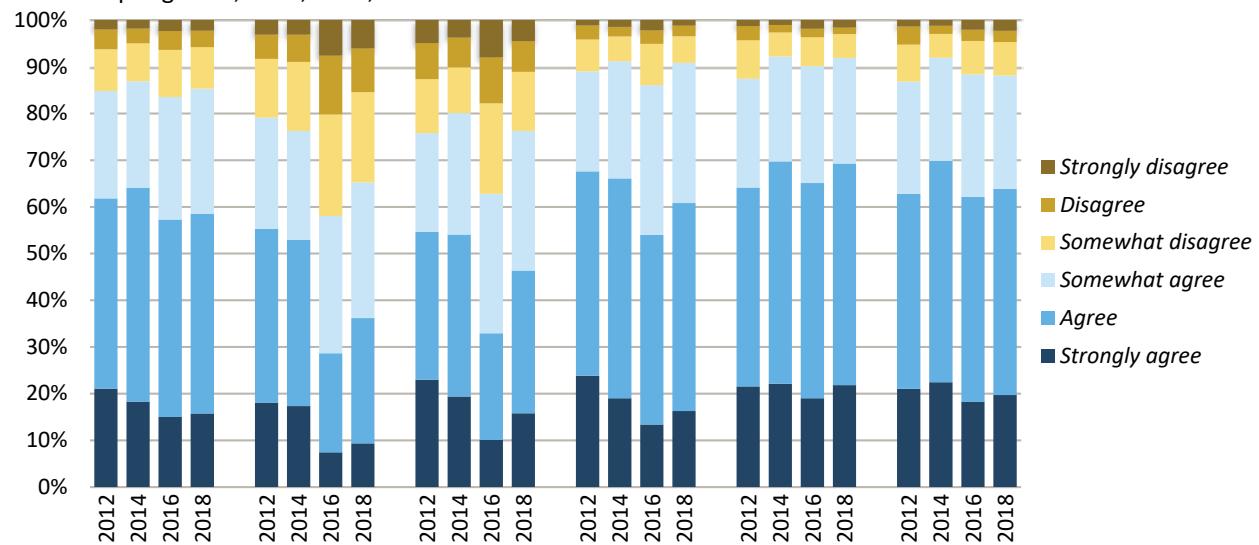
Source: UCUES

7.4 UNDERGRADUATE CAMPUS CLIMATE

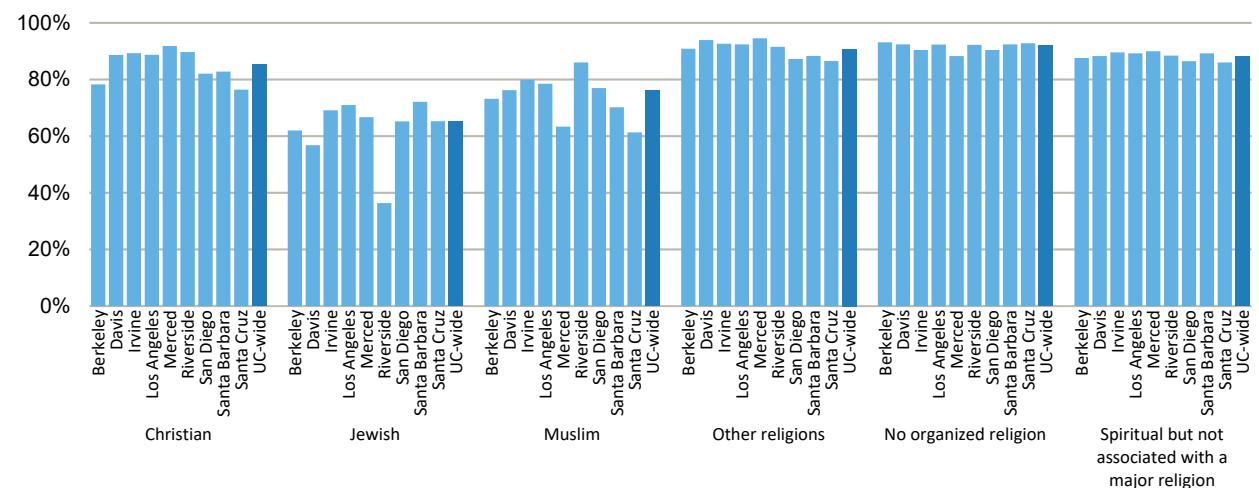
The share of students who felt their religion was respected increased between 2016 and 2018, particularly for Muslim students.

7.4.2 Response to “Students of my religion are respected on this campus”

Universitywide and UC campuses
Spring 2012, 2014, 2016, and 2018



Percent who somewhat agree, agree, or strongly agree, (2016 and 2018 combined)



Source: UCUES. 2014 and 2016 are combined due to small cell sizes. The religion grouping definitions are in the appendix.

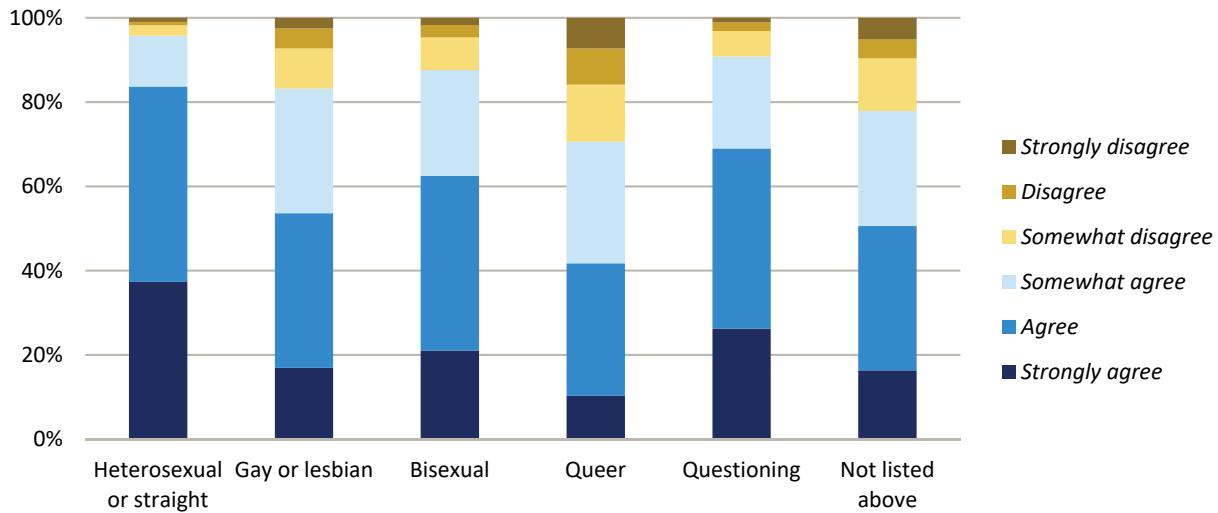
7.4 UNDERGRADUATE CAMPUS CLIMATE

Undergraduates who identify as LGBQ and those who identify as other than male or female are less likely to feel respected on campus than those who do not.

7.4.3 Response to “Students of my sexual orientation are respected on this campus”

Universitywide

Spring 2018

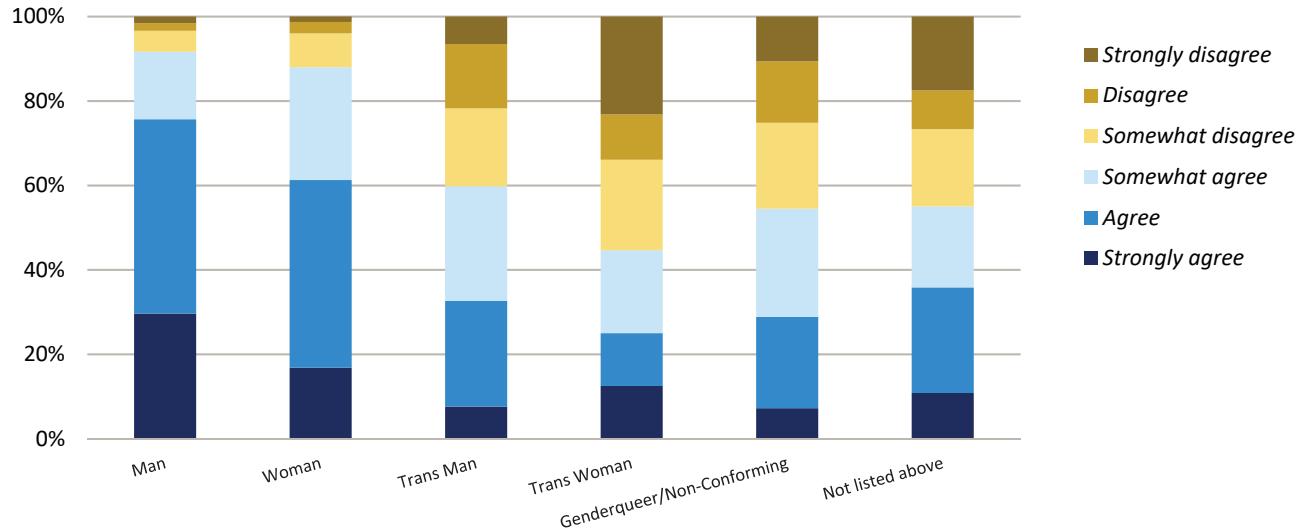


Source: UCUES. Only one year is shown because the response options changed in 2016. Campus data not shown due to small group sizes.

7.4.4 Response to “Students of my gender are respected on this campus”

Universitywide

Spring 2018



Source: UCUES. Only one year is shown because the response options changed in 2016. Campus data not shown due to small group sizes.

Data of counts and shares by gender and sexual orientation are available on the last tab of universityofcalifornia.edu/infocenter/ucues-data-tables-2018.

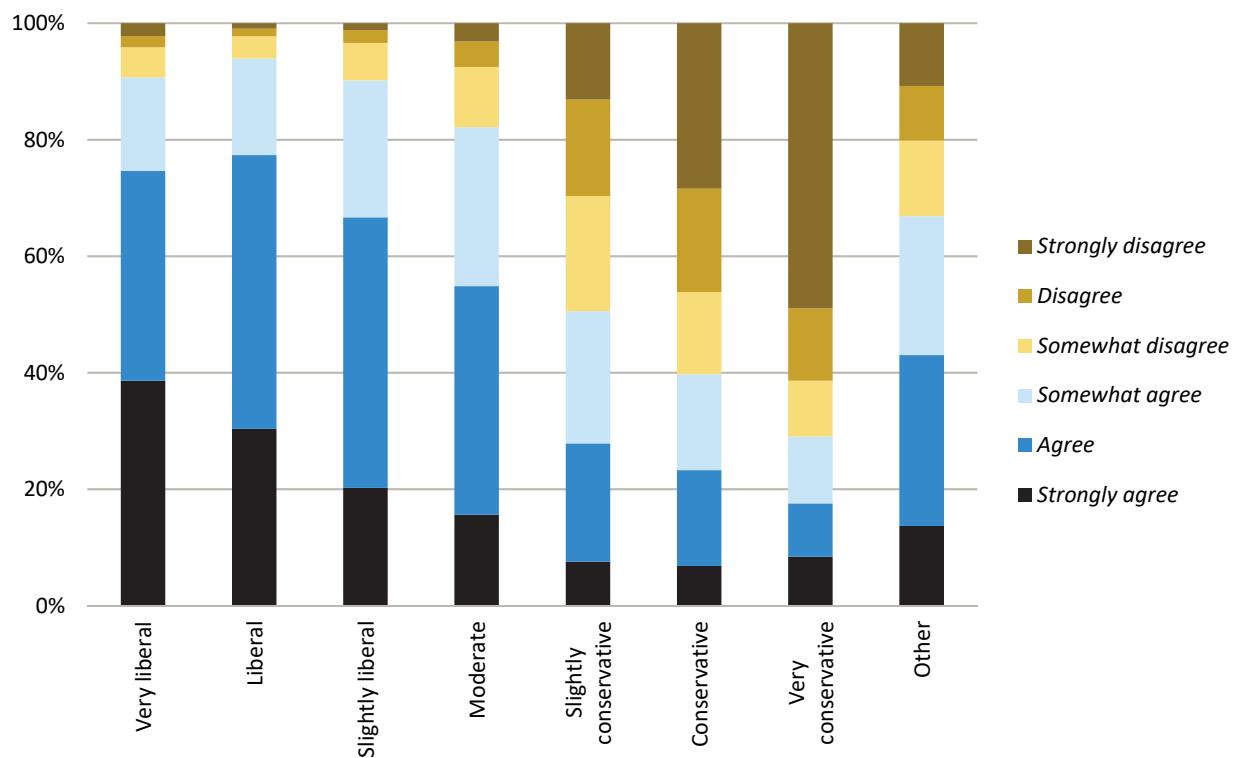
7.4 UNDERGRADUATE CAMPUS CLIMATE

Conservative undergraduates are less likely to feel that students of their political views are respected on campus than those with liberal or moderate political opinions.

7.4.5 Response to “Students of my political beliefs are respected on this campus”

Universitywide

Spring 2018



Source: UCUES

Data of counts and shares by political orientation are available on the last tab of universityofcalifornia.edu/infocenter/ucues-data-tables-2016.

CHAPTER EIGHT



Teaching and Learning

The Loveridge Summer Fellowships in Sacramento program was named for Ron Loveridge, a longtime UC Riverside professor of political science and director of the University's Center for Sustainable Suburban Development. Loveridge says the fellowships were designed to emphasize California's importance as a national leader. Loveridge, who served as Riverside's mayor for two decades, is credited with helping place students in internship positions in Sacramento, Riverside, and Washington, D.C., for more than 50 years.

Past fellowship recipients — there have been 32 over the past four years — time and again described their experiences in Sacramento as "life-changing." For some, such as political science major Mark Sebarrotin, one of two summer 2018 interns in the office of Assembly Speaker Anthony Rendon, the program opened doors that otherwise might have remained shut.

"California is important," Loveridge said. "It now has the fifth-largest economy in the world, it leads the nation in energy policies, and its demographic profile is a harbinger for the nation. In so many ways, California is a window to the future economic, political, and social life of the United States."

TEACHING AND LEARNING

Overview

The University of California provides its students with a rich learning environment created by faculty engaged in both teaching and academic research. Student learning at UC involves classes, seminars, and lab sections enhanced by collaboration with faculty and researchers. Through these activities, faculty and students engage in a learning process that helps develop critical thinking, communication, and problem-solving skills, as well as discipline-specific knowledge.

Educating students and the public

UC's faculty are principally responsible for maintaining UC's academic excellence and promoting student success. Student retention, graduation rates, and measures of effectiveness are presented in Chapter 3. This chapter focuses on the learning experience of UC's undergraduate and graduate students, reporting what skills they have learned, their engagement with faculty and their peers, and satisfaction with their UC experience. A majority of both undergraduate and graduate students report improvement in academic skills. This chapter also reports on the composition and workload of instructional staff across different academic disciplines and professional programs.

Expanding learning opportunities beyond students on campus demonstrates the connection between the teaching and the public service missions of the University. UC Extension offers adult professional and continuing education programs to Californians and people around the world. University Extension enrolls hundreds of thousands of Californians in its programs each year.

Promoting educational effectiveness

UC is committed to continuous improvement of instruction and employs a range of pedagogical and assessment strategies to enhance and support student learning. Campuses offer pedagogical development and training for faculty and teaching assistants to promote the use of evidence-based teaching practices and improve the quality of teaching and learning. UC's teaching and learning centers and offices of instructional development train hundreds of instructors each year, improving the quality of education for students in all disciplines across all ten campuses.

UC promotes educational effectiveness by supporting assessment of student learning. Assessment strategies include the development of program-level student learning outcomes and integration of evidence of student learning into academic program reviews. Programs across UC are undertaking curriculum redesign and improvement as a result of assessment work. Much of this aligns with the expectations of regional accrediting agencies, in particular the WASC Senior College and University Commission (WSCUC). As part of WSCUC accreditation, UC campuses assess five main core competencies of student learning: writing, oral communication, quantitative reasoning, information literacy, and critical thinking. Each UC campus posts its WSCUC accreditation reports online.

Innovative instructional offerings

UC faculty develop and teach an ever-expanding catalog of online courses and programs, expanding learning opportunities for UC and non-UC undergraduates, graduates, and professional students. Through the UC cross-campus enrollment system, UC provides undergraduates access to high-demand courses offered at other UC campuses, increasing flexibility and opportunities for degree completion.

For non-UC students considering matriculation at a four-year university or resuming their studies, UC offers for-credit online courses that may transfer to other colleges and universities. UC Online (uconline.edu) provides courses that span a wide range of disciplines. UC Extension offers online continuing education courses, professional certificates and post-baccalaureate programs for those seeking to advance their education and to enhance their professional skills.

In addition to online courses, UC leverages instructional technologies to enhance instruction and promote success. UC continues to develop and refine hybrid courses using multimedia resources, videos, podcasts, e-books, and other technology-based tools. UC follows best instructional practices to embed innovative technologies into course design and focuses on creating online and face-to-face learning experiences that encourage collaboration and maximize faculty-student and peer-to-peer interactions. Increasingly, UC courses utilize a flipped model of instruction, where lectures and other traditional classroom content are provided online, and classroom time is dedicated to group discussions, problem-solving activities, and other experiential exercises.

Ongoing assessment and data-driven approaches to teaching and learning are integral parts of UC's use of technology. Several UC campuses have adopted assessment systems that use online conceptual models and adaptive learning tools to determine students' knowledge quickly and accurately. Based on responses to questions, the software determines concepts or topics where each student needs to focus. Assessment and LEarning in Knowledge Spaces (ALEKS) uses web-based adaptive tools to provide students with individualized feedback and learning pathways in entry-level math and chemistry courses. As part of the 2015 state budget framework agreement, three UC campuses engaged in a pilot study of the impact of adaptive learning technologies on student success and as a mechanism to strengthen instruction. The primary finding of the study was that when students use adaptive learning technology as intended, results are positive in relation to a student's overall performance in the course to which it is applied.

UC is enhancing student learning opportunities and success by expanding summer course offerings (in-person and online) to reduce students' time to degree and enrich their academic experience. Offering bridge experiences and orientation during summer also helps incoming students transition to campus life and prepare them for the rigorous courses at the undergraduate level.

For more information

Campus websites: universityofcalifornia.edu/uc-system/parts-of-uc

Summer enrollment: universityofcalifornia.edu/infocenter/summer-enrollment

UC Education Abroad Program: universityofcalifornia.edu/infocenter/uc-eap

Undergraduate research experiences: universityofcalifornia.edu/infocenter/uc-undergraduate-student-research

Adaptive Learning Technology Pilot Report: ucop.edu/institutional-research-academic-planning/_files/BFI-Adaptive-Learning-Technology-Report.pdf

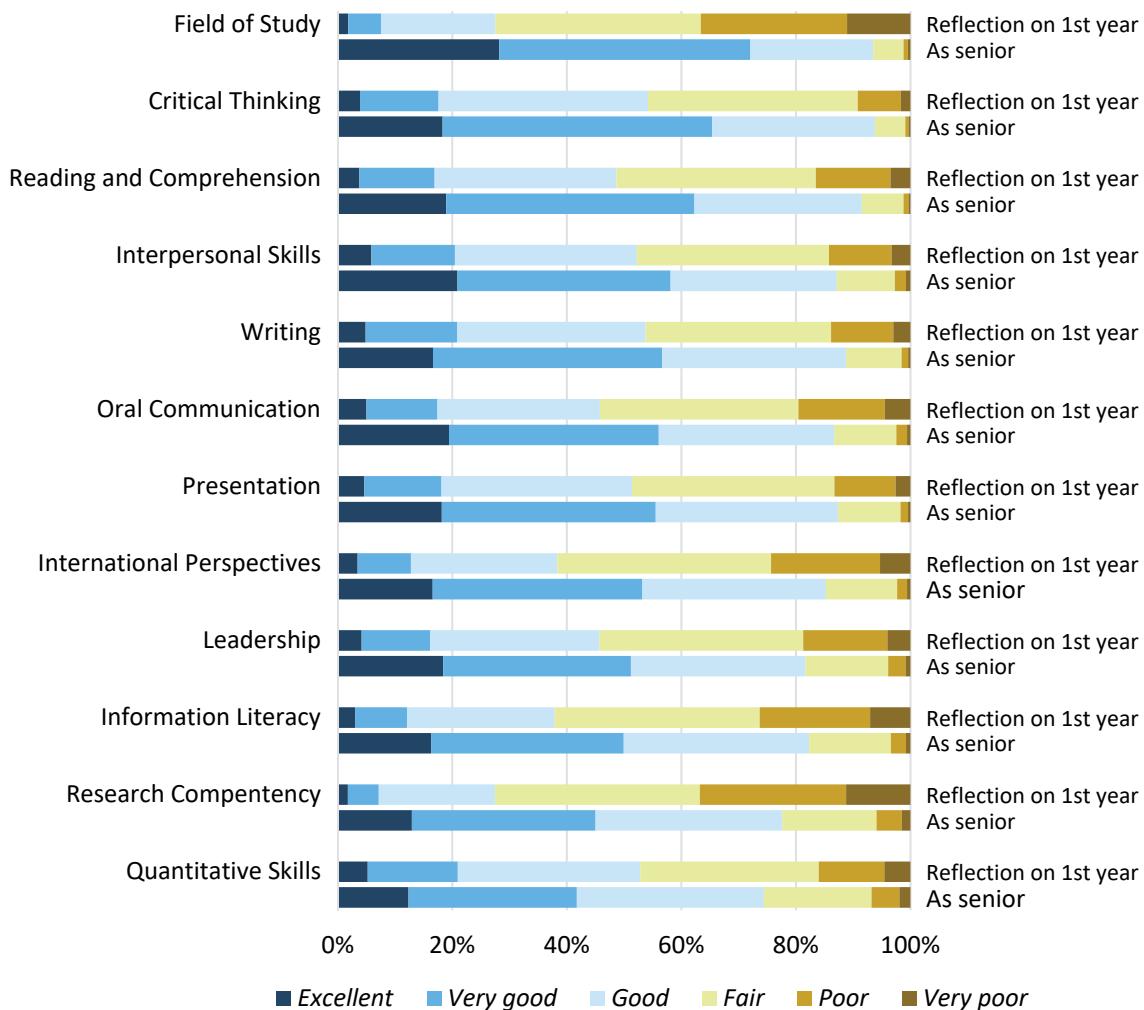
8.1 UNDERGRADUATE STUDENT LEARNING AND ENGAGEMENT

UC undergraduates experienced significant improvement between their freshman and senior years in multiple areas, including reading and comprehension, critical thinking, research competency, and understanding of their chosen field of study.

8.1.1 Self-reported skill levels from first year to senior year

Seniors who entered as freshmen

Universitywide, Spring 2018



Source: UCUES

The University of California Undergraduate Experience Survey (UCUES), which is conducted every two years, provides a valuable source of information on how UC undergraduates view their educational experience. These indicators also show students' perception of how much they have developed core competencies of student learning. In UCUES, students are asked to reflect on their skill

levels between their freshman and senior years. During this period, UC students self-reported significant improvements in all areas, including reading and comprehension, critical thinking, research competency, understanding international perspectives, and understanding of their chosen field of study.

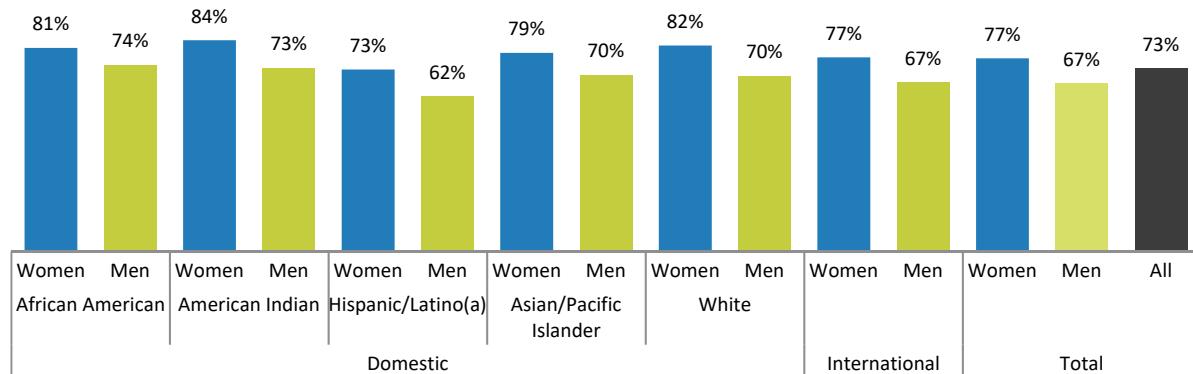
8.1 UNDERGRADUATE STUDENT LEARNING AND ENGAGEMENT

Research participation is high among UC's seniors across racial/ethnic and gender groups. Approximately three-quarters of all students completed research as part of their coursework and over one-third assisted faculty in research.

8.1.2 Students completing a research project or research paper as part of their coursework

Universitywide seniors

Spring 2018

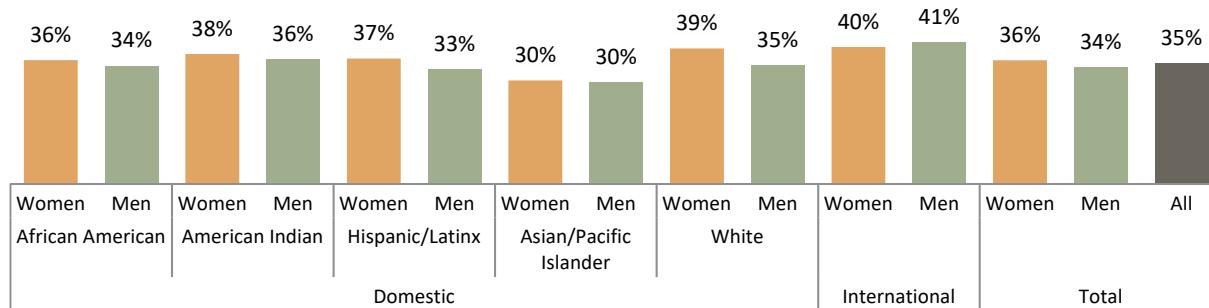


Source: UCUES

8.1.3 Students assisting faculty in conducting research

Universitywide seniors

Spring 2018



Source: UCUES

One of the benefits of attending an academic research university is the opportunity for undergraduates to conduct research, both through class research projects and by assisting faculty with their research. Overall, a high percentage of undergraduates reported that they participated in

research. Women were more likely than men to indicate completing a research project or paper as part of their coursework. However, there was no difference in the proportion of women and men who reported having assisted faculty with research. Both of these findings held across racial/ethnic groups.

8.1 UNDERGRADUATE STUDENT LEARNING AND ENGAGEMENT

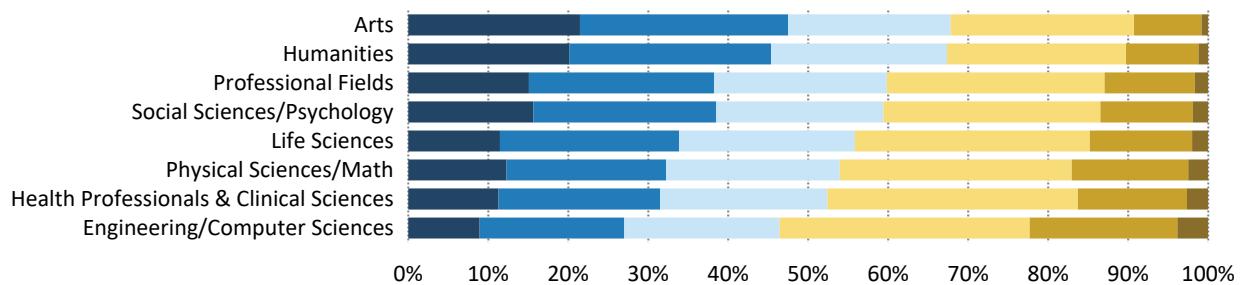
Engagement varies by discipline, with Arts and Humanities showing higher levels of engagement.

8.1.4 Student responses to questions about areas of engagement

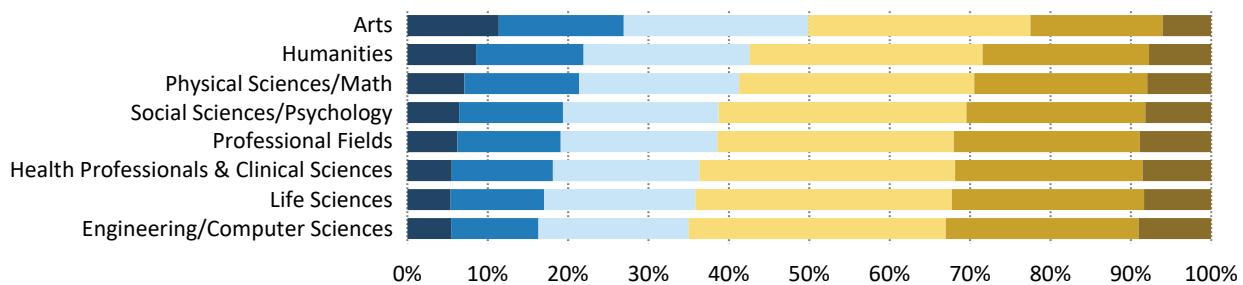
Universitywide

Spring 2018

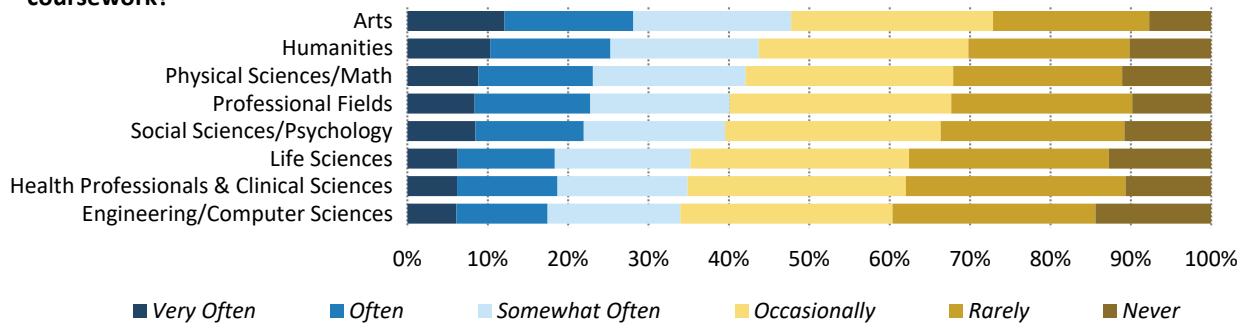
During this academic year, how often have you contributed to a class discussion?



During this academic year, how often have you found a course so interesting that you did more work than was required?



During this academic year, how often have you worked with a faculty member on an activity other than coursework?



■ Very Often ■ Often ■ Somewhat Often ■ Occasionally ■ Rarely ■ Never

Source: UCUES

More than half of students reported that they contributed to class discussions at least somewhat often, and more than one-third at least somewhat often went beyond required coursework in a class

they found interesting. Forty-one percent worked with a faculty member on an activity other than coursework, such as research or creative projects, at least once.

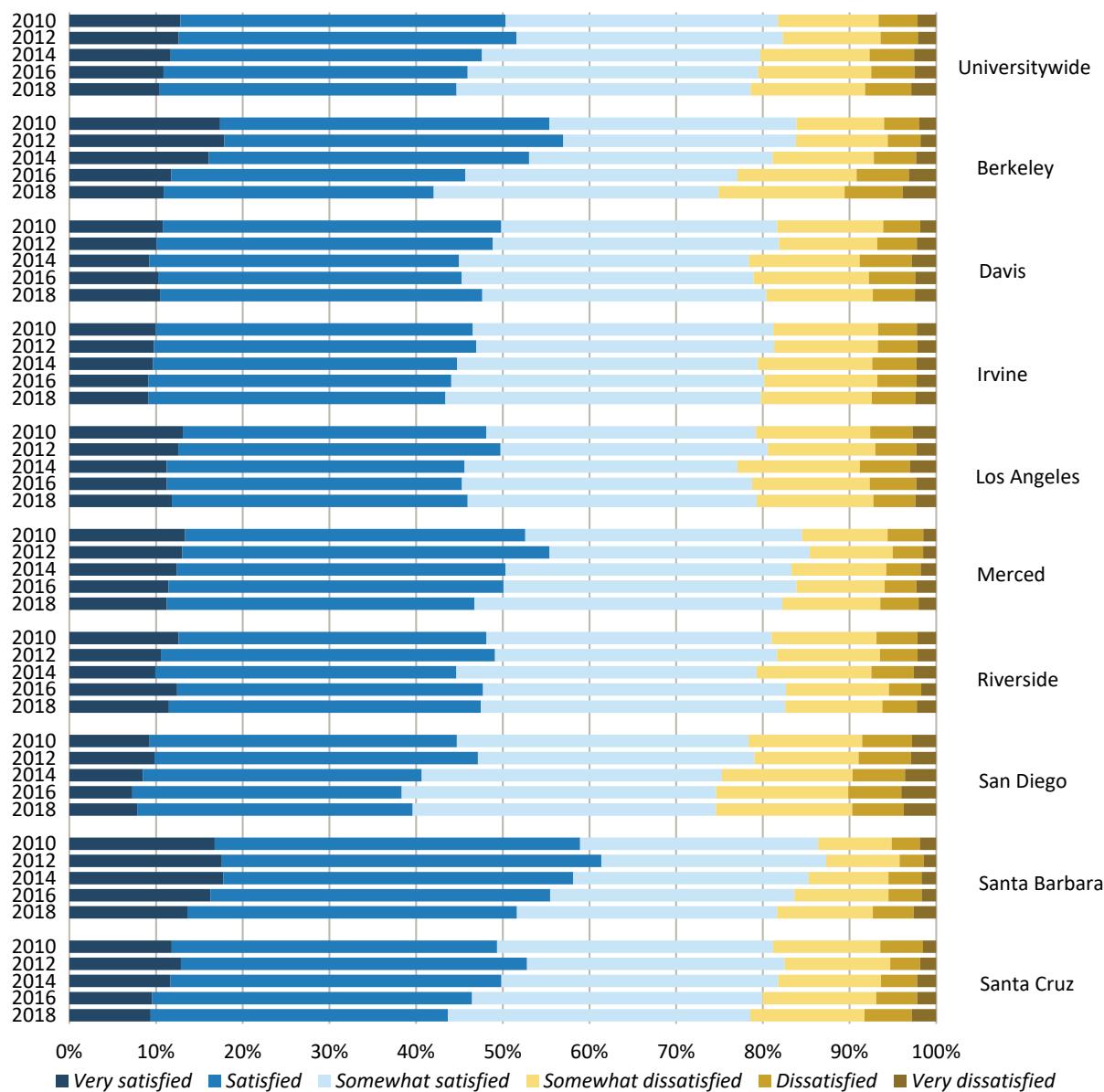
8.1 UNDERGRADUATE STUDENT LEARNING AND ENGAGEMENT

Satisfaction, particularly strong satisfaction, is declining Universitywide.

8.1.5 Student satisfaction with overall academic experience

Universitywide and UC campuses

Spring 2010 to 2018



Source: UCUES. Note that this data includes all UCUES respondents; previous Accountability reports were limited to seniors.

For the UC system overall and for most campuses, the percent of students who were satisfied (somewhat through very satisfied) has remained as high as about 80 percent.

However, student satisfaction dropped slightly since 2012. Specifically, fewer students indicated that they were “satisfied” or “very satisfied” with their overall academic experience.

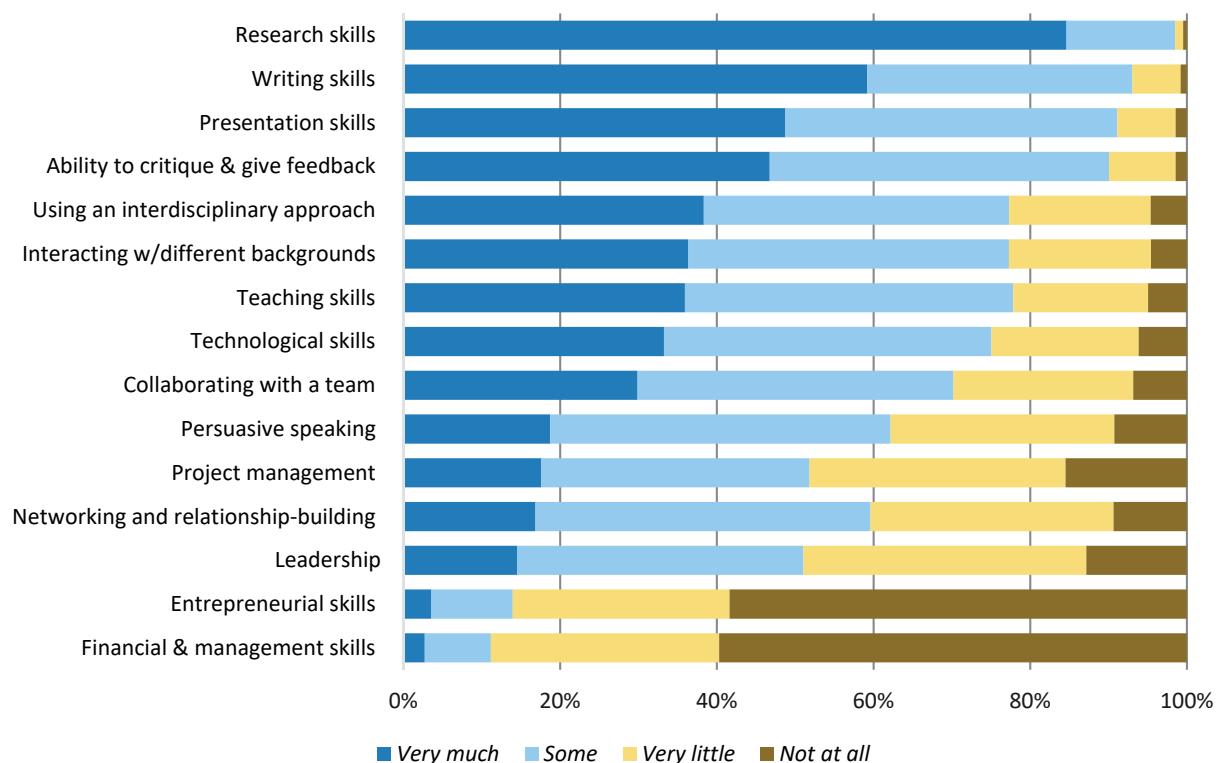
8.2 DOCTORAL STUDENT LEARNING

UC doctoral students credit their doctoral programs with having strengthened multiple skill sets, including research, writing, and presentation skills.

8.2.1 Self-reported skill levels after completion of doctoral program

Universitywide

Spring 2017



Source: UC 2017 Ph.D. Career Pathways Alumni Survey

In 2017, the Ph.D. Career Pathways Alumni Survey was sent to all University of California Ph.D. degree recipients — in all disciplines — who graduated during the 2001–02, 2008–09, and 2013–14 academic years. Similar to UCUES, it is a valuable source of information on how students viewed their educational experience. Among other questions, the survey asked for perceptions on how much students' doctoral programs helped them acquire or develop core competencies of student learning.

Ph.D. degree recipients self-reported learning improvements in multiple areas, including research, writing, presentation skills, and the ability to critique and give feedback. Specifically, graduates pointed to their programs' strength in developing the ability to critically analyze and evaluate findings and research, and to apply research methodologies, tools, and techniques appropriately. They also identified areas for improvement among doctoral programs, such as developing leadership, entrepreneurial, and financial and management skills.

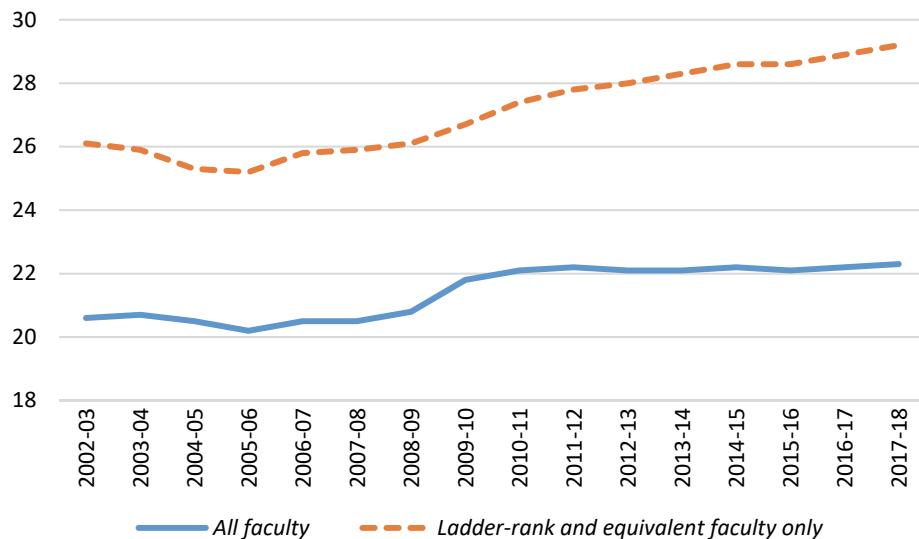
8.3 THE INSTRUCTIONAL WORKFORCE

The student-faculty ratio increased, especially for ladder-rank and equivalent faculty, during periods when faculty hiring did not keep pace with increasing student enrollment.

8.3.1 General campus student-faculty ratio

Universitywide

2002–03 to 2017–18



Source: UC Information Center Data Warehouse

One measure of academic quality is the student-faculty ratio. The student-faculty ratio reflects resources available for instruction and the average availability of faculty members to every student. Thus, lower ratios are preferable for students in terms of focused resources for instruction.

Because the student-faculty ratio varies considerably by degree, major, and instructional level (lower-division, upper-division, and graduate), student experiences will vary as well. Indicator 8.3.3 on student credit hours (SCH) provides additional insight into the student experience.

The student-faculty ratio has increased at various times in the University's history and particularly in the last decade. During the most recent recession, campuses responded to uncertainty in state funding by delaying faculty hiring, or deciding not to fill vacant faculty positions on a permanent basis.

The expanding gap between the student-faculty ratio for all general campuses and the ratio for only ladder-rank and equivalent faculty illustrates the trend of hiring lecturers. Additional data can be found here:

universityofcalifornia.edu/infocenter/student-faculty-ratio

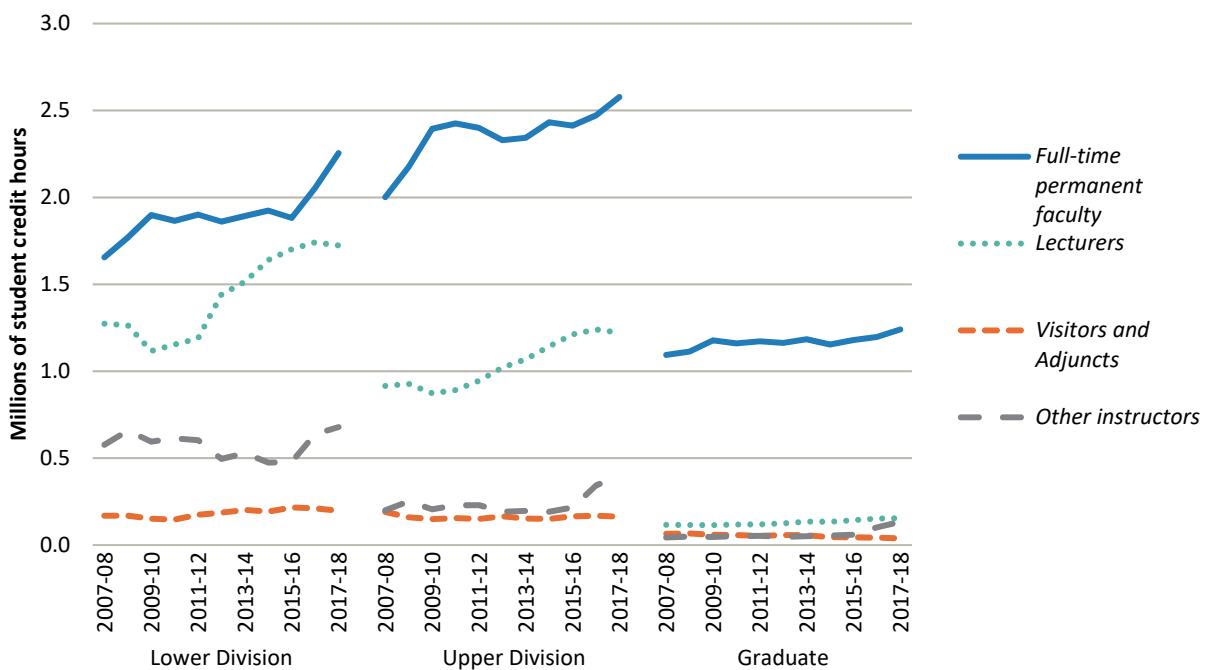
8.3 THE INSTRUCTIONAL WORKFORCE

At the undergraduate level, full-time permanent faculty and lecturers are teaching increasing numbers of student credit hours.

8.3.2 Student credit hours, by instructional staff and class type

Universitywide

2007–08 to 2017–18



Source: UC Faculty Instructional Activities dataset¹

Student credit hours (SCH) represent the number of student enrollments in a course multiplied by the number of credits earned from that course. For example, a four-credit class with 50 students generates 200 SCH; a two-credit class of 15 students generates 30 SCH. This measure gives an indication of the relative teaching load across different types of instructors at different levels of instruction.

Over time, the full-time permanent faculty at UC have increased their teaching load and maintained contact with more undergraduate and graduate students. In 2017–18, full-time permanent faculty taught 200,000 more lower-division SCH than in

2016–17, whereas lecturers taught 18,000 fewer lower-division SCH in 2017–18 compared to 2016–17. Overall, a larger number of student credit hours offered by full-time permanent faculty means students have additional opportunities to be taught by leading scholars.

Lower-division courses such as writing, language, and other required courses are most often taught by lecturers; introductory courses to the major are most often taught by full-time permanent faculty. Upper-division courses, which are core to the student's major, are more likely taught by full-time permanent faculty, as are graduate courses.

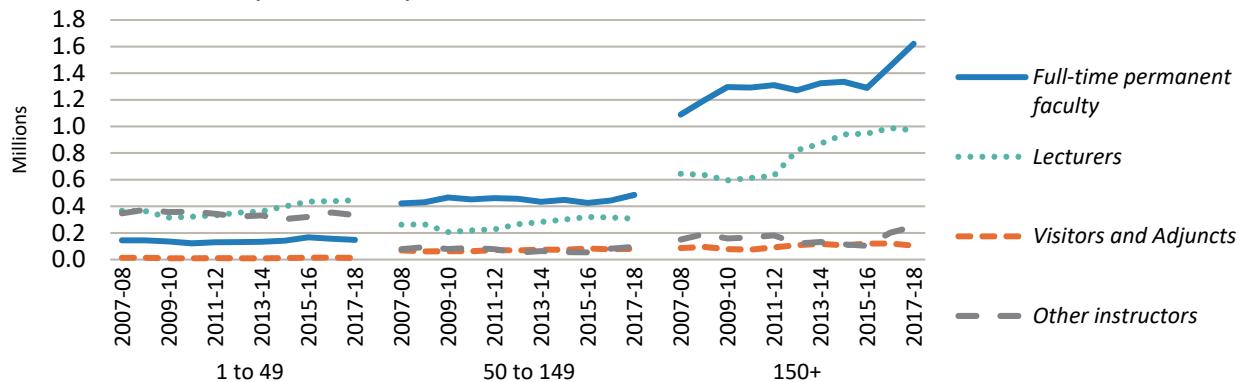
¹ Data are for general campus courses only. These data are submitted annually by UC campuses and contain information on all general campus courses taught in that year.

8.3 THE INSTRUCTIONAL WORKFORCE

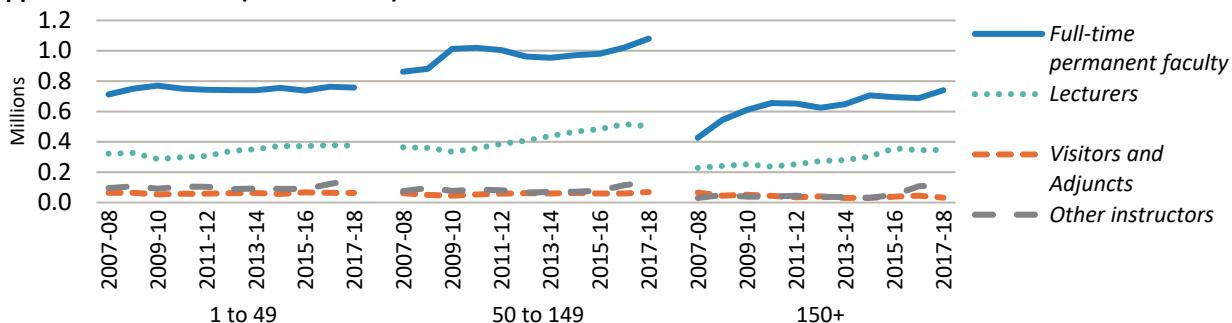
As students enroll in upper-division and graduate classes, they have greater contact with full-time permanent faculty and smaller classes.

8.3.3 Student credit hours, by instructional staff and class type and class size Universitywide 2007–08 to 2017–18

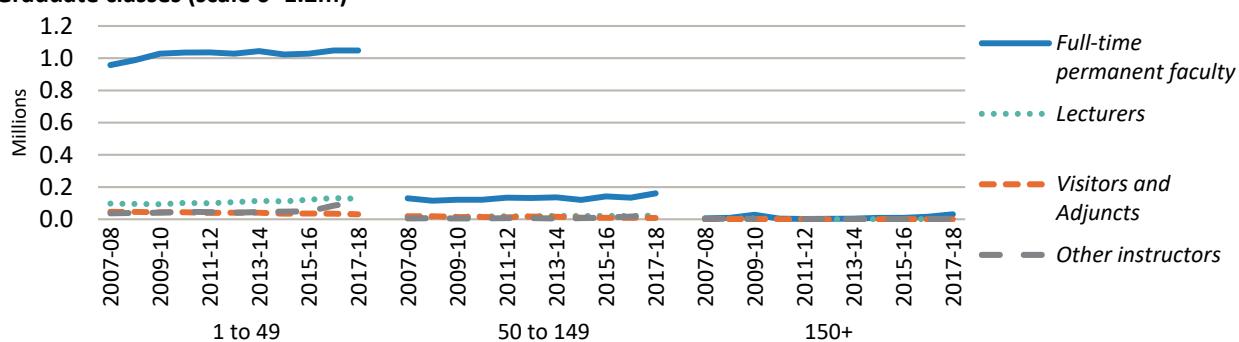
Lower-division classes (scale 0–1.8m)



Upper-division classes (scale 0–1.2m)



Graduate classes (scale 0–1.2m)

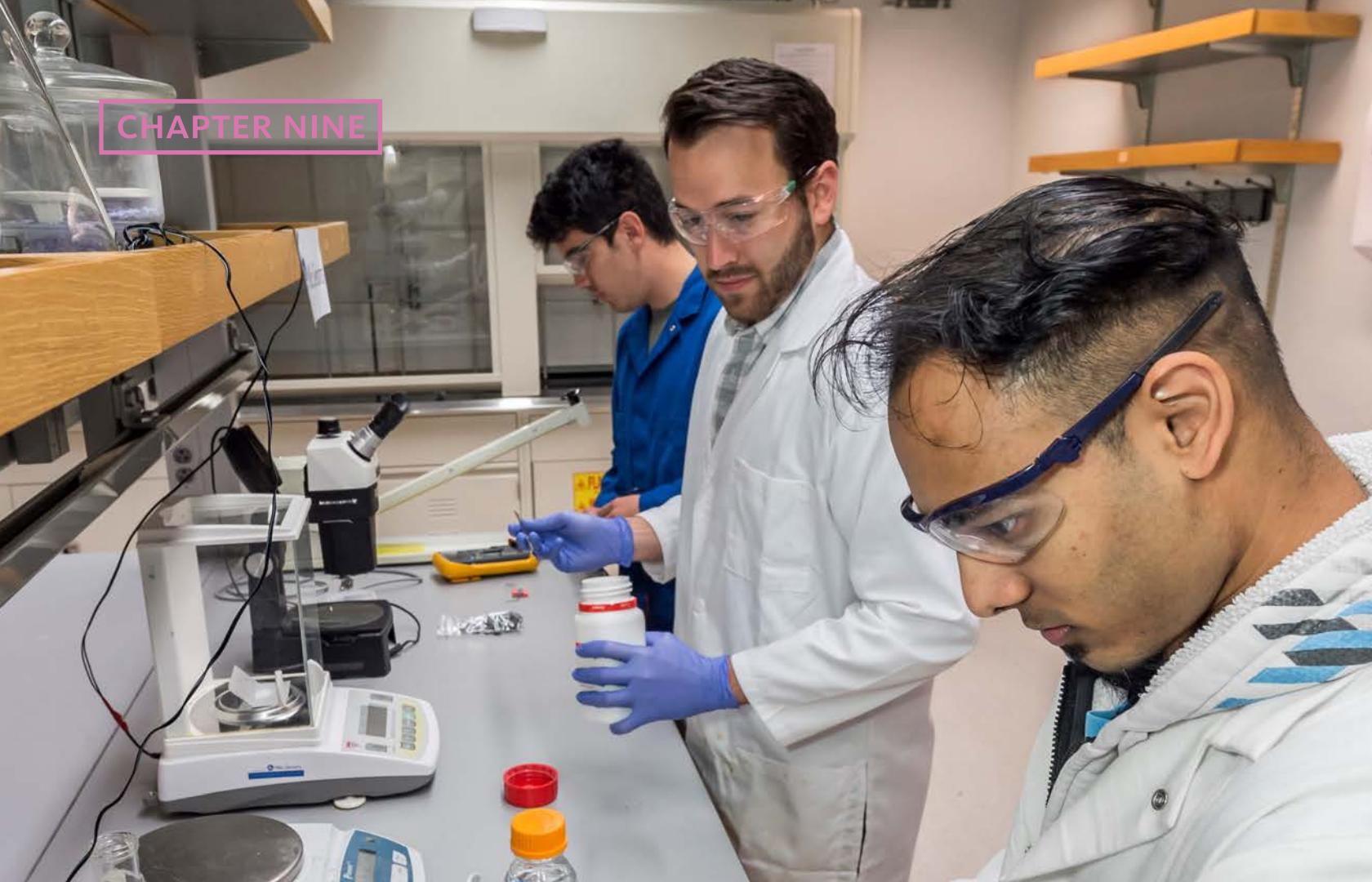


Source: UC Faculty Instructional Activities dataset

In the lower division, full-time permanent faculty generally teach large lecture classes; lecturers generally teach both large sections and smaller classes. In the upper-division, student contact with full-time permanent faculty is fairly evenly distributed across classes of all sizes.

Graduate academic students are almost uniformly taught by full-time permanent faculty in classes with fewer than 50 students. The large enrollment increases in 2016–17 and 2017–18 resulted in a substantial uptick in SCH being offered in large lower-division lecture classes.

CHAPTER NINE



Research

Call it an idea whose time has come: Milo Sensors, a tech startup founded by recent UC Santa Barbara alumni Evan Strenk (B.A.) and Bob Lansdorp (Ph.D.), has evolved from a student-driven, smart business proposal into a burgeoning leader in the next wave of wearable technology.

The brainchild of enterprising science and engineering students, the startup took First Place in the 2018 University of California Startup Showcase sponsored by Silicon Valley-based venture capital firm Vertical Venture Partners.

"We are immensely proud of Milo Sensors' first place win at the UC Startup Showcase — topping a highly competitive selection of companies from across all ten UC campuses," said Tal Margalith, executive director of technology at UC Santa Barbara's California NanoSystems Institute (CNSI), whose unique, wet-lab technology incubator is currently hosting the tech startup. "Their award not only speaks to their strength as a team, but it also showcases how the innovation and entrepreneurship infrastructure at UC Santa Barbara helps nurture, incubate, and launch successful ventures."

Three graduate students who worked on the Milos Project are pictured, left to right: Adam Chinn, William Ramsay, Rashad Hamid.

RESEARCH

The broad scope of UC research

The California Master Plan for Higher Education designates the University of California as the primary state-supported academic agency for research. UC research contributes to the state and to the nation through discoveries that improve health, technology, welfare, and the quality of life. Research represents the creation of new knowledge, which can be communicated, curated, and cultivated to benefit society.

UC has more than 800 research centers, institutes, laboratories, and programs that span ten campuses, five medical centers, three national energy laboratories, and numerous other research facilities.

Breadth of vision has been a virtue of UC's research since the University's founding more than a century and a half ago. All forms of intellectual inquiry are represented in the research enterprise: the architecture of atoms and the structure of the universe; the study of human cognition and the development of machine learning; the study of human pathogens and the creation of disease-resistant crops. The diversity of this vision contributes to society in ways often hard to predict at the outset.

As one example of this vision, UC's Research Grants Program Office (RGPO) oversees a broad grant-making portfolio of approximately \$110 million awarded annually from a variety of sources, with over 500 active research awards that provide first-mover advantage to UC and California investigators. RGPO grants catalyze advances in new areas yet to be supported on a large scale by federal and other sources, and enhance research capacity and excellence across California, thus making it easier to attract and retain outstanding faculty, to further the careers undergraduate, graduate, and postdoctoral researchers, and to promote research collaborations.

Evaluating the research enterprise

This chapter presents a largely quantitative description of UC's research activities. The sources of research funding influence the nature of the research. Federal support initiated UC's research mission and currently provides nearly half of all research funding (9.1.1). Most research funds pay the salaries and benefits of UC's research community, of which faculty are only a small proportion (9.1.2). While UC's research spans many disciplines, medical research is the largest expenditure component, and its share has grown over the last two decades (9.2.1).

UC performs nearly one-tenth of the nation's academic research (9.2.2). Compared to other research universities, UC has a higher rate of research expenditures per ladder-rank faculty (9.2.3), especially at UC campuses with medical schools (9.2.4). Three National Energy Laboratories are affiliated with the University of California, conducting research that is vital to the nation's security and energy future.

This chapter considers the impact of this research on society. One of the goals of research is the dissemination of its findings; the global distribution of downloads from UC's eScholarship repository (9.3.1) indicates how eagerly this knowledge is sought. The frequency with which UC research is cited is another indicator of its quality and importance (9.3.2). UC research advances the economy and technology through licenses and startups resulting from UC's patents (9.3.4, 9.3.5).

These measures, however, do not capture the wide range of curiosity-driven research at UC. Quantitative measures emphasize fields that receive sizable funding and produce large numbers of publications, such as medicine, physical and material sciences, and engineering. These measures underrepresent research achievements in the arts, humanities, social sciences, and theoretical sciences, where work leaves less of a financial footprint, and where results are disseminated in books or performances rather than journal articles.

Quantitative measures cannot capture how UC research contributes indirectly and over time to the state and to the nation through discoveries that improve health, technology, and the quality of life; how involvement in research and hearing about discoveries from the world's foremost researchers enhances the learning experiences of UC's graduate and undergraduate students; or how thoughtful work in the arts and humanities furthers our understanding of ourselves as one species among many on this planet.

The size and scope of UC's research programs

While research expenditures track only some of this activity, they can indicate how research changes in scope and focus over time, and can provide some relative sense of how research institutions compare to one another. During 2017–18, direct expenditures for research at UC totaled nearly \$4.8 billion, with federal funds providing about half. Private sources account for about 21 percent — 14 percent from nonprofit organizations and seven percent from corporate sponsors. About one-quarter represented the University's own funds derived from gifts, endowments, general funds, and other sources. Over half of research expenditures in 2017–18 went to salaries and benefits. Of this, about one-quarter went to faculty; the majority supported staff researchers, and about one-quarter went to students and postdoctoral scholars.

Budgets for externally funded research include both a direct cost component — the actual amount spent on salaries, benefits, equipment, and materials directly linked to the project — plus a percentage to cover the facilities and administration required to support the research project, including debt service, maintenance, and libraries. These facilities and administration costs are called "indirect costs."

In 2017–18, UC's indirect cost recovery was just over \$1.1 billion, with the great majority from research activities. (Other forms of sponsored projects, such as service and training grants, also include indirect cost components.) The true indirect costs of research, however, are typically higher than the rate that research sponsors are willing to pay. Rates negotiated with federal agencies are 18 to 20 percentage points below the true indirect costs. Non-federal research sponsors, including corporations, nonprofits, and the state of California, have policies that limit indirect cost rates to well below federal rates. The true costs of UC research exceed recovered amounts by hundreds of millions of dollars annually.

The research community

Research funds principally pay for people's time. Of the roughly 159,000 full-time equivalent (FTE) employees at the University, nearly 28,000, or about 18 percent, were paid with research funds.

UC's Research Workforce, 2017–18, FTE

| | Postdoctoral Students | Postdoctoral Researchers | Other Staff | Other Academics | Faculty | Total |
|--|--------------------------|-----------------------------|-------------|--------------------|---------|----------|
| | 4,443.4 | 4,682.4 | 11,308.4 | 4,847.6 | 2,694.0 | 27,975.9 |
| | 16% | 17% | 40% | 17% | 10% | 100% |

While faculty serve as Principal Investigators for research projects, submitting proposals and managing the research, they make up only ten percent of the research community, as measured in terms of compensated time. However, this figure, principally representing projects with research grants, underrepresents the time faculty spend on research. Virtually every faculty member at UC engages in research, often involving no expenditures other than the faculty member's time. As in all research universities, career advancement at UC (including tenure),

requires a significant body of scholarly or creative work. The research community includes over 4,600 FTE postdoctoral researchers, representing about 6,500 individuals (many postdocs either teach or are less than full-time). As shown in Indicator 5.1.4 of this report, postdoctoral scholars are most prominent in medical research and life science fields.

Research results — enhancing instruction

UC's research enhances the student experience. Faculty incorporate their research into their courses, providing students with access to insights and discoveries, sometimes before they are published. Postdoctoral scholars, representing one-sixth of the research workforce, contribute to instruction by working with graduate students. Students make up another one-sixth of the research workforce. In 2017–18, about 10,500 students were employed as paid research assistants. Though most are graduate students, UC undergraduate students also participate in research; the 2018 UC Undergraduate Experience Survey found over 40 percent of UC students had been involved in faculty-directed activity other than coursework, such as research or creative projects.

Research results — spurring the economy

Many businesses in California are based on technology developed at UC or rely on the skills of UC graduates. Over the past two decades, UC has secured more licensable patents than any other U.S. research university. Since 1976, over 1,000 startup companies have been founded around UC inventions, with about 85 percent based in California. UC researchers submit nearly five new inventions per day in such diverse areas as agriculture, technology, biotech, and clean energy. The discoveries made through research become public knowledge through publications and the patent process. These innovations enhance industries, stimulate economies, and improve health and well-being.

Research results — communicating and curating knowledge

Publications are perhaps the most visible results of research. Between 2012 and 2018, UC campuses produced about one-twelfth of the nation's research publications. This chapter compares the volume and impact of UC research publications to nationwide averages and to the output of peer AAU institutions.

The books, periodicals, and journals in which research findings are published are costly and beyond the reach of many researchers, students, and journalists. To ensure that research findings become public, UC has adopted Open Access (OA) policies that are the most comprehensive of any academic institution in the United States. All UC employees must now deposit their research papers, upon publication, in the eScholarship repository operated by UC's California Digital Library (CDL) and grant a non-exclusive license to UC to make those materials openly available. CDL is negotiating agreements that reduce or eliminate the costs of publishing OA with publishers, developing models to transition subscription journals to open access, and supporting tools and services to disseminate research.

UC also disseminates its research directly. In 2018, UC celebrated the 125th anniversary of the founding of the UC Press. In 1893, the University's governing board funded a non-profit publishing program, establishing the UC Press. Today, the UC Press is among the six largest university publishers in the United States, and publishes approximately 200 books and 40 multi-issue journals annually. Of the nation's top university presses, UC press is the only one associated with a public university.

Research results — improving health

Clinical research projects are another example of cultivating new knowledge to benefit society. During 2017–18, UC received more than 1,500 new grants for clinical trial research projects in addition to the 3,300 already

underway. These projects represent a crucial stage in the journey from a scientific discovery to an effective treatment. Of the research dollars that came to UC from businesses during 2017–18, 52 percent was directed toward clinical trials.

[Research results — assessing climate change and charting the energy future](#)

UC is a national and global leader in research on climate science, including monitoring atmospheric changes and global temperature rise, as well as assessing the impacts of climate change on marine and land-based ecosystems and the built environment. UC scholars and students carry out some of these studies at UC's 39 Natural Reserve System (NRS) sites around California. Most of UC's climate science work is funded by federal agencies. Each year, the University, together with the UC-affiliated Lawrence Berkeley and Lawrence Livermore National Laboratories, receives an average of \$218 million in federal funding to pursue climate research.

[UC National Laboratories – science in the national interest](#)

The three University of California-affiliated National Laboratories — Lawrence Berkeley (LBNL), Lawrence Livermore (LLNL), and Los Alamos (LANL) — are among the nation's premiere multi-disciplinary research and development (R&D) laboratories for energy and national security. The University has played a public service role as a manager of these three Department of Energy (DOE) National Laboratories, with annual budgets of over \$5 billion and a combined workforce of more than 22,000. The Laboratories also support UC's educational mission. At LBNL, 23 percent of employees are student assistants, graduate research assistants, or postdoctoral scholars. At LLNL, four percent of the workforce are postdocs, and at LANL, 13 percent are postdocs or student assistants.

[Looking forward – uncertainties in federal research funding](#)

With federal funding supporting about half of UC's research, the vitality of UC's research enterprise is dependent on agencies whose funding is reviewed annually. The fiscal year 2018 budget, passed in March 2018, increased support for academic research. In contrast, the President's Budget Proposal would have drastically reduced all agency appropriations for research, including a cut of over 21 percent at the National Institutes of Health, UC's largest single source of research funding. The 2019 federal government shutdown signaled further conflict over federal appropriations. Long-term prospects for federal research sponsorship, particularly for climate and environmental science, but including fundamental medical research, are uncertain.

Whatever changes in priorities are embodied in the federal budget, one certainty is that federal funding is becoming increasingly competitive. At the National Institutes of Health, only one proposal is funded for every five received, compared to about 32 percent fifteen years ago, even though total appropriations for research have increased. UC is competitive in garnering these awards, but this comes at a cost. The administrative effort of drafting, reviewing, submitting, and tracking proposals is one of the less-visible costs of conducting research — costs that are not fully recovered from federal sponsors.

[For more information](#)

UC's Budget for Current Operations 2018-19:
ucop.edu/operating-budget/_files/rbudget/2018-19budgetforcurrentoperations.pdf

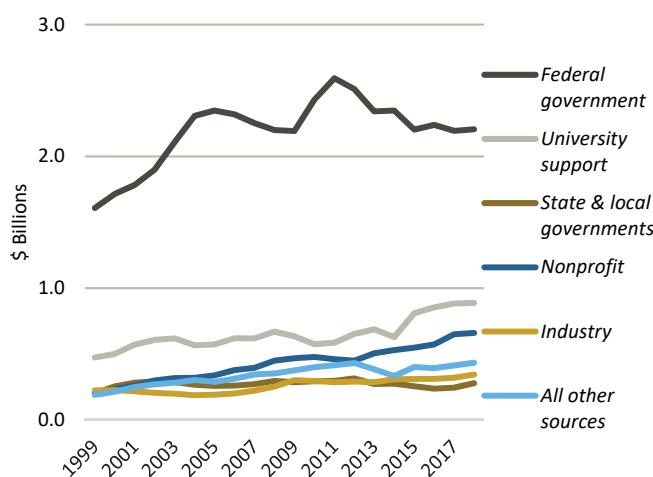
UCOP office of Research and Graduate Studies: ucop.edu/research-graduate-studies

A map of the economic impact of UC research activity in California: ucop.edu/institutional-research-academic-planning/_files/UC-research-impacts-in-california.pdf

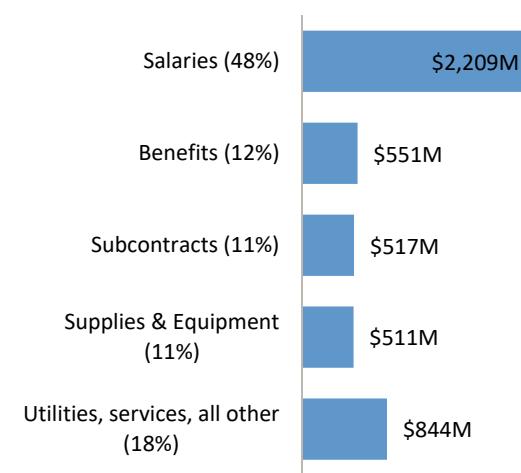
9.1 RESEARCH EXPENDITURES

Federal funds support most of the research conducted at UC. Salaries and benefits represent more than half of all research expenditures.

9.1.1 Direct research expenditures by source
Universitywide
1997–98 to 2017–18



9.1.2 Total research expenditures by category
Universitywide
2017–18



Source: UC Corporate Financial System. Direct amounts have been adjusted for inflation and do not include accrual funds for postemployment retirement benefits or indirect cost recovery funds.

UC's direct research expenditures during 2017–18 were about \$4.8 billion. Of this, 46 percent came directly from federal agencies. This is the same percentage as last year, lower than any other time in the previous 16 years. A further seven percent represents federal flow-through funds that came to UC from the state, corporations, nonprofit organizations, or other universities. About three-quarters of UC's federal research support was provided by the National Institutes of Health and the National Science Foundation. Fluctuations in federal appropriations impact UC's research. Cutbacks at federal agencies starting in 2006 ended a long period of growth. This was temporarily reversed during 2009–10 by the American Recovery and Reinvestment Act, which provided over \$1 billion in research funds to UC.

University support accounted for almost 20 percent of 2017–18 research expenditures. These funds

include UC and state general funds, endowment income, and gifts. When over \$1 billion in recovered indirect costs are included, UC's 2017–18 research expenditures amounted to nearly \$6 billion, representing almost one-fifth of UC's total expenditures.

The majority of research expenditures pay for the salaries and benefits of UC's research workforce. Over one-fifth of research salaries went to faculty, while nearly one-quarter went to non-faculty academic researchers.

Research salary distribution (\$ millions)

| | | |
|--------------------------|--------------|-------------|
| Faculty | 491 | 22% |
| Academic researchers | 541 | 24% |
| Other staff | 656 | 30% |
| Postdoctoral researchers | 283 | 13% |
| Students | 238 | 11% |
| Total | 2,209 | 100% |

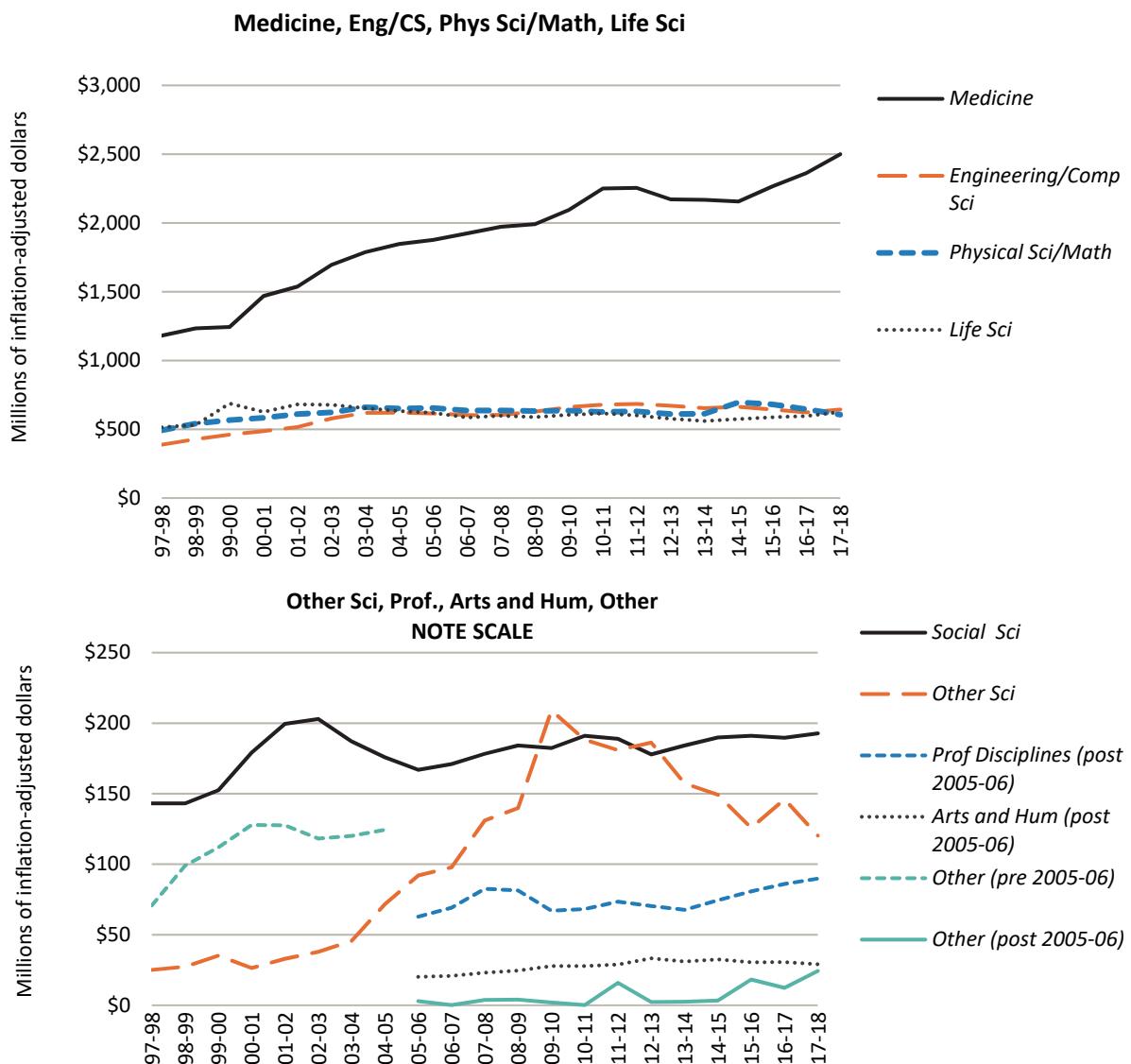
9.1 RESEARCH EXPENDITURES

Inflation-adjusted expenditures for research since 1997–98.

9.1.3 Direct research expenditures by discipline

Universitywide

1997–98 to 2017–18



Prior to 2005–06, “Other” included professional and arts and humanities. Source: UC Corporate Financial System

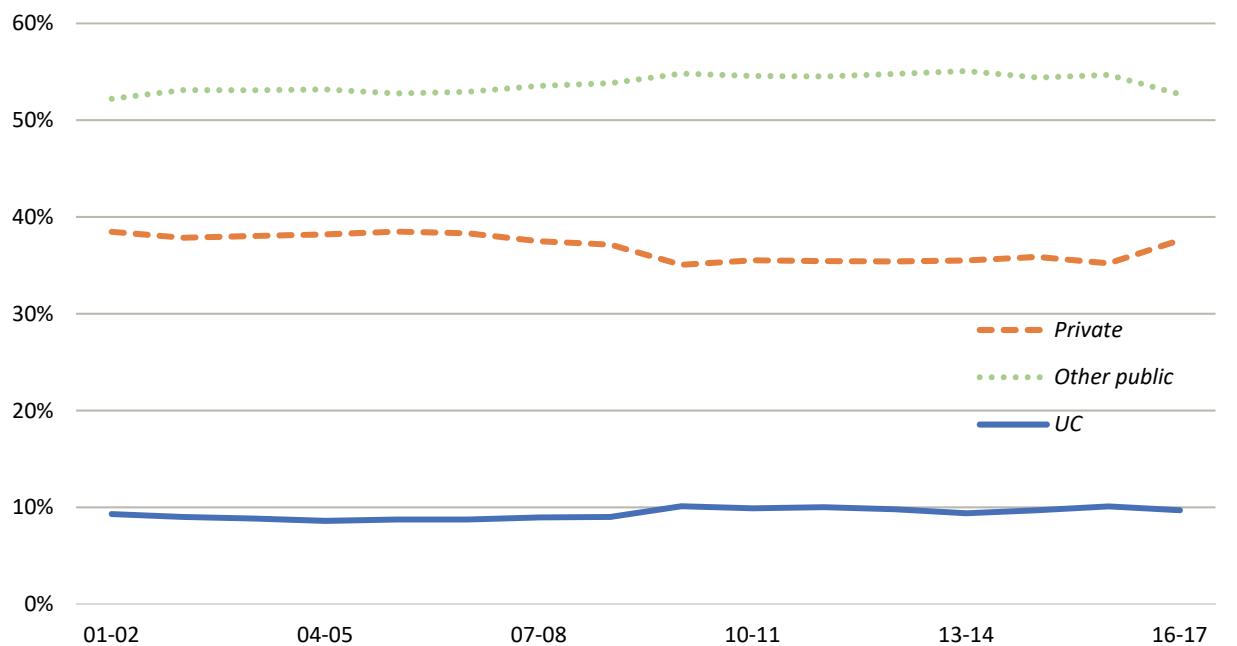
Research expenditures in all STEM (science, technology, engineering, and mathematics) and medical fields represented over 90 percent of total research expenditures each year during the past decade. This reflects the availability of funding and parallels the nationwide pattern.

Measures based on expenditures substantially underrepresent research activity in the arts and humanities, social sciences, and professional disciplines, which make important contributions to scholarship and the quality of life, yet have relatively little access to external funding.

9.1 RESEARCH EXPENDITURES

The University of California performs nearly one-tenth of all the academic research and development conducted in the United States.

9.1.4 UC share of US research expenditures
Universitywide
2001–02 to 2016–17



Source: IPEDS

Universities have been responsible for much of the innovative research activity that has led to the nation's global leadership in science, technology, and the arts and humanities. The scale of the US academic research enterprise has expanded greatly in recent years, increasing from about \$38 billion at the turn of the millennium to over \$58 billion in 2016–17, in current dollars. More than half of the nation's funding for research comes from the federal government.

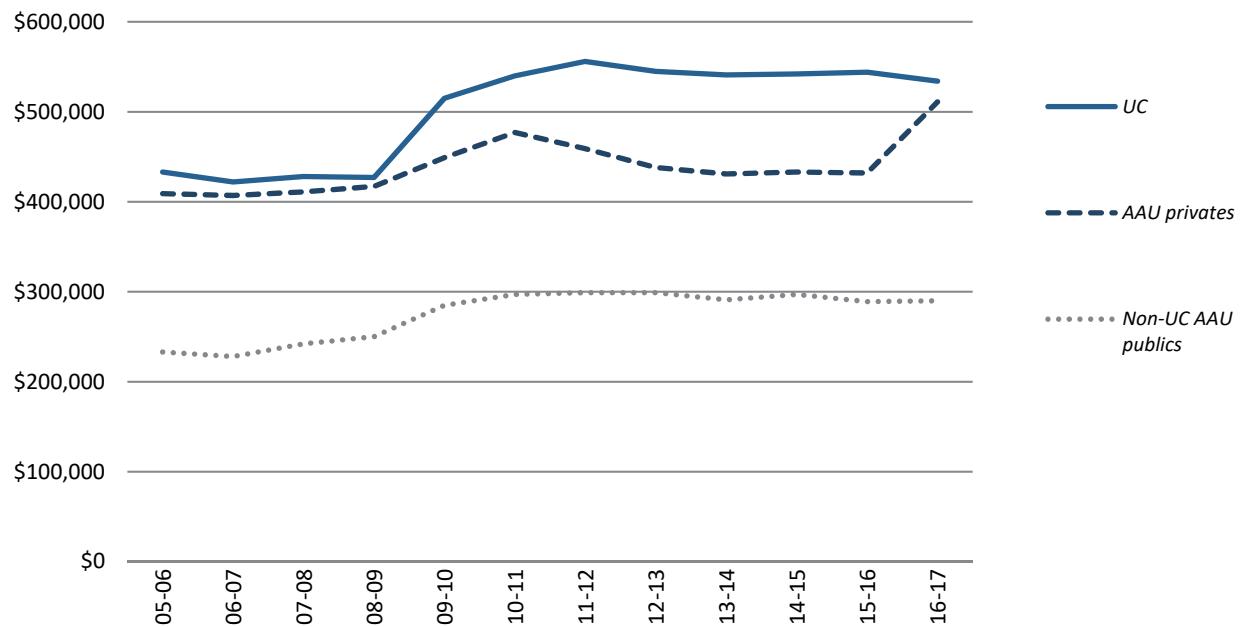
The University of California is the world's largest academic research system, and over the last decade has consistently performed between nine and ten percent of the academic research and development activity in the United States.

This reflects both UC's continuing competitiveness in securing federal awards and UC's ongoing successful relationships with the private sector. UC is the largest single recipient of funding from the two federal agencies principally responsible for academic research: the National Institutes of Health and the National Science Foundation. UC generally receives five to six percent of NIH's annual appropriations for research and seven to eight percent of NSF's annual research appropriations.

9.1 RESEARCH EXPENDITURES

Average research expenditures per ladder-rank faculty are higher at UC than its comparison peers.

**9.1.5 Average inflation-adjusted research expenditures per ladder-rank faculty
UC and AAU comparison universities
2005–06 to 2016–17**



Source: IPEDS

UC faculty are extremely successful at attracting research support from both government and private sponsors. On average, UC annually spends \$534,000 in externally sourced research funding per tenured and tenure-track faculty member, which surpasses the average of \$511,000 per faculty member for Association of American Universities (AAU) private institutions, and \$290,000 for AAU public institutions.

The largest single source of research sponsorship is the National Institutes of Health, and campuses with medical schools and hospitals are in the best position to compete for these funds. UC's second-largest source of research support is the National Science Foundation.

| UC Location | Research expenditures per ladder-rank faculty |
|--------------------|--|
| San Francisco* | \$3,591,000 |
| San Diego | \$709,000 |
| UC AVERAGE | \$534,000 |
| Los Angeles | \$528,000 |
| Berkeley | \$496,000 |
| Davis | \$437,000 |
| Irvine | \$289,000 |
| Santa Barbara | \$256,000 |
| Santa Cruz | \$214,000 |
| Riverside | \$197,000 |
| Merced | \$184,000 |

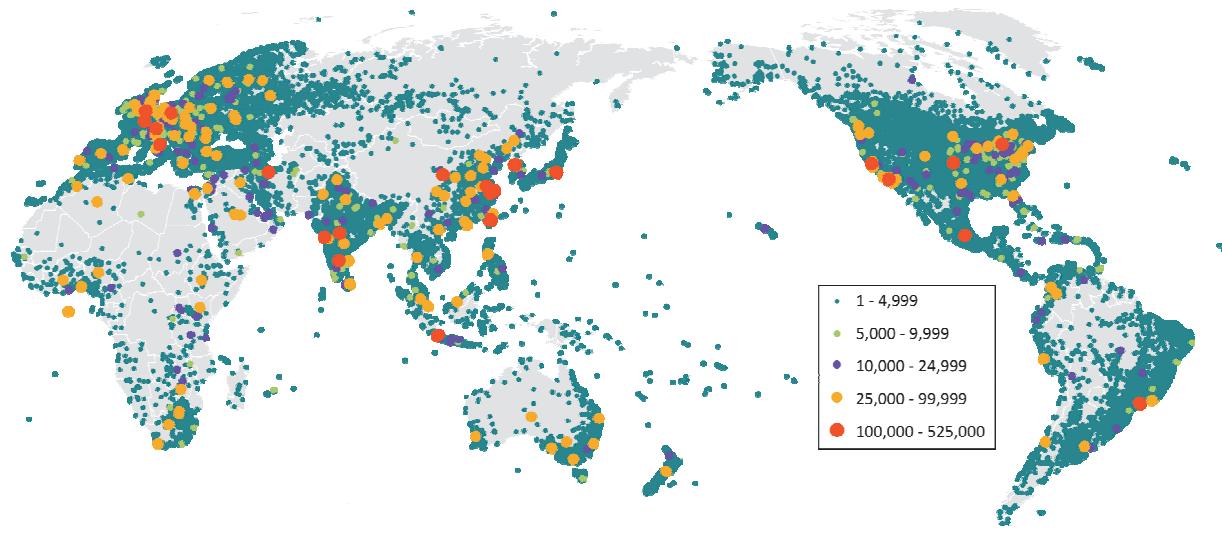
*UC San Francisco is an exclusively health sciences campus, where many non-ladder rank (clinical) faculty also conduct significant research.

UC's Open Access policies continue to add to a growing body of freely available research publications in eScholarship, UC's open-access repository and publishing platform, expanding the global reach of UC's research findings.

9.2.1 eScholarship downloads of UC scholarly materials

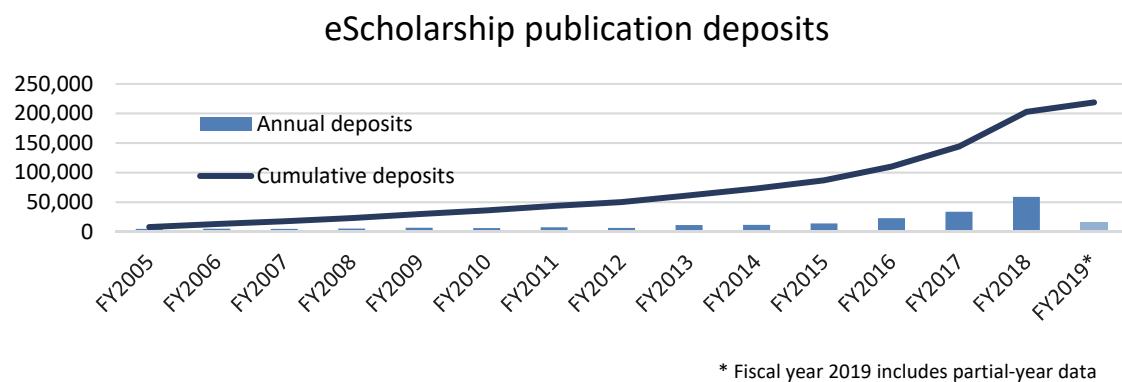
Universitywide

Through March 2019



This map shows the geographic distribution and concentration of views for scholarly materials deposited in eScholarship, UC's open access (OA) publishing platform and repository managed by the California Digital Library. Since 2002, UC-sponsored research in eScholarship has been viewed and/or downloaded over 54 million times by readers around the world. The repository contains over 220,000 individual items, including many articles, research reports, working papers, and the 80-plus OA journals that are published on the platform.

Deposits to eScholarship have increased substantially since the adoption of the UC Academic Senate's Open Access Policy in 2013, with faculty submitting over 13,000 articles under the policy in 2017–18 alone. The success of this policy has also helped encourage the depositing of almost 30,000 additional scholarly materials (pre-policy publications, electronic theses and dissertations, working papers, etc.) in that same period, making even more UC scholarship publicly accessible to the world.



9.2 RESEARCH IMPACT

The University of California is a major research presence at both the state and national levels, producing nearly ten percent of the nation's research publications.

- 9.2.2** UC research publication performance, by Field-Weighted Citation Impact (FWCI) and discipline group
Universitywide
2012 to 2018



Source: SciVal® database, Elsevier B.V., scival.com (downloaded January 28, 2019)

As a premier research university, UC creates and disseminates new knowledge. From intellectual exploration in the classroom, studio, field, and laboratory to pushing research findings out into the world through academic journals and other venues, the publication of UC's research findings creates an ever-growing foundation for scientific discovery and social impact.

Publication databases can be analyzed to develop measures of the output and impact of UC researchers. Elsevier's SciVal® tool can establish quantitative metrics to assess the University's research performance. SciVal's data analytics capabilities are built on Elsevier's Scopus® database, which contains 48 million publication records from over 22,000 journals and 5,000 publishers worldwide. It provides metrics and data

visualizations of the University's research publications, citations, and usage data, enabling the University to identify research strengths, benchmark progress over time, and analyze opportunities for collaboration both across UC and with other institutions throughout the world.

The quality and impact of UC research publications can be characterized by a metric called the Field-Weighted Citation Impact (FWCI), which takes into account the differences in research publication practices across disciplines and normalizes publication impact against a global baseline. The FWCI can be used to benchmark the impact of individual or groups of publications regardless of differences in publication length, discipline, age, and type. In any given disciplinary area, the global average FWCI is arbitrarily taken to be equal to 1.00; publications with FWCI greater than 1.00 have been cited more frequently than would be expected based

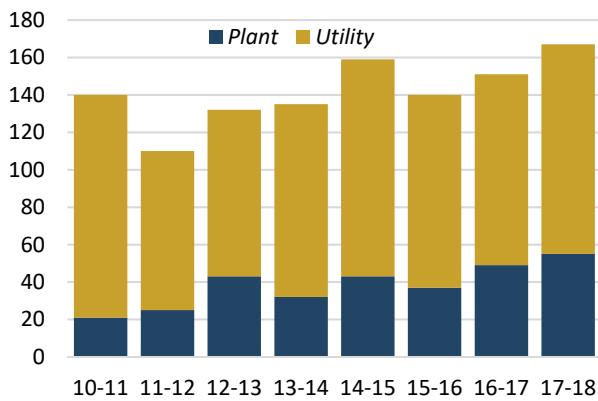
on the world average for similar publications, while publications with FWCI less than 1.00 have been cited less than would be expected based on the world average for similar publications. UC's average FWCI across the nearly 330,000 publications produced by its research workforce between 2012–18 is 2.01, or more than twice the global average.

UC's publication impact is particularly high in the fields of arts and humanities, economics, computer science, engineering, and medicine. Additionally, UC's multidisciplinary publications have a relatively high FWCI of 2.82, which indicates that UC research is at the forefront of discovery in emerging fields involving multiple traditional disciplines.

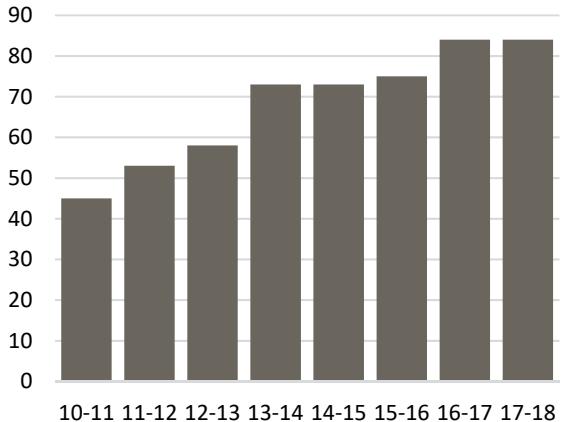
9.2 RESEARCH IMPACT

Licenses issued in California contribute to successful businesses. The number of active plant and utility licenses in California is growing.

- 9.2.3** New licenses for UC technology issued to California businesses
2010–11 through 2017–18



- 9.2.4** Startups based on UC technology formed per year in California
2010–11 through 2017–18



Source: UC Office of Innovation & Entrepreneurship

Research is part of UC's mission, and much of this research is basic, foundational research. Some UC research leads directly to new inventions and innovations; bringing them to the marketplace is part of UC's public service mission. Innovations from UC take two paths to the marketplace: they may be licensed to an existing company or they may become the cornerstone of a new startup. Both can ultimately benefit the economy.

University inventions are classified as utility licenses or plant licenses. Utility licenses cover inventions protected by utility patents, such as processes, machines, manufactured items, or compositions of matter. Utility licenses are often issued exclusively to the licensee. Plant licenses cover plant varietals and are often licensed via nonexclusive licenses to nurseries and distribution centers. From the high-tech centers of San Diego and Silicon Valley to the agriculture of the Central Valley, UC technology is licensed throughout California. As of 2018, UC's license portfolio in California included 1,460 utility and plant licenses to 655 separate companies.

UC technology licenses active in California, 2018

| | Utility | Plant | Total |
|---------------------|---------|-------|-------|
| Active licenses | 867 | 593 | 1,460 |
| Number of licensees | 515 | 140 | 655 |

UC startups are independently operating companies that were formed to commercialize a UC technology. By the end of fiscal year 2018, 84 startups based on UC technology were formed.

CHAPTER TEN



Public Service

Isaí Ambrosio, the program director of the Davenport Resource Service Center (DRSC), has been named the inaugural activist-in-residence of UC Santa Cruz's Research Center for the Americas (RCA).

"For me, activism is about being proactive," said Ambrosio. "Here in Davenport, we have to be proactive. We have to go out and talk to people."

The residency is the brainchild of RCA Director Sylvanna Falcón, an associate professor of Latin American and Latino studies, who envisions it as a way to forge stronger ties between the University and the community.

"We were looking for people with demonstrated leadership in nonprofit and community-serving organizations, and Isaí really stood out to the selection committee," she said.

"He has made a deep personal and professional commitment to social change and social justice in North County. He will be a great partner and looks forward to meeting with students, faculty, and staff."

PUBLIC SERVICE

Part of the UC mission

Along with teaching and research, UC contributes to the well-being of the state's population and economic growth through its public service efforts. UC's impact goes well beyond its on-campus activities. UC has a significant presence in nearly every community throughout California.

Educational outreach forms a crucial part of UC's service to the state, including a network of world-class museums, libraries, herbaria, and other facilities open to the public for shared learning. Every UC campus administers hundreds or thousands of community-based programs across a range of foci, from community and social services to teacher professional development and K-12 student services.

The University exhibits a steadfast commitment to public service in part through support of sustainable agriculture, environmental stewardship, healthy families, and education. The Division of Agriculture and Natural Resources (ANR), the UC Natural Reserve System, the community-based programs of the Division of Diversity and Engagement, and all ten campuses are highlighted in this chapter.

UC Agriculture and Natural Resources

UC's land-grant history

The Morrill Land-Grant Acts emphasized that the role of the University is to develop "useful and practical information ... and to promote scientific investigations and experiments." The Acts created a federal-state partnership for agricultural research and technology transfer. The University of California was chartered as California's land-grant university. Subsequently, the Hatch Act of 1887 established state agricultural experiment stations. In 1914, the Smith-Lever Act established Cooperative Extension (CE) services to extend university research through outreach and education. UC's Division of Agriculture and Natural Resources is UC's land-grant arm. State legislation incorporated county governments to become the third legal partner, such that today, UC ANR represents a three-way partnership with federal, state, and county governments.

UC ANR personnel and programs deliver resources from the UC system to Californians — even if there is no campus nearby. UC ANR forms teams, across UC and beyond, to develop innovative, multidisciplinary, science-based solutions to complex issues. CE is also the education and outreach arm, serving all 58 California counties by bringing UC research to local communities. UC ANR's mission is to engage UC with the people of California to achieve innovation in research and education that supports:

- sustainable, safe, and nutritious food production and delivery
- economic success in a global economy
- a sustainable, healthy, and productive environment
- science literacy and youth development programs

UC ANR statewide network

UC ANR operates a statewide network of researchers and educators dedicated to the development and application of knowledge to address local agricultural, environmental, and health issues. This network of local Cooperative Extension (CE) sites and Research and Extension Centers (RECs) is often the face of the University to Californians to those with no other connection to the University. In 2018, 175 Cooperative Extension Advisors were conducting research, outreach, and education from local CE offices. Nine statewide RECs provide education for the public and

places for researchers to conduct field experiments. Approximately 565 affiliated Agricultural Experiment Station (AES) researchers are located at three campuses, and 115 CE Specialists are located at five campuses, RECs, and county offices. UC ANR maintains and enhances connections that engage UC with the people of California through more than 3,000 local partnership programs (10.1.1).

In 2018, AES and CE published over 1,700 peer-reviewed publications and 340 popular articles, and developed 18 patents. CE programs, including volunteers, had close to 770,000 educational exchanges with adults and youth statewide. CE educators and volunteers disseminated science-based information through over 45,000 community-based short courses, classes, workshops, demonstrations, and field days across the state.

CE academics conducted over 680 media programs and interviews. For example, CE provided objective information on biotechnology for the documentary film *Food Evolution*. There have been more than 740 screenings at venues around the world to a variety of audiences, including the National Academies of Science and the Food and Agricultural Organization of the United Nations. The film has garnered critical acclaim from the New York Times, Los Angeles Times, and Forbes.

UC ANR also provided science-based information to policy and decision makers through 685 policy engagement activities. For example, academic expertise about the current status and considerations for testing lead in drinking water informed the passage of California legislation (AB 2370), which will require lead testing in childcare facilities and allocate state budget funds for implementation and remediation of any lead contamination.

UC ANR's statewide California Naturalist Program promotes stewardship of the state's natural resources through education and service. The program develops the curriculum, trains partner organizations, and ensures quality through monitoring and evaluation. Since its inception in 2012, the program has worked with over 45 partner organizations and certified over 2,700 graduates as California Naturalists, who volunteer in support of conservation and restoration efforts on over 700,000 acres.

UC ANR's UC Master Gardener Program extends to the public research-based information about food gardening and sustainable landscaping, including green waste reduction, pest management, water conservation, and pollinator-friendly gardens. There are over 6,000 UC Master Gardener volunteers in 50 California counties. In 2018, they donated over 530,000 public service hours with an estimated value of \$15.6 million. Participants reported adopting and improving gardening practices that protect natural resources and promote healthy people and communities. For example, they improved over two million square feet of pollinator gardens and habitat, which increases yields in home food gardens and supports local agricultural productivity.

UC ANR's statewide 4-H Youth Development Program uses a positive youth development framework and promotes experiential, inquiry-based science learning. UC 4-H annually engages over 140,000 youth aged 5–19 to help them reach their full potential through working and learning in partnership with over 14,000 caring adult volunteers. Over the past three years, overall enrollment has increased 77 percent and enrollment of Latino(a) participants has increased 161 percent. 4-H youth report many benefits, including 88 percent who have developed science skills and abilities, and 83 percent who have participated in a community service project. The California Juntos 4-H Program bridges the gap between high school and higher education for Latino(a) youth. At the end of a three-day Academy focused on science, technology, engineering, and mathematics (STEM) education and careers, 95 percent of the Latino(a) participants indicated they are planning to attend college, compared to 45 percent on the first day. The 4-H program had the largest growth in STEM projects, with almost 170,000 youth projects on robotics, rocketry, environmental science, agri-science, biotechnology, and computer science. The 4-H STEM programs instill curiosity, critical thinking, and scientific literacy — skills needed in tomorrow's science leaders and workforce. Seventy-two percent of the 4-H youth in grades 8–12 want a job that involves science.

UC ANR manages two statewide nutrition education programs: the California Expanded Food and Nutrition Program (EFNEP) in 24 counties and the UC CalFresh Program in 31 counties. EFNEP delivers research-based nutrition education to limited-resource families with young children to improve healthy lifestyle choices. In 2018, EFNEP reached over 51,000 adults and youth. Evaluations of adult participants indicate 95 percent improved at least one diet quality practice, and 83 percent improved one or more food safety skills. The UC CalFresh Program involves the USDA, California Department of Social Services, and UC Cooperative Extension. The program serves persons eligible for the federal Supplemental Nutrition Assistance Program (SNAP-Ed). In 2018, in-person education was provided to 110,000 participants. Evaluation findings showed individuals' gains in healthy eating behaviors, and organizations reported policy, system, or environmental improvements, such as in school lunchrooms, farm-to-school programs, and school gardens.

The scope of UC ANR impact

California is a national and global leader in food production and agricultural exports, which are affected by social, regulatory, economic, and environmental challenges. Despite the state's robust agricultural sector, one out of every eight Californians does not know where their next meal will come from. UC ANR lives and works in communities, conducting research and communicating findings through demonstrations and educational programs to improve food quality, quantity, safety, and access. As a result, growers increased yields while reducing inputs, improving efficiency and profitability, and contributing to the state's economic prosperity. In addition, UC ANR participants demonstrated learning and behavior changes related to food resource management and informed food policies, which can lead to increased access to affordable, safe, and healthy food.

The state's natural resources face threats from climate change, urban sprawl, air and water pollution, and invasive species. Rangelands and forests are experiencing the effects of wildfires and droughts. UC ANR translates research into actionable management strategies to protect the environment and increase the long-term viability of farming, ranching, and forestry in California, and to help communities deal with growing risks from fires and droughts. As a result of UC ANR outreach and education, landowners adopted recommended practices for grazing and rangeland management, water conservation and preserving water quality, and sustainable use of forest and wildland resources. In response to the state's past two years of catastrophic wildfires, UC ANR conducted fire hazard research, some of which was incorporated into CAL FIRE's protocol. Outreach and education on fire resiliency has been used in community planning and policies. In this way, program outcomes contribute to increased ecological sustainability and help California realize the many benefits of the state's rich and diverse natural resources.

California's rapid population growth increases pressure on community resources, presenting challenges to health and safety. UC ANR produces tools, programs, and policy-relevant research that result in healthy living for individuals and communities. Program participants adopted healthy lifestyle practices and communities gained improved access to green spaces and healthy foods. In addition, UC ANR childcare research findings informed nutrition policy at both federal and state levels, and resulted in revisions to the federal Child and Adult Care Food Program nutrition standards. Benefits also include safe drinking water, clean air, and reduced exposure to pesticides. Collectively, these efforts contribute to a healthier California, improving public health and reducing healthcare costs.

UC Natural Reserve System

The UC Natural Reserve System (NRS) is a network of protected natural areas throughout California. These lands are managed for research, teaching, and public service, and are a major component of UC's environmental stewardship. Its 41 reserves, covering more than 756,000 acres, make it the largest university-administered reserve system in the world (10.2.1).

As one of four trustee agencies recognized under the California Environmental Quality Act, the University of California holds reserve natural resources in trust for the people of the State of California. Reserve managers protect endangered plants and animals, restore native habitats, and control invasive species. Reserves also serve the public by holding lecture series, guided hikes, and other community events; lending scientific expertise to conservation initiatives; and hosting tens of thousands of California schoolchildren on field trips.

Most major state ecosystems are represented in the NRS, from coastal tidepools to inland deserts, oak savannas to offshore islands, and wetlands to Sierra Nevada forests. Reserves also serve as gateways to more than one million acres of public lands. NRS reserves include lands purchased by the University, donated by private landowners, and made available to the reserve system via partnerships with state and national parks, land trusts, and government agencies. Reserve amenities such as classrooms, lodging, laboratories, and internet access attract tens of thousands of users each year. These include researchers, students taking university courses, schoolchildren, and the general public. Those who seek to understand the workings of natural California come to the NRS to take classes, develop field skills, and conduct research.

More than 150 undergraduate courses across the UC system include visits to NRS reserves each year. Topics of study range from botany to zoology, archaeology to environmental planning, public health to the performing and visual arts. Scientists flock to reserves because reserve lands are protected in perpetuity. They feel comfortable launching long-term studies within reserve boundaries. Work at reserves produced more than 2,900 peer-reviewed papers, book chapters, and books between 2010 and 2018.

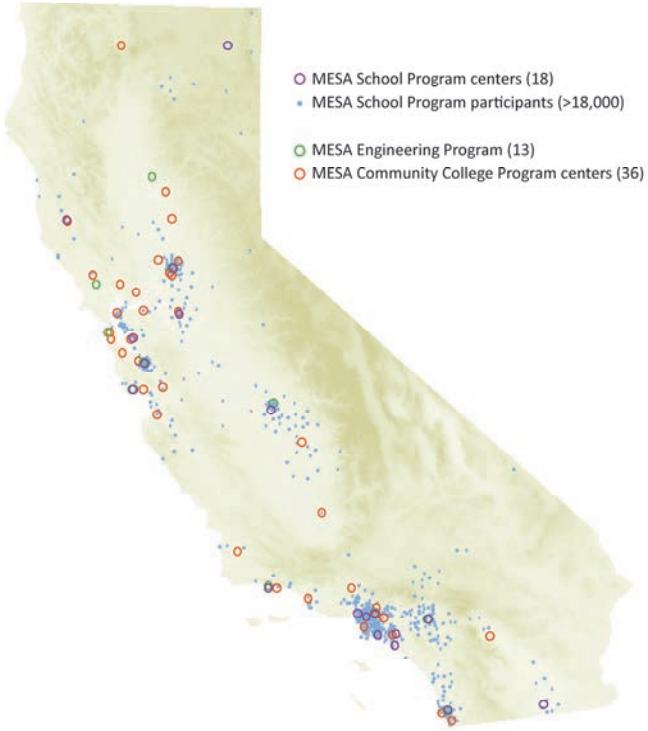
In 2019, Point Reyes Field Station and Lassen Field Station joined the NRS as partnership reserves, which are jointly managed with the National Park Service at Point Reyes National Seashore and Lassen Volcanic National Park, respectively.

More than fifty years after its inception, the need for the NRS has never been greater. Climate change, pollution, extinctions, and invasive species are fraying the fabric upon which life on Earth depends. By supporting university-level teaching, research and public service, the NRS contributes to the understanding and wise stewardship of the Earth.

Educational partnerships

For nearly 50 years, the University of California's Student Academic Preparation and Educational Partnerships (SAPEP) programs have helped prepare California students for higher education (10.3.1). Program activities are centered on student academic preparation, community college articulation support, school and community partnerships, and online and technology-assisted services. SAPEP programs served nearly 180,000 K–12 students at more than 1,400 public schools and more than 27,000 students at all 114 California community colleges in 2017–18.

The goal is to promote achievement by supporting academic preparation and college readiness. Programs include the Early Academic Outreach Program (EAOP), which focuses on “a–g” course completion (a prerequisite for admission to UC and CSU); K–20 Regional Intersegmental Alliances (aka P–20), creating ties between campuses, schools, local communities, and business organizations; The Puente Project, focusing on college-preparatory English skill development; Transfer Prep, focusing on community college transfer support; and Mathematics, Engineering, Science Achievement (MESA), focusing on STEM (science, technology, engineering, and mathematics) skills development.



colleges, serving around 4,000 students annually. These centers provide academic excellence workshops, orientation courses, academic advising, and counseling activities to help community college students transfer to a four-year university in a timely manner.

The MESA Engineering Program (MEP) operates 13 centers located in public (UC and CSU) and private universities across the state. Serving about 3,000 students annually, these centers assist college students in attaining four-year degrees in engineering and computer science by providing tutoring and academic skills workshops. In partnership with local industry leaders, MEP centers also provide career and professional development opportunities for students. In addition to the activities UC undertakes to strengthen K–12 and community college students academically, UC plays an important role in preparing California’s teacher workforce. UC’s Teacher Education Programs prepare teacher candidates to engage students in rigorous, relevant, and inquiry-based educational experiences. Located at eight UC campuses, Teacher Education Programs recruit, prepare, and support educators who are committed to academic excellence, equity, and integrity, and to cultivating the highest levels of achievement and opportunity for all students.

UC also provides ongoing support to educators already in the workforce through professional development programs. For example, the California Subject Matter Project (CSMP) is a network of nine discipline-based statewide projects, providing more than 2,000 professional development events for educators at more than 10,000 schools each year. CSMP professional learning opportunities are aligned with state-adopted standards and are collaboratively designed by K–12 and university educators to enhance learning for all students (10.3.2).

The Mathematics, Engineering, Science Achievement (MESA) program integrates UC’s core missions of teaching and public service by focusing on the academic preparation of students at K–12 schools, community colleges and four-year universities. Through its three components — the MESA Schools Program (MSP), the MESA Community College Program (MCCP), and the MESA Engineering Program (MEP) — MESA serves more than 25,000 California students annually.

MESA Schools Program (MSP) centers are housed in 18 locations and serve more than 18,000 students at about 400 K–12 schools. Centers offer classes that reinforce math and science content standards. MESA activities include workshops aimed at strengthening study skills and monitoring progress.

The MESA Community College Program (MCCP) manages 36 centers at community

Social and economic impact

Including the programs of ANR, the Natural Reserve System, and UC's educational partnerships mentioned above, the University of California administers more than 20,000 community-based programs across the state. Because the well-being of every California citizen and community is important, all campuses sponsor and manage programs far from their locations. For example, UC San Diego, near the southern border of California, runs clinical internship sites in Crescent City and other communities near the northern border of California; UC Davis, in the Central Valley, runs the Oiled Wildlife Care Network in Morro Beach on the central coast; and UC Santa Barbara, on the California Coast runs the Outdoor Science Education Program in several locations on the east side of the Sierra Nevada range. All of UC's community-based programs may be discovered and explored at: ucal.us/maps.

UC's social impact

Through community and social services programs and cultural resources and arts programs, UC administers internship and field study programs that connect students and alumni with their communities; volunteer centers working on issues such as domestic violence, fair housing advocacy, and employment training; arts education and outreach programs that teach art, dance, drama, music, and digital arts in the community (10.4.1).

UC's economic impact

Through business and economic development programs and public policy programs, UC facilitates internships offered in partnership with local companies, where students gain both UC credits and professional experience. Other programs bring local high-tech and green-tech companies together with motivated individuals to foster student participation in community economic development (10.4.1).

As California's economy becomes increasingly dependent on highly educated workers, the role of the University of California in training the state's future workforce becomes more vital. Industries relying on skilled workers in the STEM fields represent a major component of California's economy. UC awards half of the state's bachelor's degrees in STEM fields.

More than 1.2 million UC alumni live and work in California (10.4.2). They are leaders, volunteers, and contributors to the vitality of its communities, businesses, and culture. UC's operations also add significantly to the state's economy. With approximately 210,000 employees, UC is California's third-largest employer (10.4.3). With expenditures of about \$29.5 billion, much in the form of salaries, wages, and benefits, UC annually generates more than \$46 billion in economic activity in California. UC contributes more than \$32 billion to the gross state product and attracts over \$8 billion in annual funding from outside the state. True to its land-grant mission, the UC system touches many aspects of life in California. The UC public service mission has evolved in tandem with the changing needs of our state and local communities, and has developed programs and partnerships that improve the lives of all Californians.

For more information

UC in California interactive map, includes California counties, regions, campuses, UC system, and California elected representative districts: ucal.us/maps

Division of Agriculture and Natural Resources: ucanr.edu

Natural Reserve System: ucnrs.org

MESA Programs: mesa.ucop.edu

CalTeach: calteach.universityofcalifornia.edu

Early Academic Outreach Program (EAOP): eaop.org

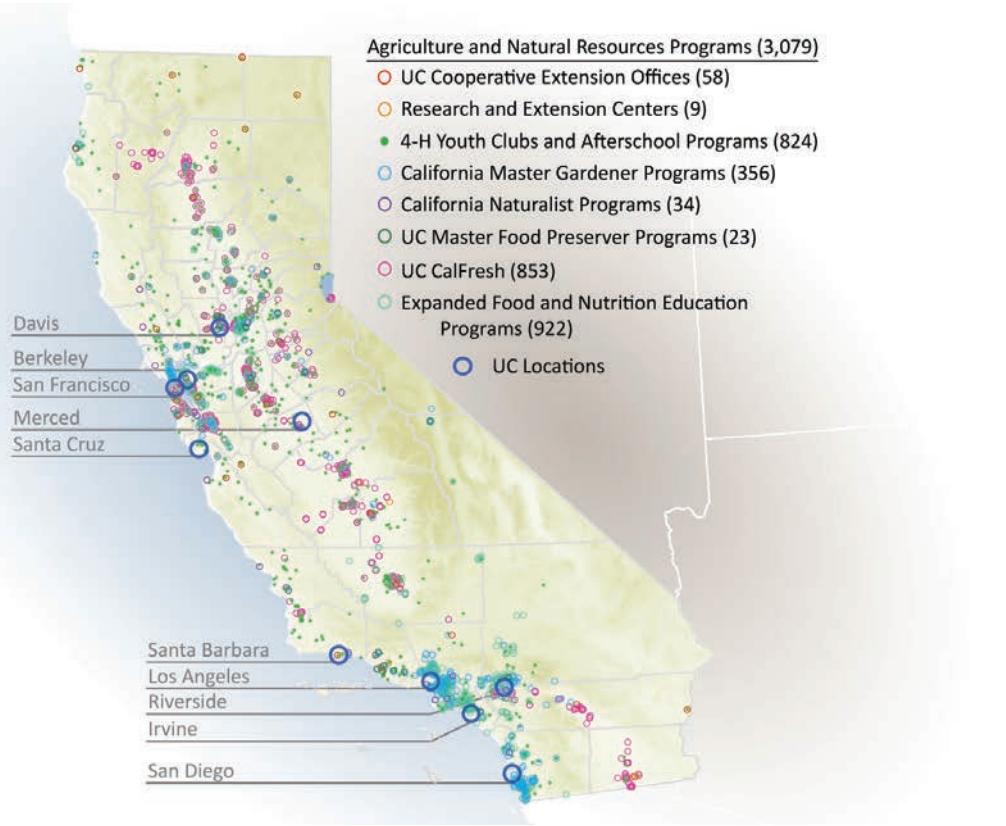
The Puente Project: puente.berkeley.edu

California Subject Matter Project: csmp.ucop.edu

10.1 AGRICULTURE AND NATURAL RESOURCES

UC's Division of Agriculture and Natural Resources brings the power of UC research and education to local communities across California.

10.1.1 UC Division of Agriculture and Natural Resources programs



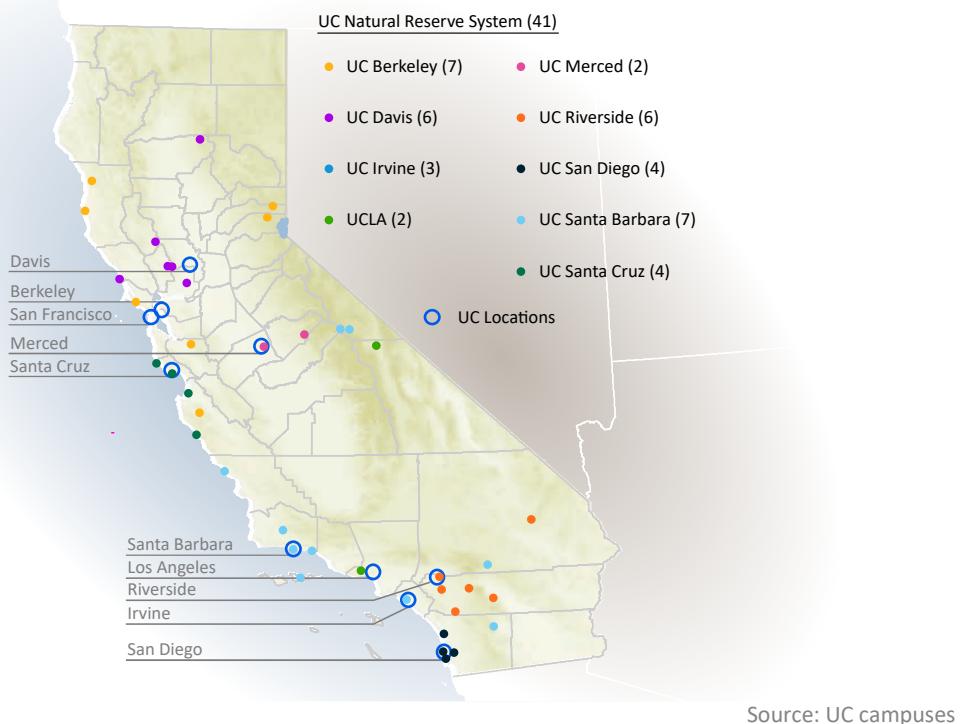
Source: UC campuses

UC's land-grant arm, Agriculture and Natural Resources (ANR), operates several of California's most important agriculture and nutrition awareness and education programs, including Cooperative Extension, Research and Extension Centers, the 4-H youth development statewide program, the California Master Gardener program, the California Naturalist program, the UC Master Food Preservers program, UC CalFresh, and Expanded Food and Nutrition Education programs.

10.2 NATURAL RESERVE SYSTEM

The UC Natural Reserve System covers more than 750,000 acres and represents most of California's major ecosystems.

10.2.1 UC Natural Reserve System



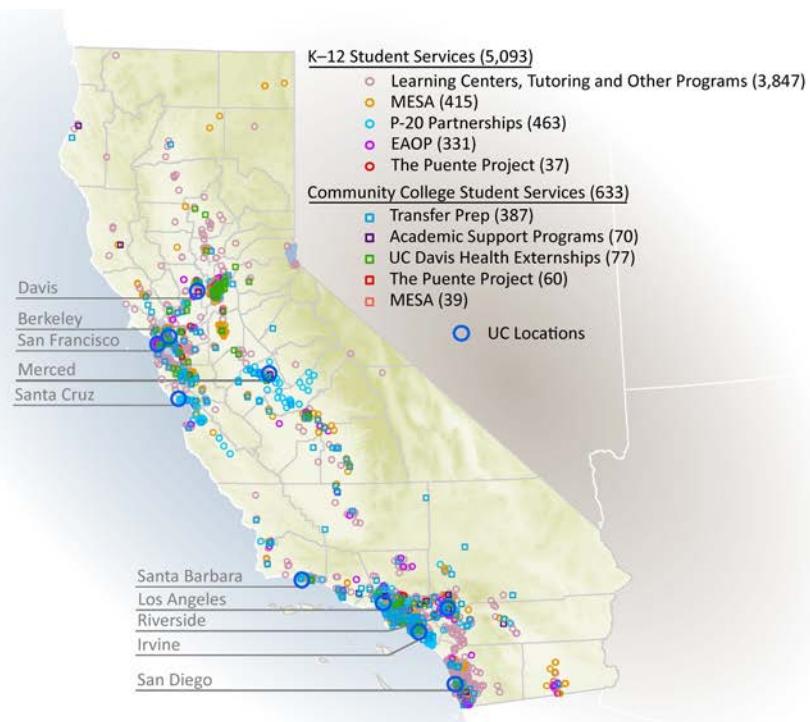
As a major component of UC's environmental stewardship role, the UC Natural Reserve System (NRS) manages a network of protected natural areas throughout California. Its 41 sites include more than 756,000 acres, making it the largest university-administered reserve system in the world.

These lands provide undisturbed environments to conduct research, enhance student educational experiences, and provide sites for public service programs. In 2019, Point Reyes Field Station and Lassen Field Station joined the NRS as partnership reserves, which are jointly managed with the National Park Service at Point Reyes National Seashore and Lassen Volcanic National Park, respectively.

10.3 EDUCATIONAL PARTNERSHIPS

UC programs improve academic skills of K–12 and community college students across California.

10.3.1 UC K–12 and community college student services programs



Source: UC campuses

Student Academic Preparation and Educational Partnerships (SAPEP) programs such as the Early Academic Outreach Program (EAOP), Mathematics, Engineering, Science Achievement (MESA) and The Puente Project are designed to increase completion of college preparatory (“a–g”) courses, support enrollment directly from high school into four-year institutions, and support preparedness to transfer from community colleges to four-year institutions.

Students who participate in SAPEP programs are more likely to complete “a–g” courses (79 percent of SAPEP participants in AY2017–18 vs. 47 percent of

California public high school graduates¹) and attend California public two- and four-year universities (64 percent of SAPEP participants in AY2017–18 vs. 41 percent of California public high school graduates²).

In 2017–18, SAPEP programs served nearly 180,000 K–12 students at more than 1,400 public schools, and over 27,000 community college students at all 114 community colleges. In addition, over 53,000 parents/guardians of K–12 students and nearly 10,000 teachers, counselors and school administrators also participated in SAPEP programs.

¹ Comparison data are for the Class of 2017, the most recent year available from the California Department of Education's DataQuest (see dq.cde.ca.gov/dataquest/).

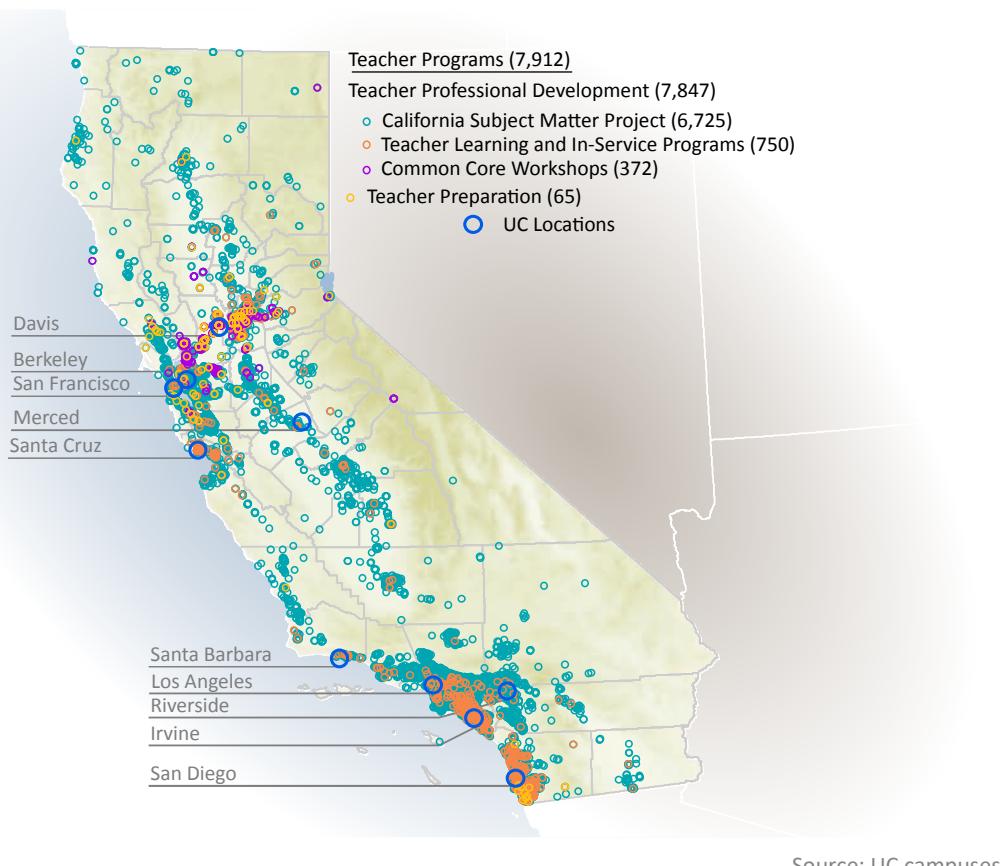
² Comparison data are for fall 2009 enrollments by the Class of 2009, the most recent year available from the

California Postsecondary Education Commission's study of statewide college-going within California (see cpec.ca.gov/StudentData/CACGRCounty.asp).

10.3 EDUCATIONAL PARTNERSHIPS

UC helps prepare California's teacher workforce and strengthens the skills of teachers throughout their careers.

10.3.2 UC teacher professional development and teacher preparation programs



Source: UC campuses

The University of California plays an important role in preparing teachers for their careers and providing them professional development. UC manages more than 7,800 teacher professional development programs and 65 teacher preparation programs.

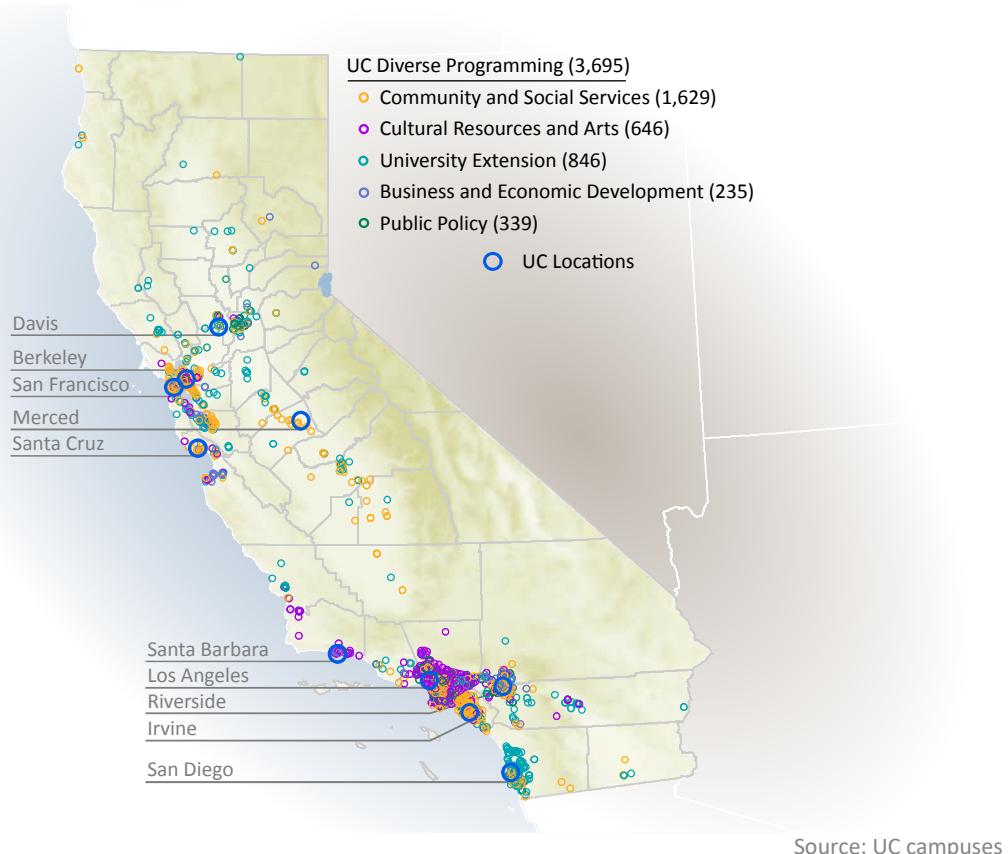
The California Subject Matter Project, for example, creates sustainable teacher learning communities throughout California. Its network of nine discipline-based projects supports professional development to improve instructional practices and student achievement.

Teacher professional development activities include teacher workshops related to Common Core State Standards, writing, mathematics, and in-service teacher training.

Teacher preparation programs include CalTeach, a component of the Science and Mathematics Initiative (SMI). Through this program, UC recruits and prepares its undergraduates majoring in mathematics and science for teaching careers, and provides special coursework and field experiences in K-12 schools. Since its inception in 2005, CalTeach has served more than 15,000 UC undergraduates, many of them now credentialed STEM educators in California public schools.

UC is involved in communities across California through a wide range of local-level service programs.

10.4.1 UC programs for community and social services, cultural resources and arts, university extension, business and economic development, and public policy



Source: UC campuses

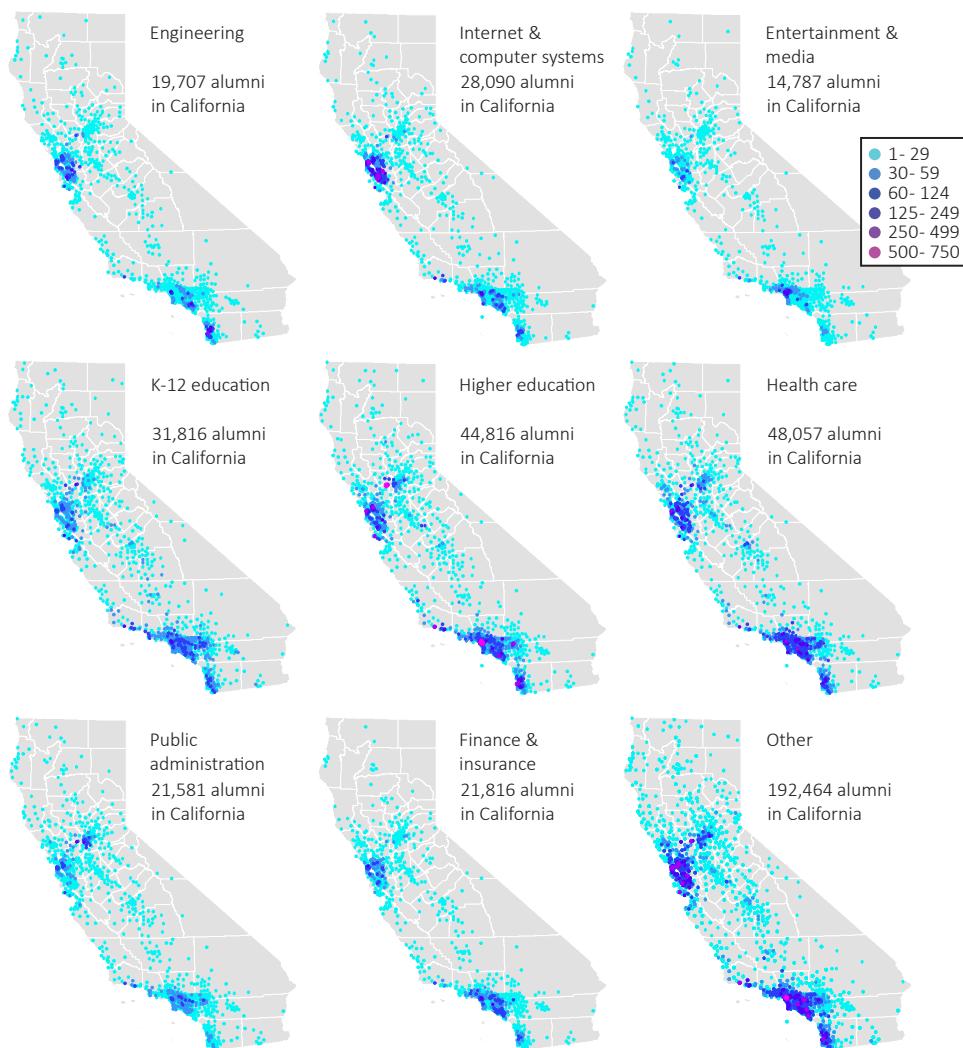
UC administers around 1,630 programs providing community and social services throughout the state, and about 650 arts education and outreach programs that expose students and community members to art and culture through performing arts, theater, cultural events, and other activities. The University operates 235 business-related programs statewide.

Serving about 500,000 course registrants, almost 850 UC University Extension programs offering some 17,000 different courses encourage lifelong learning for all Californians. Additionally, nearly 340 public policy programs engage the community and raise awareness of public policy issues.

10.4 SOCIAL AND ECONOMIC IMPACT

Of UC's more than two million living alumni, many reside within California.

10.4.2 Location and industry of employment of UC alumni since 2000, in California Fall 2015



Source: UC campuses, EDD; Other includes industries such as retail & wholesale, manufacturing, transportation, construction, legal services, and others.

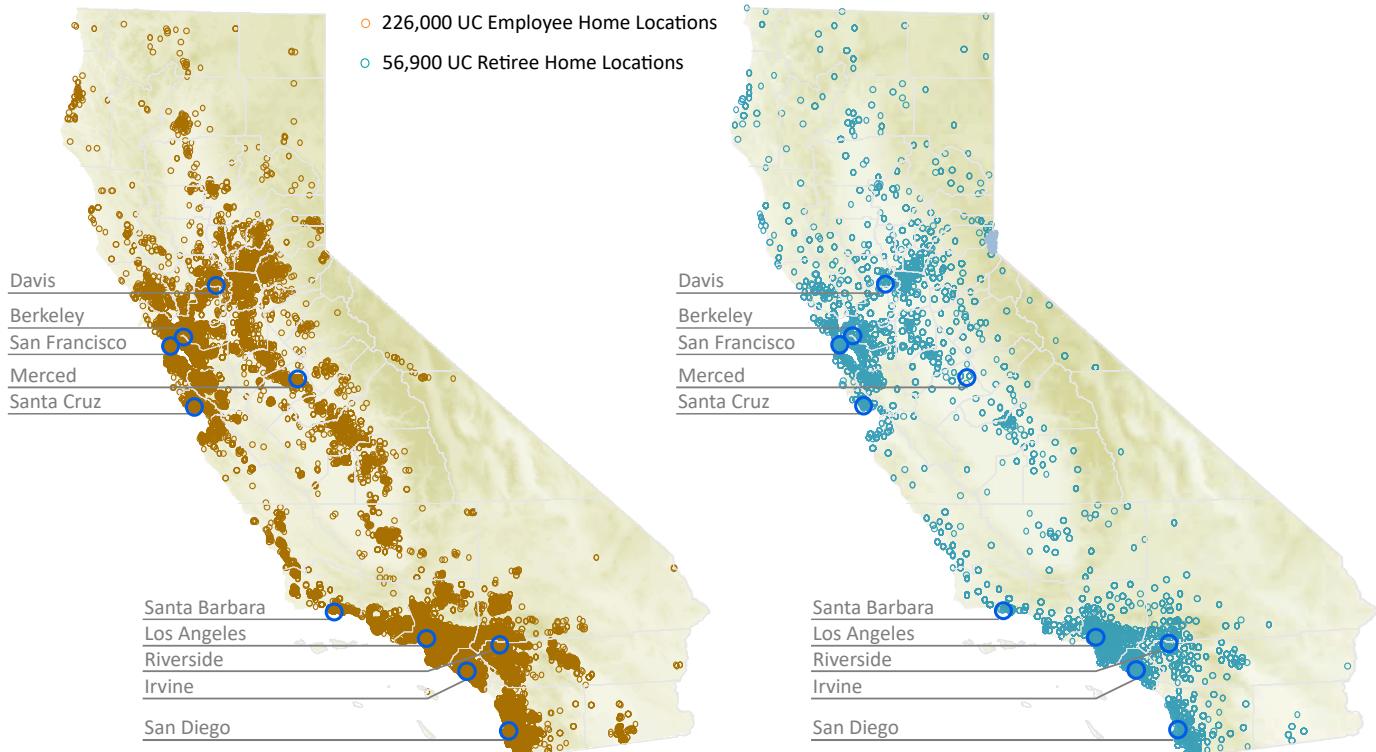
Campus alumni offices maintain recent residential address information for more than 85 percent of those alumni. These maps display the distribution across California of UC graduates in each of eight different industries, as reported by California Employment Development Department (EDD).

The industry with the largest employment of young UC graduates is health care, employing about 12 percent of these alumni, followed by higher education.

10.4 SOCIAL AND ECONOMIC IMPACT

UC is one of California's largest employers, with close to 230,000 employees.

10.4.3 Faculty, academics and staff employees; retirees, in California Faculty, academics and staff, 2016; retirees, 2017



Source: UC Information Center Data Warehouse

The University of California employs approximately 230,000 faculty, academics, and staff, making it the third-largest employer in California. With employees residing throughout the state, UC's economic impact goes well beyond its ten campus locations. Members of its workforce purchase goods and contribute to local economies across the state.

All told, the ripple effect of UC's operations generates more than \$46 billion in economic activity statewide. In addition to the current employees shown on this map, nearly 57,000 of UC's almost 75,000 retirees reside in California, and their UC pension benefits also contribute to the communities in which they reside.

CHAPTER ELEVEN



UC Health

Lucy Ogbu-Nwobodo grew up one of seven children, in a rural village in southeastern Nigeria, where education and opportunity were scarce.

"When you live in a place like that, where you don't even know a doctor, you see what can happen when people lack access to even the most basic medical care," she said.

As an adolescent, Ogbu-Nwobodo came to the U.S. from Nigeria, in hopes of pursuing an education and becoming a doctor. She imagined a life of opportunity and comfort. Instead, she endured years of maltreatment and exploitation at the hands of her host family. On the cusp of escaping to college, she discovered one night that they had never processed her immigration papers. With no legal status, her college dream evaporated.

Now, 16 years after graduating high school at the top of her class, the newly-minted M.D. from UC Davis is heading to a residency at Harvard and Massachusetts General Hospital, with plans to practice psychiatry for the poor and underserved.

"The thing that really saved me is that I had so many people who helped me. Teachers who took an interest in me, people who knew my story and became my mentors and advocates."

UC HEALTH

Health expertise in service of three missions

The University's 18 health sciences schools, six health systems, student health centers, and self-funded health plans are connected by UC Health, the division office within the Office of the President. The activities of the division, and the larger health enterprise, are aligned to support the University's three missions of public service, higher education, and research — in the case of UC Health — in pursuit of new cures and treatments.

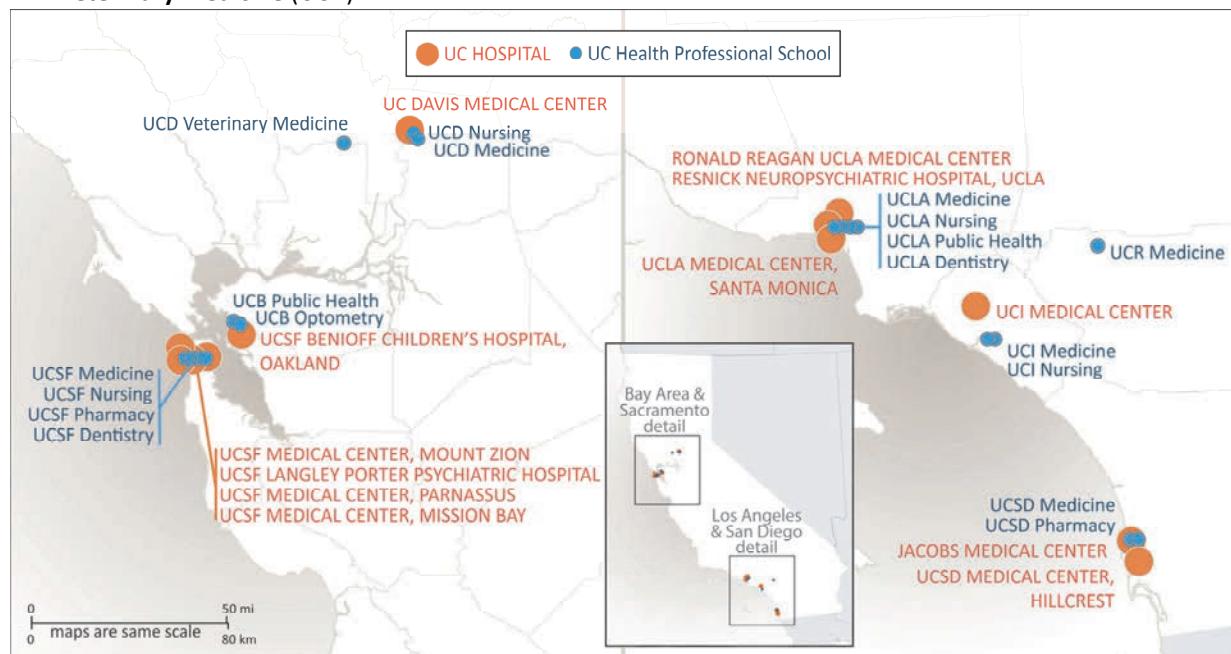
Boldly caring — training California's future health care professionals

Nearly 15,000 students are enrolled in UC's health sciences schools or residency programs. This next generation of health care providers is an important part of California's future, as the population grows, ages, and becomes ever more diverse (11.1.1).

Approximately 72 percent of UC health science students and 61 percent of medical residents are expected to remain in the state after completing training or education. This high rate of retention makes UC Health one of the principal sources for the training of California's health professionals (11.1.2).

UC's health sciences schools are:

- **Dentistry** (UCSF, UCLA)
- **Medicine** (UCD, UCSF, UCLA, UCR, UCI, UCSD)
- **Nursing** (UCD, UCSF, UCLA, UCI)
- **Optometry** (UCB)
- **Pharmacy** (UCSF, UCSD)
- **Public Health** (UCB, UCLA)
- **Veterinary Medicine** (UCD)



UC's health science schools are among the best in the nation, according to U.S. News & World Report 2019 rankings.

US News & World Report's "Best of" Rankings as of 2019:

| | UCSF | UCLA | UCSD | UCD | UCI | UCB | UCR |
|-------------------------------------|------|------|------|-----|-----|-----|-----|
| Best Medical Schools – Research | 5 | 6 | 21 | 30 | 45 | | 89 |
| Best Medical Schools – Primary Care | 3 | 5 | 30 | 9 | 74 | | |
| Best Nursing Schools – Masters | 18 | 20 | | 46 | 87 | | |
| Best Graduate Public Health | | | 11 | | | 9 | |
| Best Pharmacy Schools | 3 | | | 25 | | | |
| Best Veterinary Medicine Schools | | | | | 1 | | |

Note: USN&WR does not rank dental or optometry programs.

Special educational initiatives: filling the gaps in underserved communities

California is a vast state, and physician distribution is uneven. The state averages 72 primary care physicians per 100,000 population overall but some regions, such as the San Joaquin Valley and Inland Empire, have much lower ratios, 39 and 35, respectively. All of UC Health's schools emphasize public service and caring for the underserved. These programs include UC PRIME (Programs in Medical Education), UC Riverside, and the UCLA International Medical Graduate (IMG) program. (11.2.1.)

Thinking boldly: California Future Health Workforce Commission

Despite the scale of UC Health's education and residency programs, the University cannot solve the state's looming health workforce shortage on its own. The California Future Health Workforce Commission was formed in 2017 and co-chaired by UC President Janet Napolitano and Lloyd Dean, CEO of Dignity Health. The Commission's 24 members included prominent health, policy, workforce development, and education leaders. In February 2019, the Commission issued its report and ten prioritized recommendations, including items directly related to UC Health's educational mission.

- Expand and scale pipeline programs to recruit and prepare students from underrepresented and low-income backgrounds for health careers.
- Recruit and support college students, including community college students, from underrepresented regions and backgrounds to pursue health careers.
- Support scholarships for qualified students who pursue priority health professions and serve in underserved communities.
- Sustain and expand the Programs in Medical Education (PRIME) effort across UC campuses.
- Expand the number of primary care physician and psychiatry residency positions.
- Recruit and train students from rural areas and other underresourced communities to practice in community health centers in their home regions.
- Maximize the role of nurse practitioners as part of the care team to help fill gaps in primary care.
- Establish and scale a universal home care worker family of jobs with career ladders and training.
- Develop a psychiatric nurse practitioner program that recruits from and trains providers to serve in underserved rural and urban communities.
- Scale the engagement of community health workers, *promotores* (community health workers), and peer providers through certification, training, and reimbursement.

Medical center residency programs — increasingly funded without Medicare or Medi-Cal support.

The interrelationship between UC Health's educational and public service missions is evident in the residency programs at each medical center. Graduate Medical Education (GME), also known as residency programs, provide in-depth training in specialties of medicine after graduation from medical school. Participating in a residency program is required for a medical school graduate to become licensed to practice medicine independently. All of UC's academic medical centers (AMCs) provide residency programs and fund an increasing number of them without traditional support from Medicare or Medicaid.

In the 1960s, Medicare began paying for a substantial portion of the cost of residency programs. In 1997, Congress limited the number of residencies Medicare would fund at established programs. This 'residency cap' has not been revised upward in more than 20 years, despite an increase nationally in the number of enrolled medical students and a growing, aging, and diversifying U.S. population that needs more practitioners.

In other parts of the country, GME programs also receive financial support through Medicaid, a program for low-income individuals that is administered by the state in accordance with federal guidelines. In California, Medicaid is known as Medi-Cal.

Unlike with Medicare, the federal government leaves it up to each state to determine if GME funding will be provided through its Medicaid program. According to the Association of American Medical Colleges (AAMC), 42 states and the District of Columbia make GME payments via their Medicaid programs. California is not one of them, despite having the largest number of teaching hospitals in the nation and the second-largest number of medical residents.

Recognizing the long-term impact of the residency bottleneck and the urgent emerging need for additional licensed providers, UC medical centers began absorbing costs for unfunded residency training slots.

In AY18, UC Health trained 5,606 residents through UC-sponsored and long-standing UC-affiliated family medicine programs, representing about half of California's total. This includes approximately 600 positions for which UC received no Medicare/Medi-Cal GME support, and covered roughly \$60 million in unreimbursed costs.

The impact of residency extends far beyond the walls of hospitals operated by UC. Medical residents rotate among different sites of care as part of their exposure to a variety of patient populations and needs. Residents, working under the supervision of a licensed physician, provide care at county hospitals, Veterans Affairs hospitals, community hospitals, and specialty clinics.

Boldly serving — improving access to care

Out of UC's six health systems, five are AMCs operating 12 hospitals totaling 3,910 beds.

UC Health hospitals are destinations for some of the most critically ill patients in the state. One way to understand the health needs of hospitalized patients is by calculating the Case Mix Index (CMI). The CMI groups people together by primary and secondary diagnoses, and then factors in the number of procedures needed, patient ages and comorbidities to produce a score. As the number climbs above 1.0, it indicates increasingly poor health. The CMIs at most of California's acute care hospitals range from 1.1 to 1.5. The CMIs at UC Health hospitals ranged from 1.83 to 2.06 in FY18 (11.4.1).

All across the state, each of UC Health's AMCs has earned a place among U.S. News & World Report's "Best Hospital" rankings, as shown in the table below:

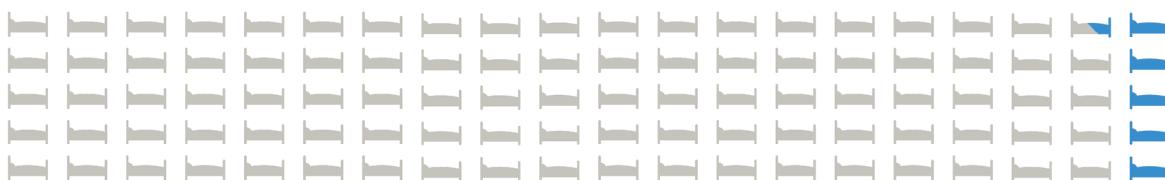
| | | | | | | |
|-----------------------------|---------|---------|--------|---------|---------|--|
| Best Hospitals – Nationally | #6 UCSF | #7 UCLA | | | | |
| Best Hospitals – California | #1 UCSF | #2 UCLA | #5 UCD | #9 UCSD | #11 UCI | |

Medi-Cal — the commitment to all Californians

Almost one in three Californians — 13.5 million people — have health insurance coverage through Medi-Cal.

UC Health values the significant role Medi-Cal plays in preserving and improving the health of the state. That's why UC Health provides an outsized share of care for this population.

UC Health hospitals comprise less than six percent of the licensed general acute care staffed hospital beds in California, yet have become the second-largest provider of hospital inpatient days, as well as the second-largest provider of hospital outpatient visits for Medi-Cal beneficiaries.



UC has **less than 6%** of the acute care beds in California but is the **second largest provider** of Medi-Cal inpatient care.

- Non-UC bed
- UC bed

Source: 2019 American Hospital Directory cites 73,896 non-federal, short-term, acute care hospital beds in CA.

Over the years, California's Medi-Cal program has undergone a substantial evolution away from a fee-for-service structure to six managed care models. Eighty-two percent of certified eligible enrollees are now in some form of managed Medi-Cal.

The state operates its Medi-Cal program under a variety of federal waivers, two of which are approaching renewal. California's Section 1115 Medi-Cal 2020 waiver (expires December 31, 2020) provides substantial federal support to improve access to care and innovate with care delivery. A separate waiver, Section 1915(b) (expires July 1, 2020), enables counties to vary from standard Medicaid rules to arrange for specialty mental health services.

Medi-Cal became one of the primary sources of health coverage in the state due to the Patient Protection and Affordable Care Act. The expansion of Medi-Cal in 2014 increased enrollment by nearly 60 percent. As Medi-Cal enrollment grew, so did its cost, although the initial impact on the state's General Fund has been initially minimized because of the federal government's cost-sharing formula, dedicated state taxes paid by managed care organizations and fees paid by hospitals, and the state tobacco tax increase (Prop 56). For 2018–2019, the total cost of Medi-Cal spending is anticipated to reach \$98.5 billion, of which 21 percent comes from the state General Fund.

In the 2019–2020 Governor’s Budget Summary, Medi-Cal is the second-largest category of state spending after K–12 education. By 2020, ten percent of the costs for the ACA Medi-Cal expansion population will be borne by the state. This shift, along with uncertainty about the federal government’s overall approach to Medicaid financing and eligibility, may become a significant financial challenge to the state and all safety-net hospitals, including UC Health.

In FY18, UC Health provided an estimated \$1.87 billion in undercompensated and uncompensated care to Medi-Cal, Medicare and uninsured patients.

UC Health funding — minimal direct support from the state’s general fund

UC Health’s medical centers are self-supporting. Clinical operations at the five AMCs — UC Davis Health, UCSF Health, UC Irvine Health, UCLA Health, and UC San Diego Health — generate revenue through insurance reimbursements from governmental and commercial payers.

Systemwide, inpatient days are 36 percent Medi-Cal, 31 percent Medicare, and 32 percent commercial contracts, with approximately one percent uninsured or self-pay. This payer mix is challenging, as Medi-Cal reimbursements are estimated to cover 50–60 percent of the cost of care per patient, and Medicare 90 percent. Higher commercial insurance reimbursements help fill the funding gap, but those payers are increasingly resistant to a renewal cycle of rising rates.

The financial performance of the medical centers contributes significantly to the University’s overall budget. In FY18, the medical centers generated \$12.2 billion¹ in revenue and provided \$531 million in health system support to the Schools of Medicine to fund operating activities, clinical research, faculty practice plans, and other programs.

The future — strategic plan and ‘systemness’

The leadership of UC Health recognizes the rapid pace of change occurring among health delivery systems and in higher education and training of future health professionals. As noted in presentations to the Health Services Committee of the Regents, UC Health, writ large, is challenged by a highly competitive environment characterized by declining reimbursement, rapid consolidation, unpredictable health policy, and growing market and payer expectations.

UC Health Division office strategic plan

In 2017, the UC Health division office developed a comprehensive, multiyear strategic plan to further enhance efficiencies and collaborations among its component medical centers, health professional schools, student health centers, and health benefit offerings to UC employees.

In 2018, the strategic plan was refreshed in conjunction with University President Janet Napolitano’s overall review of UCOP’s structure and the appointment of an advisory committee to provide recommendations regarding UC Health’s operations. The process led to financial and staffing improvements, as well as a refinement of strategic goals aligned with UC’s academic, research, and clinical care missions.

¹ Page 31 of finreports.universityofcalifornia.edu/index.php?file=med_ctr/17-18/Med-Centers-17-18-report.pdf

Among the most impactful changes to the plan are:

1. A new subdivision will be created within the UC Health Operations Budget for all activities funded solely by the Health Systems. Resources within this new subdivision will be allowed to grow in alignment with this strategic plan and with annual approval.
2. Communication will be strengthened between UC Health and the Board of Regents Health Services Committee, the Chancellors of the six schools with Health Systems, and UCOP's Executive Budget Committee.
3. UC Health oversight of the student medical centers will involve stakeholders from Student Affairs in UCOP's Office of the Provost and representatives from the Student Health and Counselling Programs on the campuses.

Taken together, the strategic plan's priorities reaffirm the UC Health Division Office as a means of connecting the health components of the University and acting as a catalyst for change. Integral to the plan is a recognition that the future requires collaboration across locations.

Systemness — Doing together what cannot be done alone

The world-class expertise at each campus — when connected to like-minded colleagues at other sites — holds great promise for Californians and people around the world. Some examples follow below.

\$950 million and counting — Leveraging scale for value

One of the earliest systemwide collaborations is the Leveraging Scale for Value initiative (LSfV), which works on supply chain, revenue cycle, and information technology improvements. The cumulative financial benefit for this project is more than \$180 million for FY 2015, more than \$440 million thru FY 2016, \$720 million thru FY 2017 and more than \$950 million lifetime to date.

More than a dozen clinical and research collaborations

The ability to convene workgroups and organize initiatives across the health delivery enterprise is one way to accelerate clinical advancement and quality. These collaborations are a few examples of multicampus workstreams underway:

UC BRAID
UC Health Quality and Population Health Collaborative
UC Health Pharmacy Project Plan
UC Health Telemedicine Steering Committee
UC Chief Quality Officers Collaboration
UC Fetal Consortium
UC Quality and Safety Leads
UC Simulation Center Directors
UC Sepsis Leads
UC Primary Care Collaborative
UC Cancer Consortium
UC Cardiothoracic Surgery Collaboration

Looking ahead: A dynamic, competitive environment — moving forward through uncertainty

Perhaps no other industry faces as much uncertainty right now as health care. Actions at the federal level are gradually reducing the number of people who have health insurance. Essential programs such as the federal 340B Drug Pricing Program are under review at federal and state levels, potentially scaling back its scope or redirecting badly needed funds away from safety-net hospitals. And hospitals that serve high numbers of Medi-Cal beneficiaries must continually defend funding for Disproportionate Share Hospitals (DSH) and other supplemental payment programs.

At the same time, California's population continues to climb. Nearly 40 million people now call the Golden State their home. Yet our ability to meet the state's growing health care needs are hampered. Federal caps on the number of Graduate Medical Education residencies and lack of funding through Medicare and Medi-Cal represent a significant bottleneck to growing the number of practicing physicians. Similarly, our ability to train tomorrow's nurses, optometrists, dentists, pharmacists, public health professionals, and veterinarians are constrained by limited state support.

For the people of UC Health, our three missions continue in any environment: educate and train the next generation of health care providers, develop new treatments and cures, and provide a public service to the people of California.

For more information

UC Budget for current operations: ucop.edu/operating-budget/_files/rbudget/2018-19budgetforcurrentoperations.pdf

UC Information Center: universityofcalifornia.edu/infocenter/uc-health

Medical Centers Annual Financial Report: finreports.universityofcalifornia.edu/index.php?file=med_ctr/17-18/Med-Centers-17-18-report.pdf

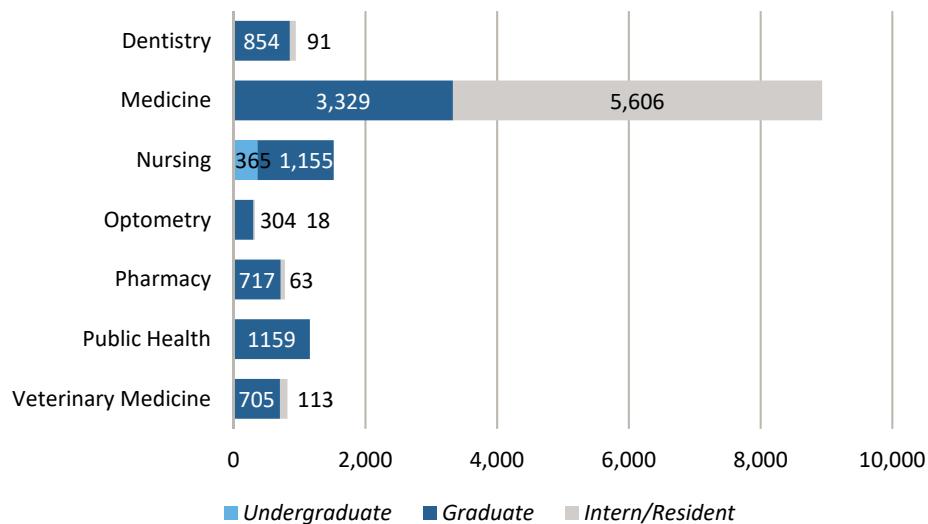
UC Health: health.universityofcalifornia.edu

UC Health Topic Brief: ucop.edu/institutional-research-academic-planning/_files/UCHealth-a-century-of-health.pdf

11.1 HEALTH SCIENCES STUDENTS

UC is currently training nearly 14,500 health care professionals.

11.1.1 Health sciences students by discipline



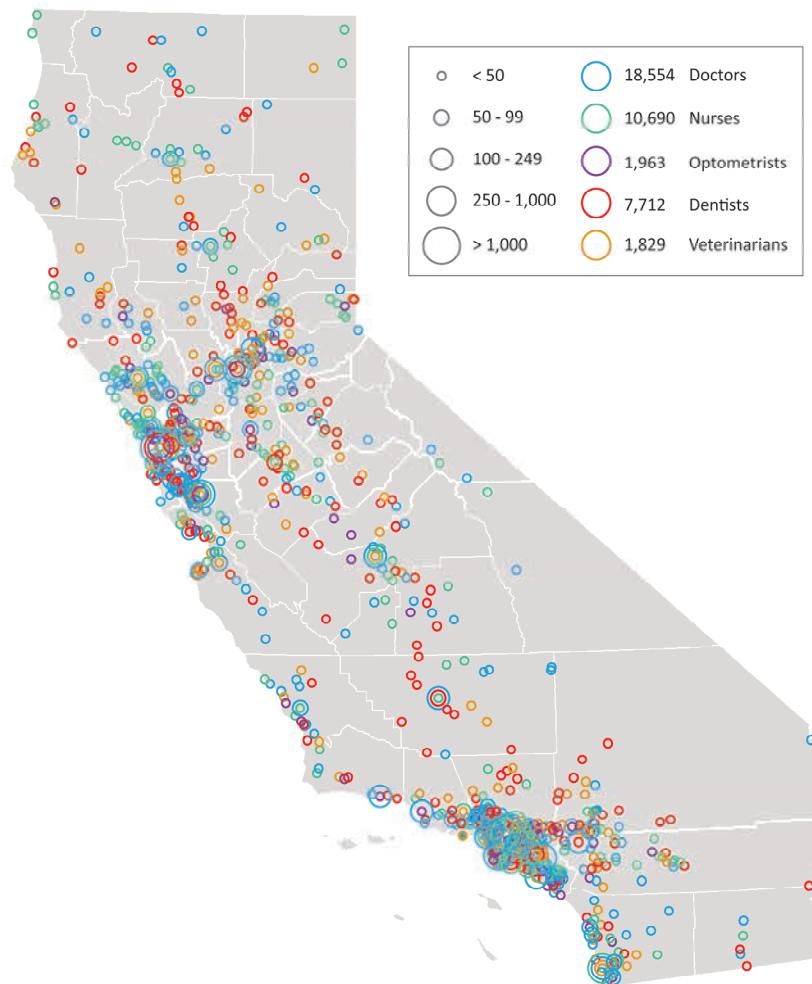
Source: UC Information Center Data Warehouse

Nearly 14,500 students are enrolled in UC Health's health sciences schools and residency programs. This next generation of caregivers is an important part of California's future as its population grows, ages, and becomes more diverse.

11.1 HEALTH SCIENCES STUDENTS

UC-trained health sciences professionals remain in California in high numbers.

11.1.2 Location of doctors, nurses, dentists, optometrists, and veterinarians trained by UC since 1999 and currently licensed in California.



Based on the 2017 locations of practice of 2005-2010 graduates of UC health sciences' schools and residency programs, approximately 72 percent of UC health science students and 61 percent of medical residents are expected to remain in the state after completing training or education.

This high rate of retention makes UC Health one of the principal sources for the training of health professionals for California.

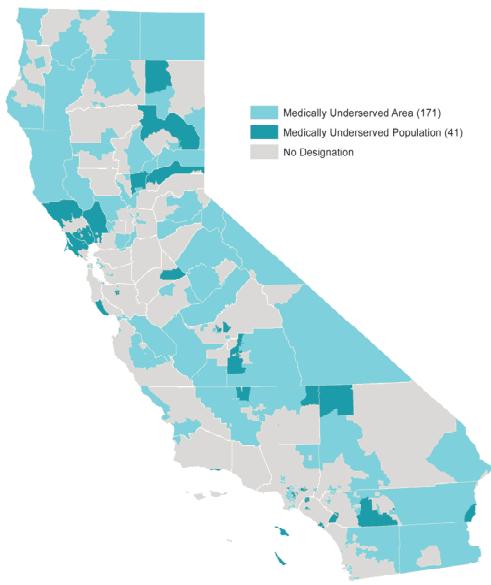
2005-2010 students and residents combined

| | |
|---------------|-----|
| Doctors | 66% |
| Dentists | 65% |
| Veterinarians | 60% |
| Nurses | 71% |
| Optometrists | 72% |

11.2 MEDICALLY UNDERSERVED AREAS

UC is addressing medical needs in California's underserved communities.

11.2.1 Medically underserved areas and populations



Source: OSHPD, Workforce Development Division, 2018

All of UC Health's schools emphasize public service and caring for the underserved. These programs include:

UC PRIME: California has large regions that are Medically Underserved Areas (MUAs) and other regions with distinct Medically Underserved Populations (MUPs). PRIME (Programs in Medical Education) is a unique program at UC's six medical schools that supplements standard training with additional curriculum tailored to meet the needs of various underserved populations. Each program has a dedicated area of focus, targeted student recruitment, supplemental criteria for admission, relevant curricular content, and dedicated faculty mentorship. Since inception, PRIME has produced 470 medical school graduates. In 2018–2019, UC

Health had 354 medical students enrolled in PRIME¹, with 64 percent coming from underrepresented groups in medicine.

UC Riverside: Persistent shortages in certain areas also led to the creation of a different kind of medical school at UC Riverside. UC Riverside's medical school focuses on training for family medicine, obstetrics and gynecology, psychiatry, pediatrics, general surgery, and internal medicine — medical specialties with significant shortages.

Rather than open an academic medical center to enhance physician training, UC Riverside embeds its students and residents in community-based health organizations, many of which serve indigent populations. Additionally, the school uses funds from foundations and individual donors to waive tuition and fees for graduates who agree to practice medicine in underserved areas for five years.

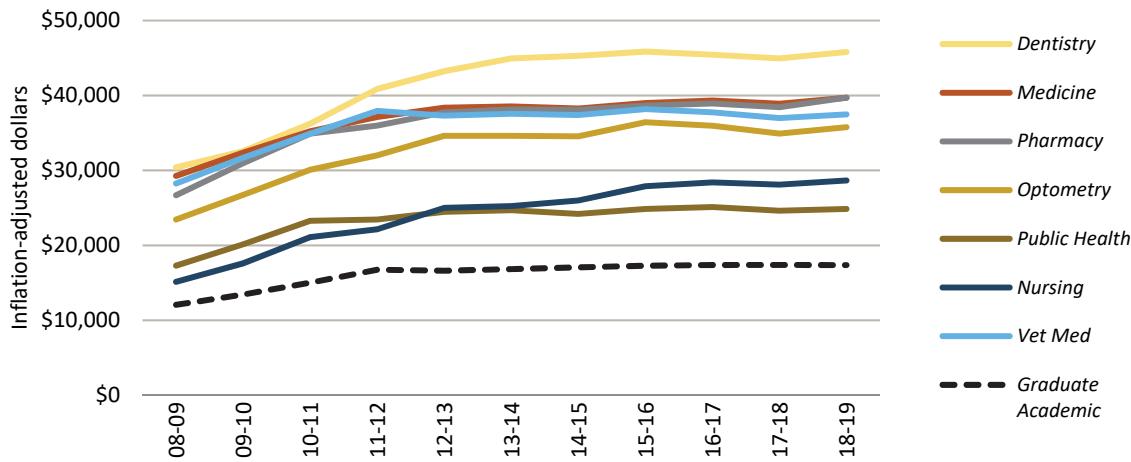
UCLA International Medical Graduate (IMG) program: In 2018, the Governor signed AB 2311, a bill that extended UCLA's unique IMG program. The UCLA IMG program is a University-based pre-residency training program for U.S. citizens and permanent residents who received medical educations from schools throughout Latin America, and who are fully fluent in both Spanish and English. These international graduates undergo an intensive, standardized course of professional instruction and clinical clerkships so they can pass the U.S. Medical Licensing Examinations (USMLE) and compete successfully for Family Medicine residency programs in California. In return, UCLA IMG scholars agree to serve for 24 to 36 months in medically underserved communities in California after completing their residencies.

¹ Per PRIME Advocacy piece of February 2019

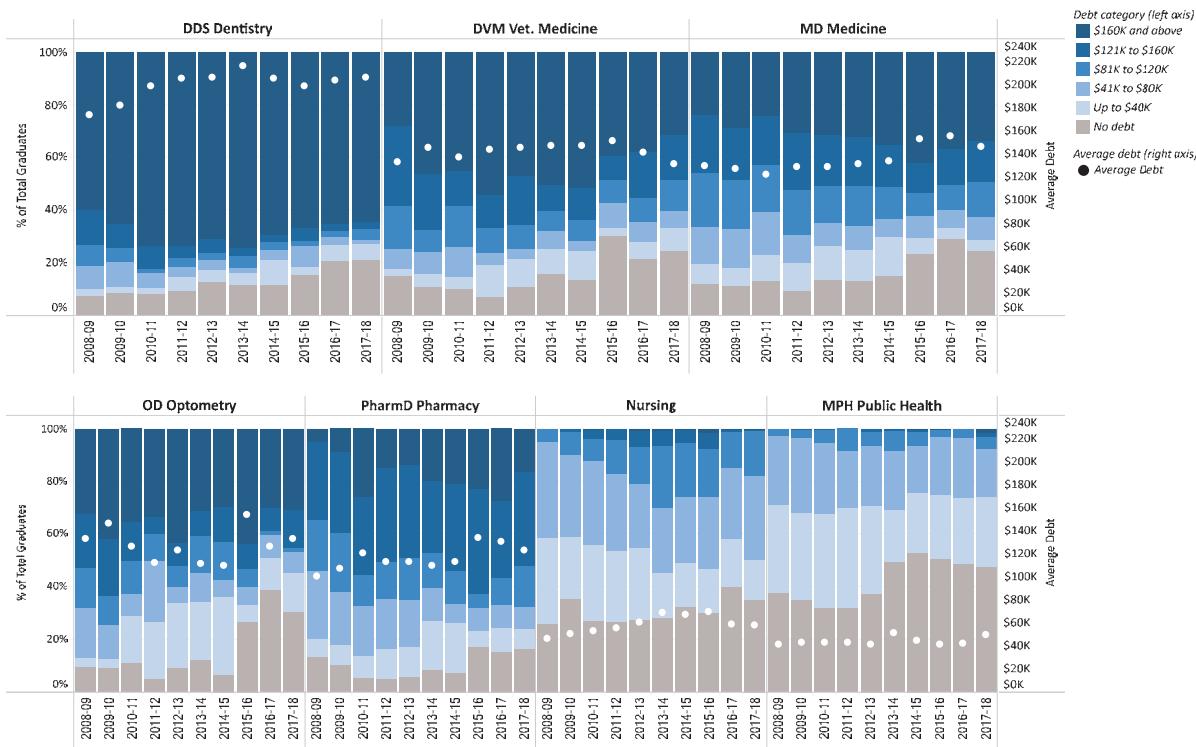
11.3 HEALTH SCIENCES STUDENT DEBT

Health science professional degree fees have leveled off after incurring sharp increases during years of declining state support. Average debt levels are increasing.

11.3.1 Average total charges for health professional degree students, Universitywide, 2008–09 to 2018–19



11.3.2 Health sciences professional degree student debt at graduation, Universitywide, 2008–09 to 2017–18



Over the years, the rising cost of graduate education has not been matched by increases in state support. In fact, state support declined significantly during recurring state fiscal crises, which caused the University to increase tuition, campus-based fees, and professional degree supplemental tuition

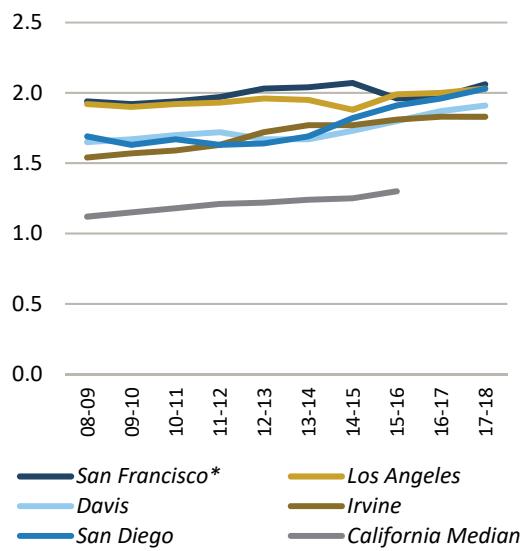
(PDST). This cost-shifting has contributed to students taking on increasing amounts of debt.

At least one-third of the revenue raised from professional school fees is used to provide financial aid to current students.

11.4 PATIENT CARE

As academic medical centers and safety-net hospitals, UC Health hospitals are destinations for some of the most critically ill patients in the state.

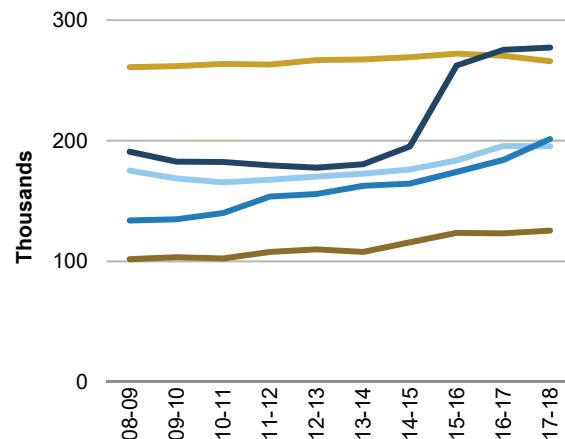
11.4.1 Patient complexity (Case Mix Index)



One way to understand the health needs of hospitalized patients is the Case Mix Index (CMI). Index values above 1.0 indicate increasingly poor health. In most acute care hospitals in California CMIs are between 1.1 and 1.5. The CMI at UC Health hospitals ranged from 1.83 to 2.06 in FY18.

UC Health hospitals admitted 174,839 patients in FY18, an increase of nearly 2 percent compared to FY17¹. The average length of stay was 6.1 days, although some of the more critically ill remain as inpatients for much longer.

11.4.2 Hospital inpatient days, UC Medical Centers

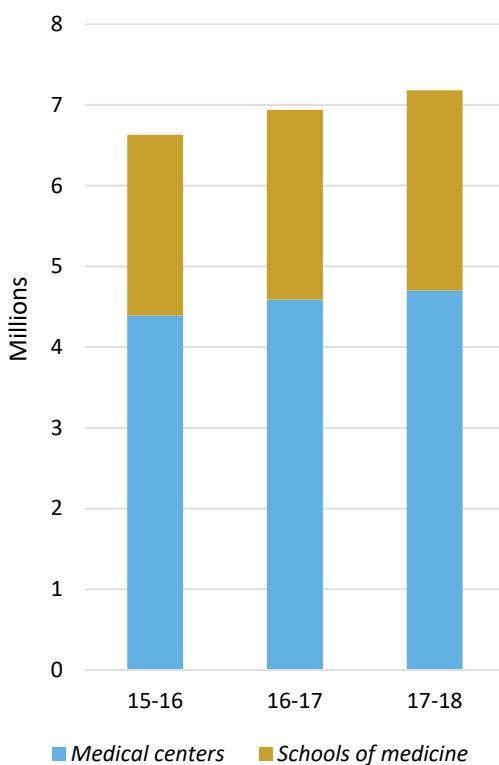


*San Francisco data includes UCSF Medical Center; Benioff Children's Hospital & Research Center Oakland (CHRCO), which became affiliated in 2014; UCSF Mission Bay, which opened in 2015; and the activities of UCSF Medical Group.

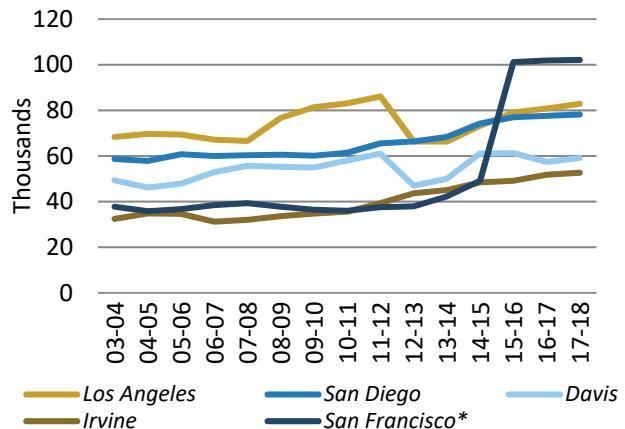
Note: The most recent data on California median patient complexity is from 2015-16.

UC medical centers and UC schools of medicine accommodate millions of outpatient visits every year.

11.4.3 Outpatient visits: UC medical centers and schools of medicine



11.4.4 Outpatient emergency visits: UC medical centers



Supplementing its inpatient capacity, UC Health provides robust outpatient services. In FY18, the hospitals provided 4.7 million hospital outpatient visits and the schools of medicine another 2.5 million outpatient visits for a total of 7,180,461,¹ an overall increase of 3.4 percent compared to FY17.*^{**} Emergency department visits represent 375,104 encounters, a 1.5 percent increase from FY17.

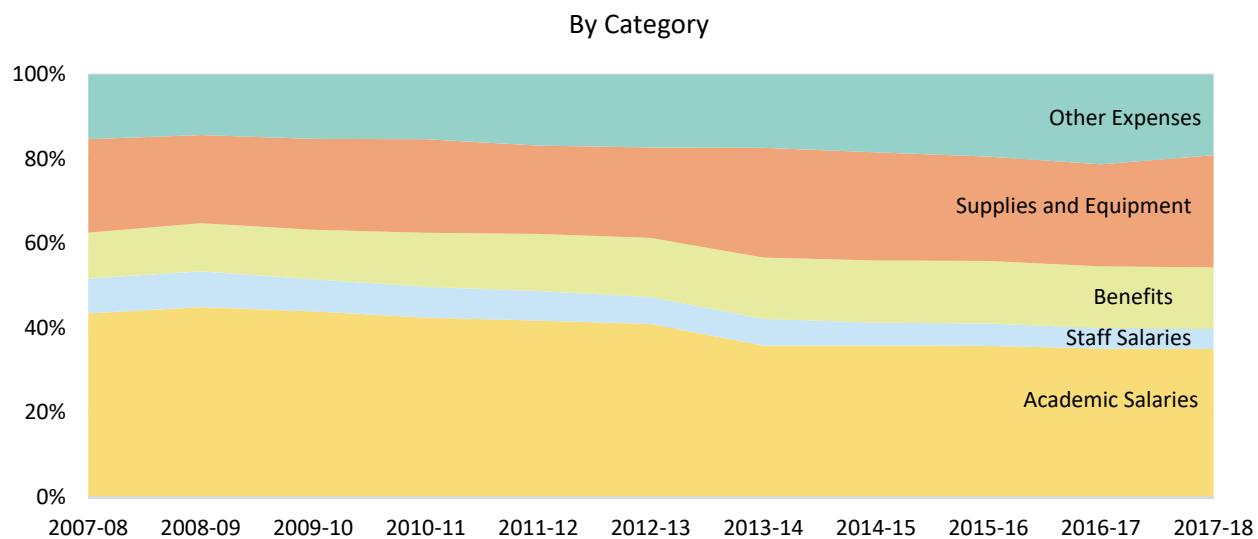
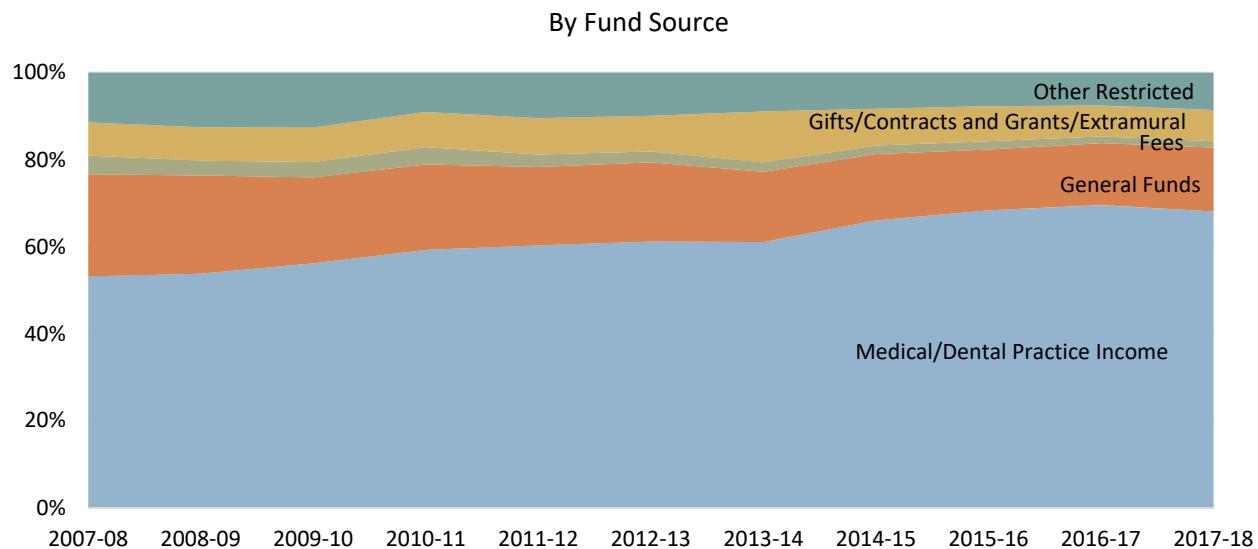
*San Francisco data includes UCSF Medical Center; Benioff Children's Hospital & Research Center Oakland (CHRCO), which became affiliated in 2014; UCSF Mission Bay, which opened in 2015; and the activities of UCSF Medical Group.

** Does not include UC Riverside School of Medicine clinic visits.

11.5 EXPENDITURES

Medical and dental practice income supports over half of the instructional expenditures in the health sciences.

11.5.1 Health sciences instructional expenditures by fund source, 2007–08 to 2017–18



Source: UC Budget for Current Operations

Although part of the University of California, only a small portion of UC Health's funding comes from the state's General Fund. The overwhelming majority comes from reimbursements and payments for clinical services.

More than half of the instructional expenditures at the health sciences schools are supported by medical and dental practice income. State and UC general funds only provide about 15 percent of revenue.

CHAPTER TWELVE



Institutional Performance

For the past 20 years, developmental psychologists have operated under the belief that children from low-income backgrounds are severely delayed in developing an understanding that other people's minds are different than their own.

UC Merced developmental psychology professor Rose Scott believes that is a false conclusion, and that the problem lies in the standardized tests that are used to discover such issues in young children. Thanks to a large new grant from the National Science Foundation, she'll get a chance to work with hundreds of families from the San Joaquin Valley to find out if her theory is correct.

Professor Scott is one of the many scientists doing the kind of research that moved UC Merced up in ranking on the Carnegie Classification of Institutions of Higher Education list. UC Merced's designation, also called "R2," makes it one of 107 universities in the United States to have earned that ranking. UC Merced is the youngest institution in the group to be classified R2.

INSTITUTIONAL PERFORMANCE

Overview

UC requires significant resources and planning to support its instruction, research, and public service missions. The indicators in this chapter provide insight into the financial health of the University, the state of capital and space resources, and the environmental sustainability of campus operations.

Financial trends

The University's revenues, totaling over \$34.6 billion in 2017–18 (excluding Department of Energy laboratories), fund its core mission and a wide range of support activities. Over one-third comes from the five UC medical centers, which have collectively nearly doubled in size in the past decade. Contracts and grants are the next largest source of funds and help sustain UC's research mission.

State General Funds, tuition and fees, and UC general funds make up the core revenues for the University's instructional mission. State funds used to be the largest single source of support for instruction; however, cuts in state funding over the past decade reduced this resource. State educational appropriations are less today in inflation-adjusted dollars than they were in 2006–07 and over \$1 billion less than what they were in 2000–01, despite significant enrollment growth. The decline in state support has been partly offset by tuition and fees from both enrollment growth and increased rates charged to students, though financial aid increases made up for the tuition and fee increases for many UC students. Improvements in the California economy since 2012, combined with the passage of Proposition 30, have brought some stability to the state budget and thus to the University's core budget. Modest increases in state funds have allowed for greater stability in tuition and fees and better planning for enrollment growth.

As core revenues per student have declined, the University has sought to increase revenues from other sources. Gift funds have become increasingly important. Private giving has increased; however, almost 99 percent is restricted. Gift support tends to be for research, departmental support, and capital projects. The small amounts for instruction and student support cannot offset needs created by enrollment growth that has outpaced growth in core revenues. Private giving varies significantly by campus and relates to the campus' age, number of alumni, and the presence of health science programs.

Salaries and benefits for academic and support staff are the largest areas of expenditures, which is typical for universities. Although the inflation-adjusted expenditures for educating a student at UC has dropped by 17 percent since 1990, the state's share of this cost has fallen even more steeply. Consequently, students and their families now contribute a larger share through tuition and fees.

Chronic shortfalls in priority areas — graduate student support, faculty salaries, the ratio of students to faculty, capital renewal, the need to upgrade outdated information systems, and a focus on sustainability — present ongoing financial challenges.

Capital program and funding

The University maintains approximately 6,000 buildings enclosing 148 million gross square feet on approximately 30,000 acres across its ten campuses, five medical centers, nine agricultural research and extension centers, and the Lawrence Berkeley National Laboratory. With such a substantial infrastructure, the University strives to be a good steward of the capital resources entrusted to its care.

UC's capital program is funded by a combination of state and non-state funds. Historically, the majority of UC's core academic capital projects were funded by the state. With state funds playing a declining role over the past decade, the University has been forced to rely on other resources. In the past decade, non-state funds, including external financing that utilizes non-state sources to service the debt, have accounted for 80 percent of UC's capital program funding.

During fiscal year 2017–18, UC approved capital project budgets totaling \$2.7 billion. Approximately 87 percent of the cost was met through debt financing that includes external financing supported by state General Funds. The remaining capital projects were funded by non-state sources, including public-private partnerships.

In 2015–16 and before, the majority of capital projects were aimed at growing core academic programs and replacing aging facilities. In the past two years (2016–17 and 2017–18), there has been an increase in projects that address enrollment growth and program improvements. UC must maintain and upgrade its facilities, of which close to half are more than 35 years old, with many in need of seismic upgrades.

[UC sustainability](#)

The University of California is a national leader in sustainability. The University affirmed its leadership position in 2007 when all ten Chancellors signed the American College & University Presidents' Climate Commitment. Furthering this leadership, in November 2013, UC announced an initiative to achieve carbon neutrality by 2025. This initiative will make UC the first major research university system to achieve carbon neutrality.

The initiative builds on UC's work on climate and carbon neutrality research and furthers its leadership in sustainable business practices. Even as the campuses expand, overall greenhouse gas emissions have continued to drop, due to improvements in energy efficiency, developing new sources of renewable energy, and enacting a range of related strategies to cut carbon emissions. For example, inspired by a student campaign, UC announced plans in 2018 to switch to 100 percent clean electricity by 2025.

For the second year in a row, the U.S. Environmental Protection Agency named UC among the national leaders in the use of clean, renewable energy in its Green Power Partnerships program. UC now generates more on-site renewable energy than any other university in the country. The University also funded 47 students with Carbon Neutrality Initiative Fellowships during the 2017–18 school year to work on projects supporting UC's climate neutrality goal.

In 2018, UC also made a commitment to reduce each location's energy use intensity by an average of at least two percent annually. Upfront investments in energy efficiency are often costly, but energy efficiency projects across the system have so far netted over \$255 million in cumulative avoided energy costs since 2005. Moreover, UC's policy requiring that all new construction projects and major renovations receive LEED® (Leadership in Energy and Environmental Design) certification helps assure that campus growth does not increase energy costs and climate pollution as much as it would otherwise. As of 2018, UC has 301 LEED certifications, the most of any higher education institution in the country. Additionally, UC's fleet continues to move toward zero-emission vehicles. At least 50 percent of all new fleet vehicles purchased in fiscal year 2017–18 at six campuses were all-electric or hybrids. Systemwide, UC provides over 840 electric vehicle charging stations.

The University's Sustainable Practices Policy, updated in 2018, has multiple areas of focus: Climate Action, Green Building, Clean Energy, Transportation, Zero Waste, Sustainable Procurement, Sustainable Food Service, Water, and Sustainability in UC Health, demonstrating the University's commitment to wise stewardship of its resources and the environment.

For more information

UC's Operating Budget: ucop.edu/operating-budget/budgets-and-reports/index.html

Annual Financial Report: finreports.universityofcalifornia.edu/index.php?file=17-18/pdf/fullreport-1718.pdf

Annual Financial Report (Medical Center): finreports.universityofcalifornia.edu/index.php?file=med_ctr/17-18/Med-Centers-17-18-report.pdf

Revenues and Expenses Data Table: universityofcalifornia.edu/infocenter/revenue-and-expense-data

Annual reports on University private support: ucop.edu/institutional-advancement

UC's capital programs: ucop.edu/capital-resources-management/index.html

Annual Major Capital Projects Report: ucop.edu/design-services/resources/major-capital-projects-implementation-reports/index.html

Ten-Year Capital Financial Plan: ucop.edu/capital-planning/resources/index.html

Information on UC's sustainability: ucop.edu/sustainability/

Annual Sustainability Report: ucop.edu/sustainability/policy-areas/annual-reports.html

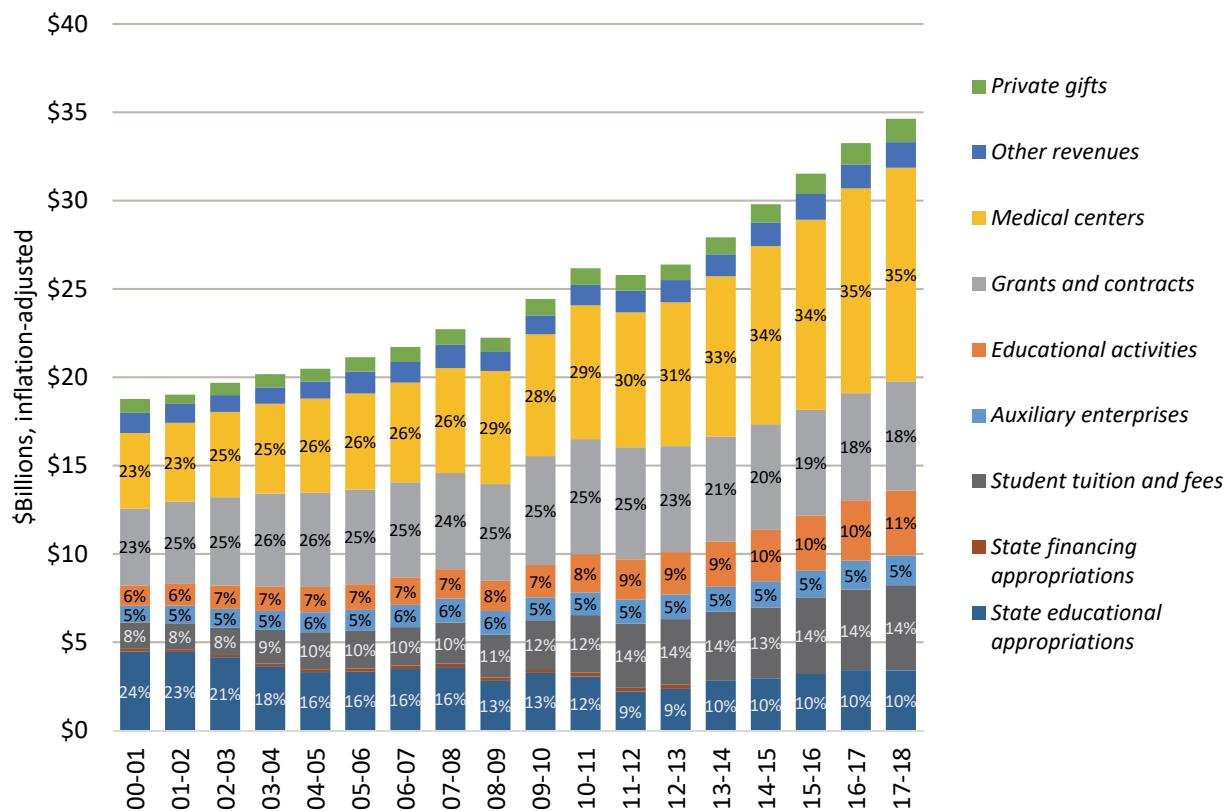
12.1 FINANCES

Over time, UC's varied sources of revenue have grown at different rates.

12.1.1 Revenues by source

Universitywide

2000–01 to 2017–18



Source: UC Revenues and Expense Trend Report. Amounts do not include Department of Energy Laboratories.

Two major trends are reflected in the University's revenue sources over time. First, revenues associated with the University's medical centers and related activities have grown substantially since 2000–01. Medical center revenues now represent 35 percent of all UC revenues. On top of this category, a significant portion of revenues shown as "Educational activities" above is also related to health services.

Second, among the University's core fund revenues, state appropriations now contribute less to the University's operating budget than student tuition and fees. UC used to receive 8.1 percent of all state General Funds in 1966–67, while today it receives only 2.5 percent of those funds.

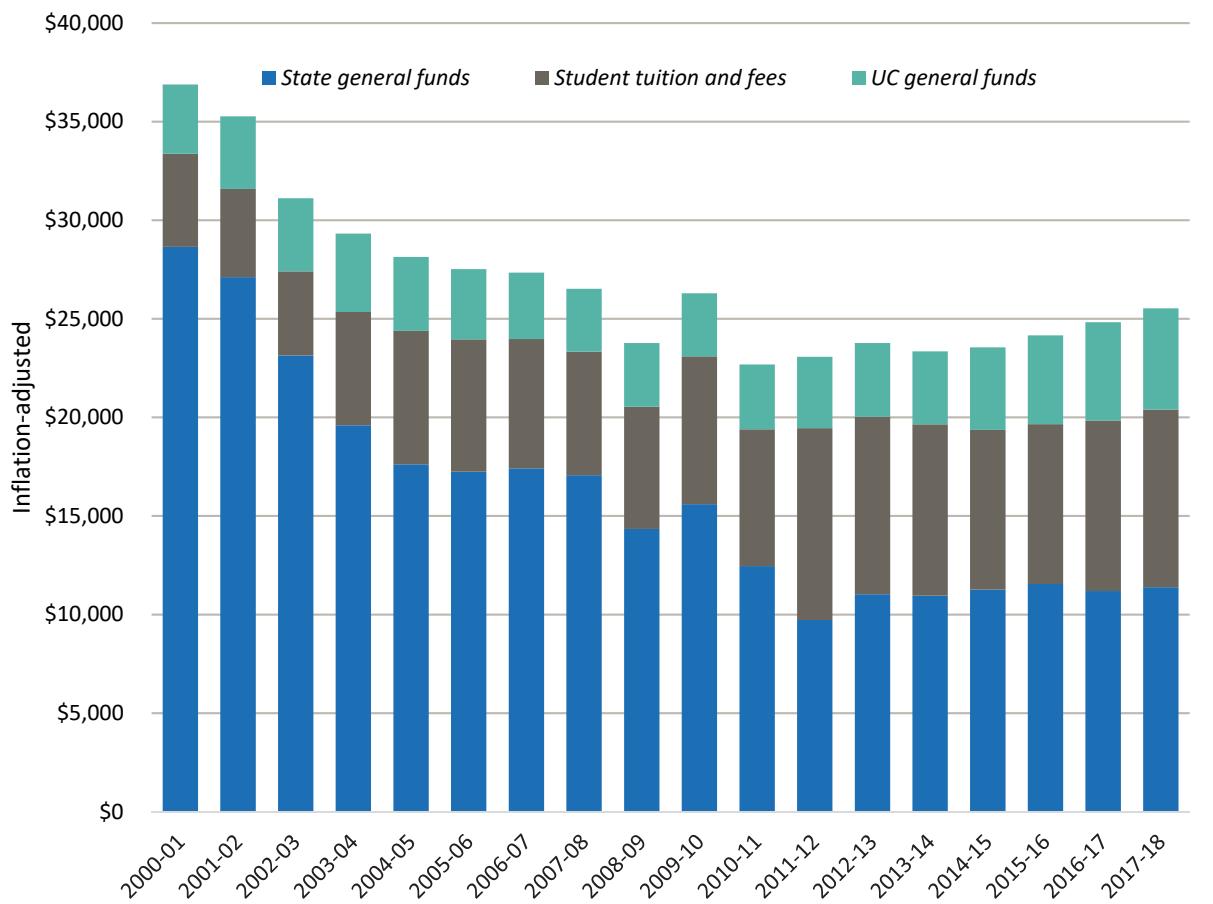
Historically, state funding had been the largest single source of support for the University's core budget. State educational appropriations are for educational and other specific operating purposes, whereas state financing appropriations provide principal and interest payments for lease-purchase agreements.

Since 2000–01, available core revenues per student have declined by 31 percent.

12.1.2 Per-student average inflation-adjusted core revenues

Universitywide

2000-01 to 2017-18



Source: UC Budget Office

Since 2000–01, average inflation-adjusted revenues per student have declined 31 percent. During the same period, the state General Fund portion has fallen even more steeply, by 60 percent.

In some years, the University increased student tuition and fee levels to partly offset the long-term decline in state support. Financial aid increases have covered some or all of these cost increases for families with financial need. These increases in student fee revenue have not, however, fully offset the reduction in state funding per student.

UC general funds are composed mostly of nonresident supplemental tuition revenue and indirect cost recovery from research contracts and grants.

Overall, less core revenue per student has put downward pressure on the spending per student, as seen in indicator 12.1.5. Ultimately, this pullback may affect the quality of instruction and the student experience.

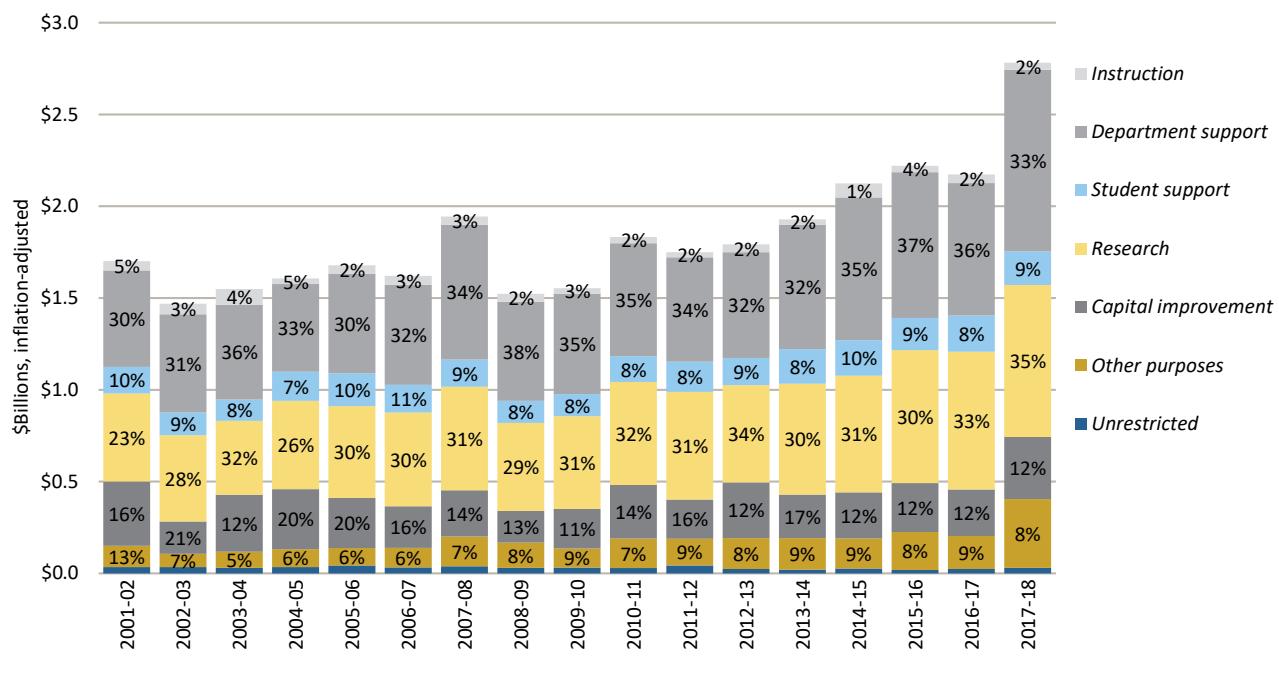
12.1 FINANCES

Virtually all gift funds (99 percent) are restricted by donors in how they may be used.

12.1.3 Current giving by purpose

Universitywide

2000–01 to 2017–18



Source: UC Institutional Advancement

The University is energetically pursuing increased philanthropic giving as a means to help address budget shortfalls and expand student financial aid.

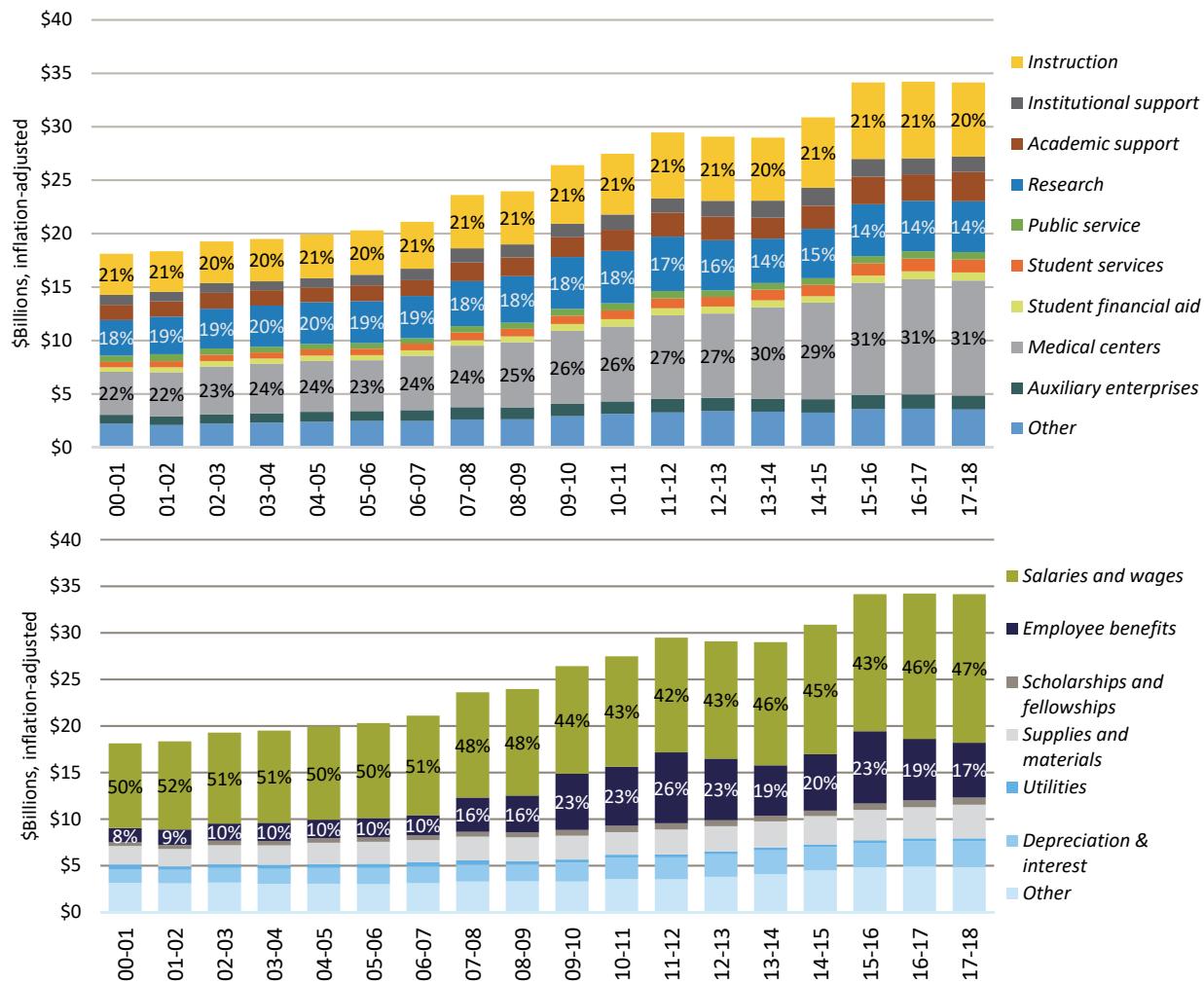
In 2017–18, new gifts to the University totaled about \$2.8 billion. Virtually all of these funds are restricted for specific purposes and are not available to support general operating costs. In addition, approximately \$825 million was designated for endowment, so only the income/payout is available for expenditure. Gifts designated for department support are only eligible for use by a specific department or academic division.

The University's remarkable achievement in obtaining private funding in recent years — even during state and national economic downturns — is a testament to UC's distinction as a leader among the nation's public colleges and universities in generating philanthropic funds. These gifts reflect the high regard in which the University is held by its alumni, corporations, foundations, and other supporters.

12.1 FINANCES

Personnel costs and medical centers are an increasing portion of UC expenditures.

12.1.4 Expenditures by function and type, Universitywide 2000–01 to 2017–18



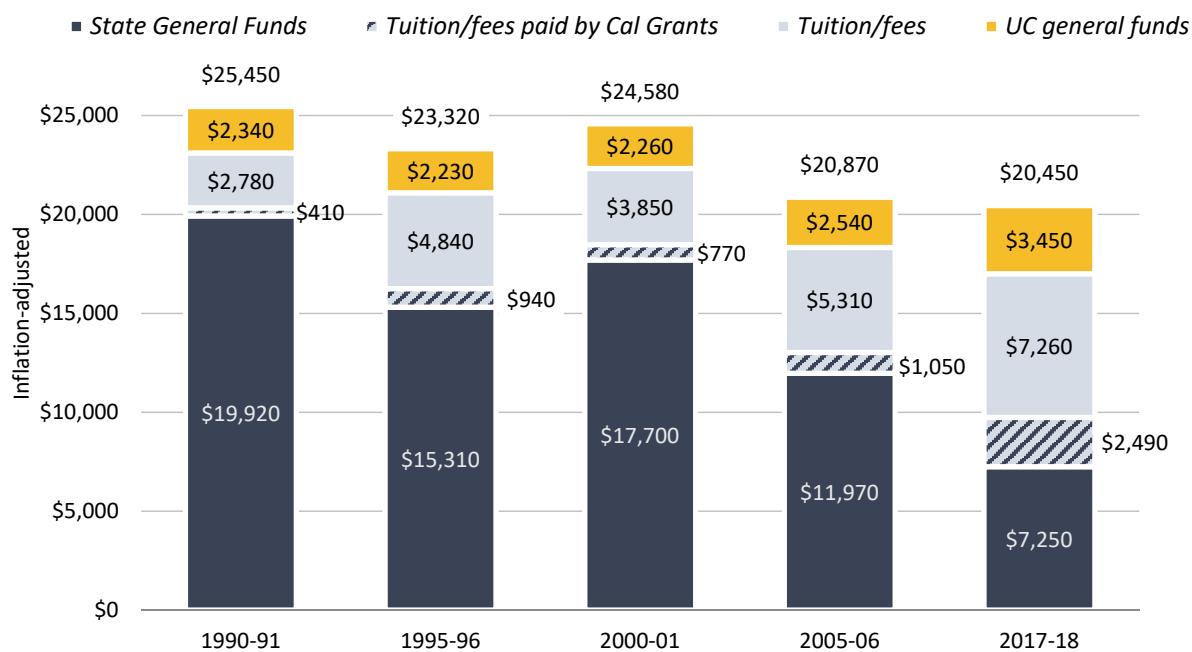
Source: UC Revenue and Expense Trends Report. Dollars are inflation-adjusted dollars using CCPI-W. Amounts do not include Department of Energy Laboratories.

When viewed by function, the combination of instruction, research, and public service accounted for 36 percent of total expenditures during 2017–18, while medical centers (UC’s teaching hospitals) accounted for 31 percent. Other expenses by function include interest, depreciation, and miscellaneous expenditures.

Looking at expenditures by type, nearly 65 percent are dedicated to personnel costs since higher education, health care delivery, and research are inherently labor-intensive enterprises. Salary costs have increased both due to higher average salaries and increased full-time equivalent (FTE) employees, particularly at the medical centers. These increases also affect employee benefits; however, benefit costs also fluctuate due to variations in investment returns on the pension and the discount rate for retiree health.

Since 1990–91, total instructional expenditures per UC student have declined by 20 percent, yet students and their families bear a greater share of that cost.

**12.1.5 Average general campus core fund expenditures for instruction per student
1990–91 to 2017–18**



Source: UC Budget Office, inflation-adjusted amounts.

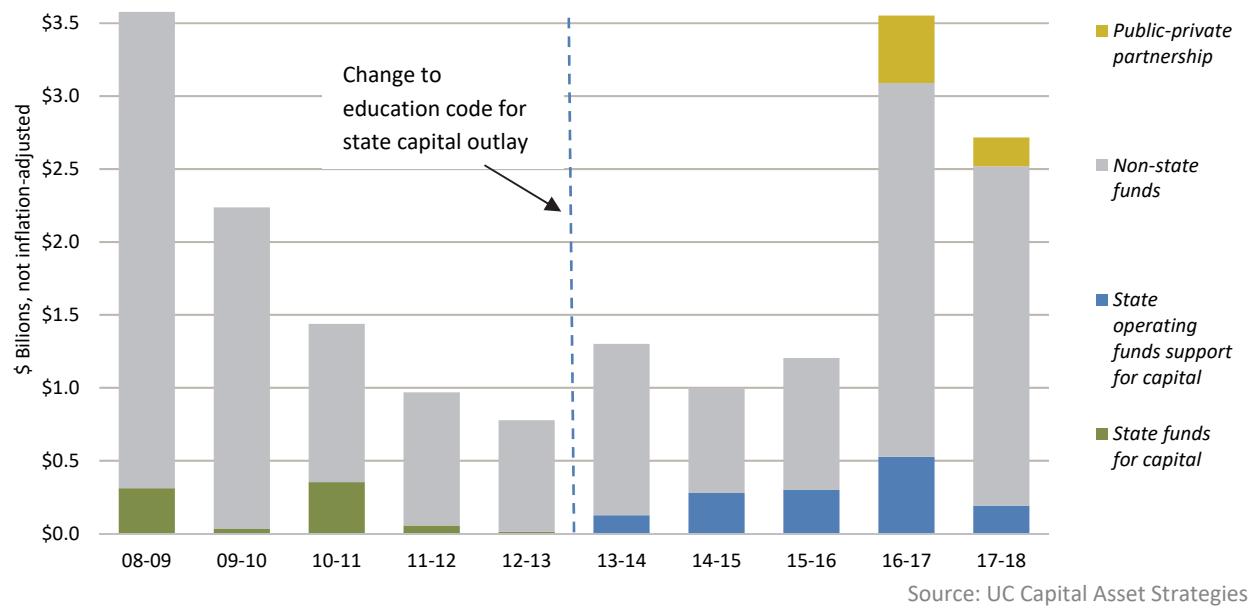
Since 1990–91, average expenditures for instruction per student from core funds have declined by 20 percent in inflation-adjusted dollars. Of this amount, the share provided by state support for the University's budget declined from 78 percent in 1990–91 to only 35 percent of the total in 2017–18. In contrast, the contribution from tuition and fees has increased from 13 percent to 48 percent during the same period.

The state's Cal Grant program has covered tuition and fee increases for many California resident undergraduate students. However, even after taking Cal Grants into account, state funding covered only 48 percent of instructional expenditures from core funds in 2017–18 compared to 80 percent in 1990–91.

12.2 CAPITAL PROJECTS

The majority of UC's capital project funding over the last ten years continues to be derived from non-state fund sources. Starting in 2013–14, changes to the California Education Code allowed UC to direct a portion of its existing state operating funds support to capital.

12.2.1 Sources of capital project funding by year of approval, Universitywide 2007–08 to 2017–18



The University's capital program is driven by the campuses' and medical centers' strategic plans. UC's capital program is funded by a combination of state and non-state funds. The nature of state funds has changed in recent years.

As illustrated in indicator 12.2.1, the dominant source for capital is non-state resources. UC used to receive state funds specially designated for capital projects; however, the last state General Obligation (GO) bond benefitting UC was in 2006, and the last State Lease Revenue (SLR) bond funds for capital was in 2011.

Legislation in 2013–14 and 2017–18 enacted a change in how UC could fund its debt service, availability payments, and expenditures for capital outlay. Instead of receiving dedicated capital funding from the state, UC can direct a portion of its state General Fund appropriations to fund debt service for

state-eligible capital projects. The portion of these funds that is directed to capital does not represent new state funding and is made up of funds that are redirected from operations to support capital.

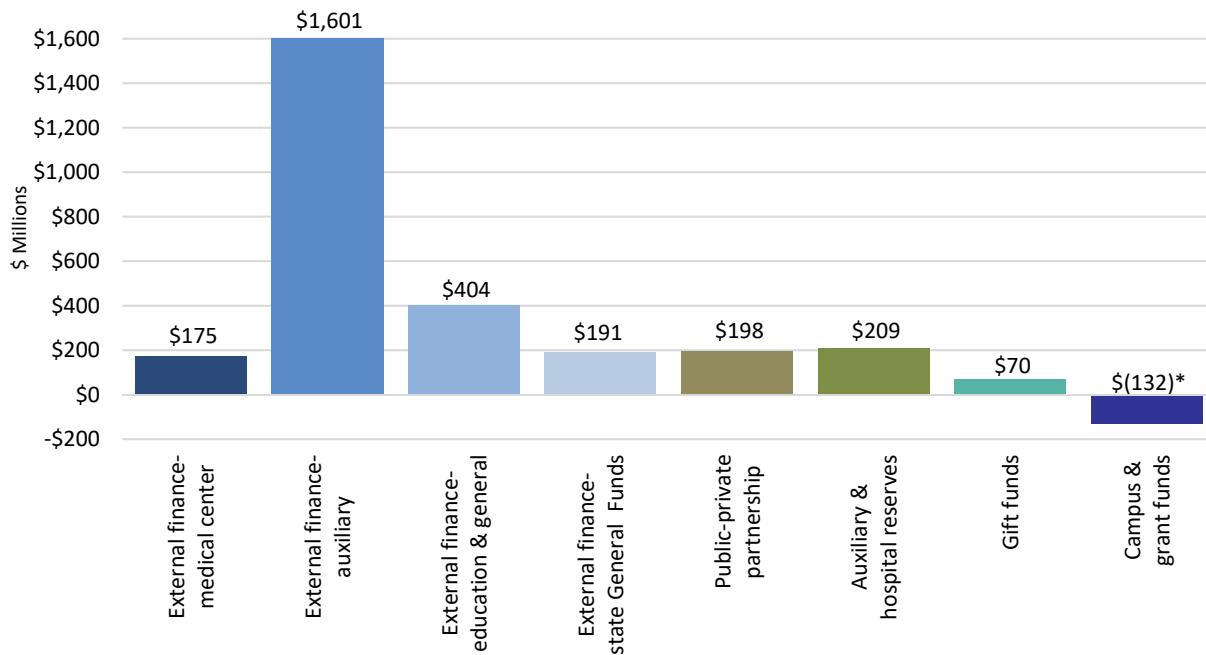
State funds were historically the primary source of funding for core academic facilities and seismic compliance for acute care hospitals. Due to the elimination of specific state appropriations, however, some needs have been financed by the University. Non-state sources fund most of UC's state-eligible capital needs as well as all self-supporting enterprises, such as housing, parking, athletics, and medical centers. To the extent that non-state funds are used to support core academic capital needs, less funding is available to support other high priority needs such as deferred maintenance, seismic upgrades, and enrollment growth.

12.2 CAPITAL PROJECTS

Approximately \$2.4 billion of external financing supports UC's 2017–18 capital program.

12.2.2 Sources of capital spending detail, Universitywide

Project budgets approved in 2017–18



* Decrease is primarily from UCSF funding change of \$200 million from campus funds to external financing

Source: UC Capital Asset Strategies

The University and each campus carefully consider how to deploy resources to optimize the benefits to academic programs and the University's mission as a whole.

With state funding playing a declining role in the University's capital program over the past decade, the University has relied on other means to fund capital projects. As noted in indicator 12.2.2, approximately seven percent of capital funding for the 2017–18 capital program utilized external financing supported by state General Funds¹ that could have been used to support operations. In addition, campuses redirect non-state funds to projects that otherwise would have been funded with state resources.

External financing continues to play a central role in funding capital needs. About 80 percent of capital project funding in 2017–18 came from non-state supported external financing. The non-state financing included student housing projects as well as research projects related to program improvements in the sciences.

UC is continuing to use public-private partnerships to implement portions of its capital program, particularly for student housing.

The remainder of UC's capital program is funded by gift funds, campus funds and other non-state sources. These campus funds are derived from a variety of sources including indirect cost recovery and investment earnings.

¹ This external financing was approved by the Regents in March 2017 and supports the 2017–18 Budget for State Capital Improvements.

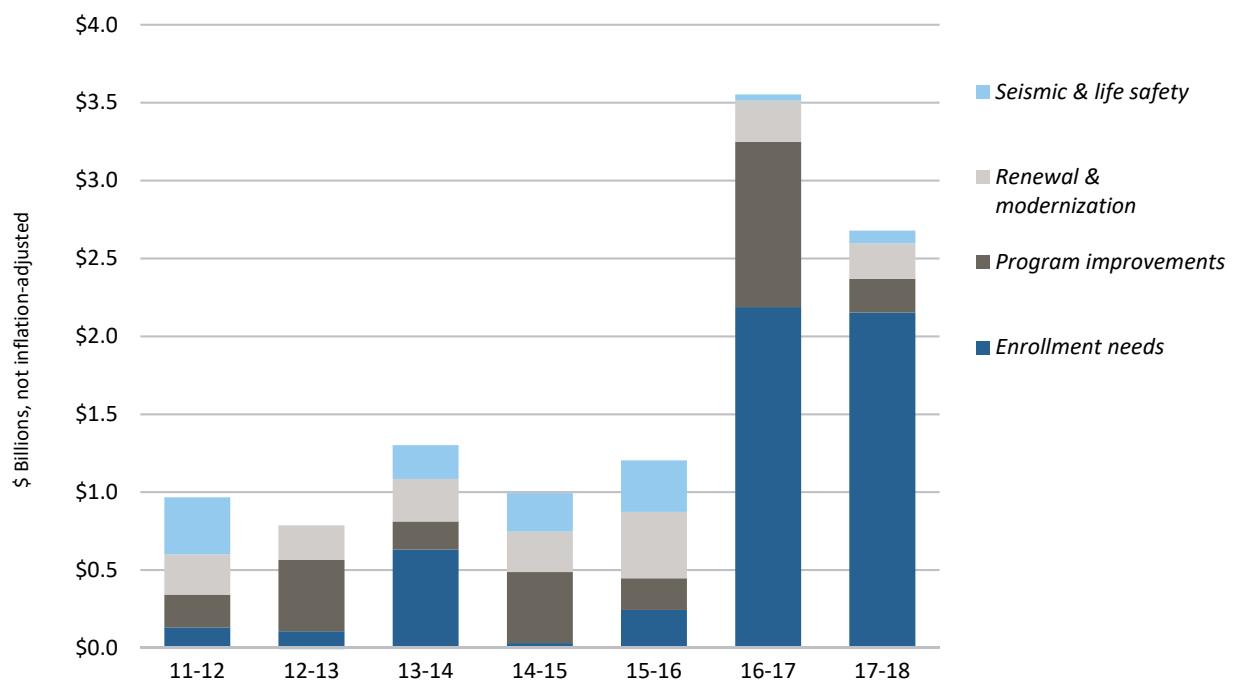
12.2 CAPITAL PROJECTS

The majority of capital funds approved for expenditure in 2017–18 supported projects addressing growth in enrollment and renovation or replacement of aging facilities.

12.2.3 Types of capital projects, based on budgets approved by year

Universitywide

2011–12 to 2017–18



Source: UC Capital Asset Strategies

Capital projects may address several objectives. Continuing enrollment growth has largely driven the University's requirement for new teaching laboratories, classrooms, student housing, and recreational facilities. In 2017–18 alone, UC approved almost \$2.2 billion for projects that address enrollment needs. The campuses must expand teaching laboratories and classrooms to meet the increases in enrollment.

Program improvements and modern program initiatives require state-of-the-art space, often necessitating the repurposing of existing facilities or new construction. In 2017–18, UC devoted approximately \$217 million for program improvements to address academic, research, and clinical priorities.

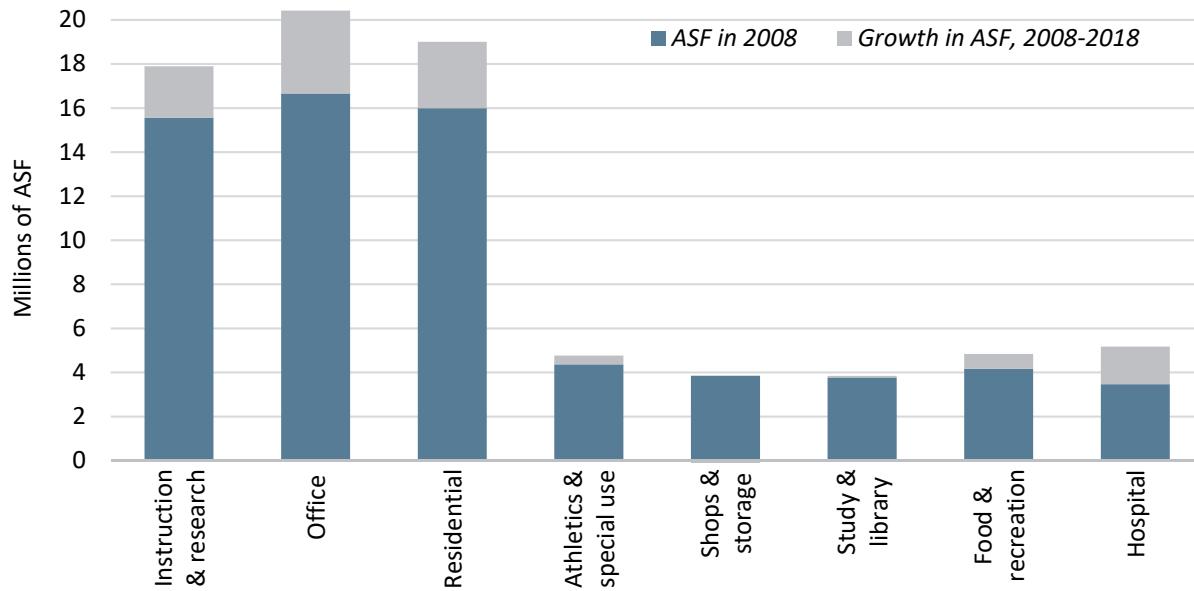
Campus facilities age and must be renewed and modernized to ensure safety, extend the useful life of the buildings, and improve energy efficiency. Building systems, elevators, and roofs need periodic replacement and renewal during the lifespan of a building. In the past five years, UC approved \$1.4 billion for these types of projects.

In addition to general renewal, the University continues to review the seismic safety of its facilities, prioritize buildings for remediation, and implement seismic upgrades. While the investment in 2017–18 was modest, over the past five years, UC devoted \$914 million to seismic and life-safety corrections to buildings.

12.2 CAPITAL PROJECTS

In the past decade, UC space has increased by approximately 17 percent, with most of the growth targeted for instruction and research, offices, and residential uses.

12.2.4 Assignable square footage (ASF) Universitywide 2006–2018



Source: UC Capital Asset Strategies

Assignable square footage (ASF) is the space available for programs or assigned to specific uses. It does not include corridors, bathrooms, or building infrastructure.

Indicator 12.2.4 illustrates the growth in space over the last decade, according to categories for assignable space. Since 2008, space has increased by 11.7 million ASF for a total of 79.5 million ASF.

In the past decade, instructional and research space increased by about 2.3 million ASF, office space by 3.8 million ASF, and residential space by 3.0 million ASF. The space increase for these areas is roughly proportional to the increase in enrollment for the same period.¹ Residential space has grown as

campuses strive for more on-campus student housing to improve student life in living/learning communities and to reduce environmental impacts from commuting. Increases in the student population have also required additions to athletic, recreational and food service space.

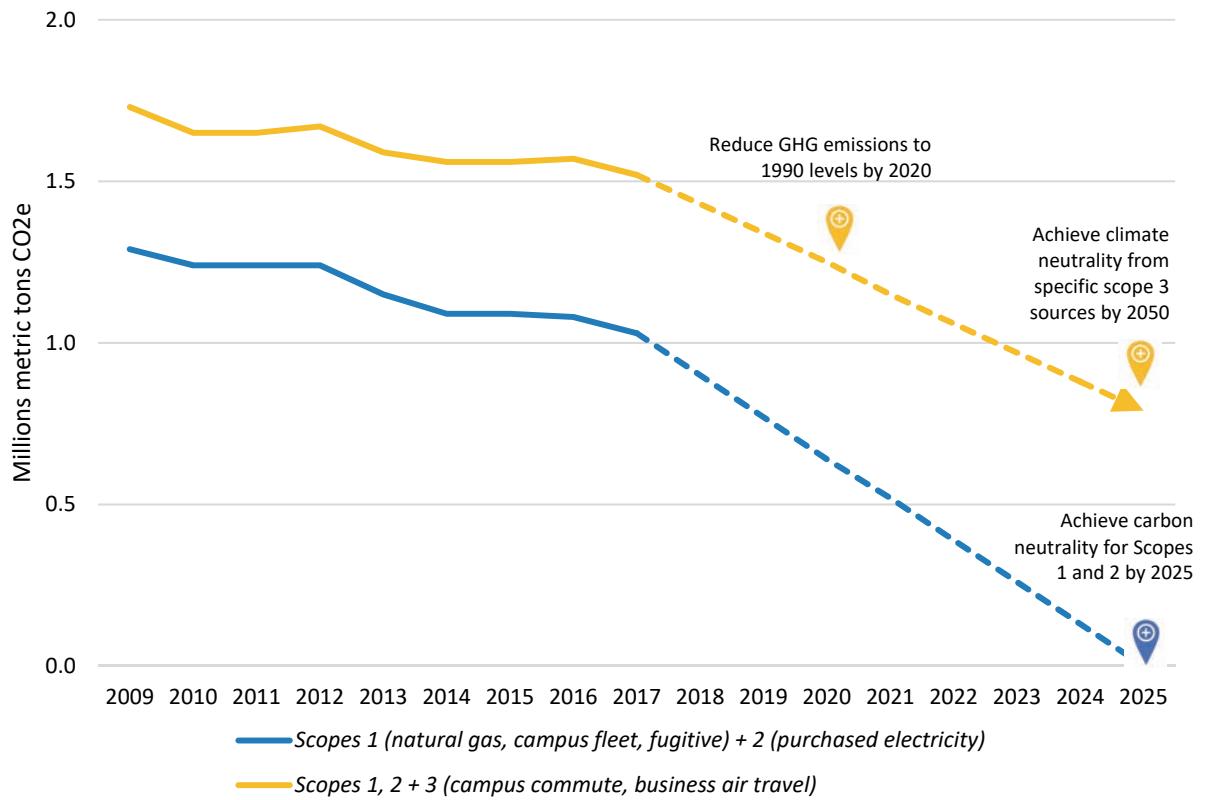
Hospital space significantly grew in the past decade. All five medical centers experienced growth but most of the growth in hospital space can be attributed to the Ronald Regan UCLA Medical Center (2008), UCSF Medical Center at Mission Bay and Ron Conway Family Gateway Medical Building (2015), and the Jacobs Medical Center at UC San Diego Health (2016).

¹ Budget for Current Operations, 2019–20, Appendix Display 8: Enrollment History, 1980–81 Through 2018–19.

12.3 SUSTAINABILITY

UC has made consistent progress toward its greenhouse gas emission goals.

12.3.1 Greenhouse gas emissions compared to climate goals Universitywide 2009–2025



Source: UCOP Energy and Sustainability Office

The University's greenhouse gas (GHG) emissions decreased by almost five percent in 2017, despite campus growth. Emissions are expected to decrease further in 2018 as UC's Wholesale Power Program will provide 100 percent clean electricity to participating locations.

UC has committed to additional clean energy goals that will move the system toward carbon neutrality by 2025. By then, each campus and health location will obtain 100 percent clean electricity, and at least 40 percent of the natural gas combusted on-site at each location will be biogas. The new clean electricity commitments in support of the carbon neutrality goal build on the following accomplishments in 2018:

- Recognition by the Environmental Protection Agency's Green Power Partnership for being the fifth-largest on-site green power generator in the country, with over 81 million kilowatt-hours produced annually.
- Generation of more on-site renewable energy than any other university in the country. UC's inventory of renewable energy supplies includes generation from 88 on-site systems and five off-site sources. UC added an additional five megawatts of on campus solar in 2018.

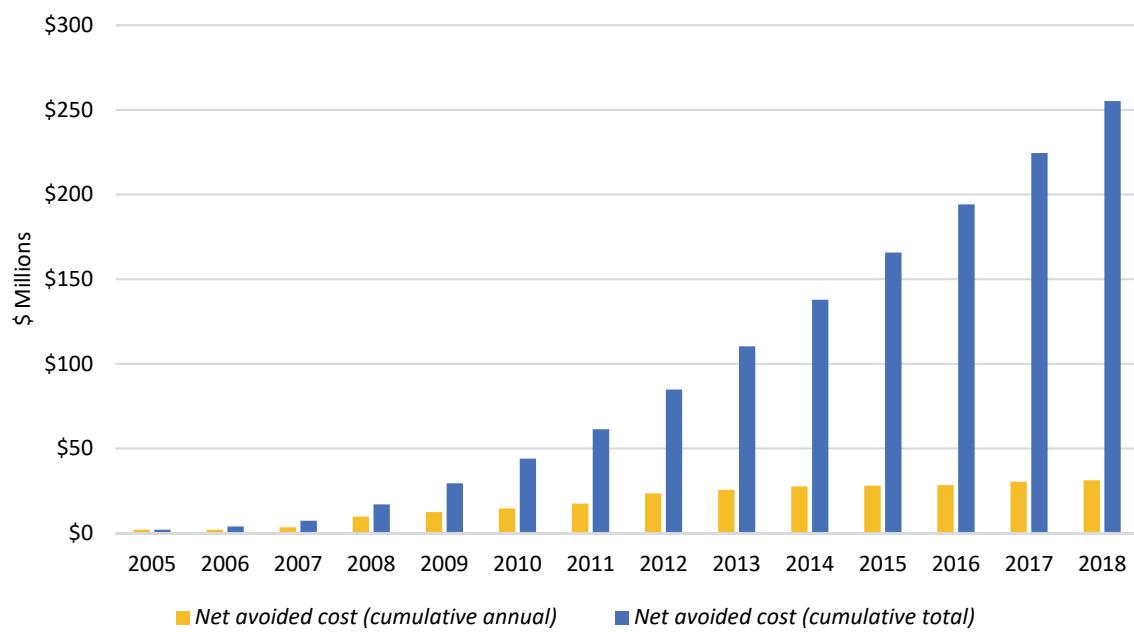
12.3 SUSTAINABILITY

Energy efficiency upgrades resulted in cumulative net avoided costs for the University of \$255 million by the end of 2018.

12.3.2 Cost avoidance from energy efficiency projects

Universitywide

2005–2018



Source: UCOP Energy and Sustainability Office

In 2004, the University formed a statewide energy efficiency partnership program with California State University and the state's four investor-owned utilities to improve the energy performance of higher education facilities. The partnership provides funding for equipment retrofits, monitoring-based commissioning, and training and education.

Since its inception, over 1,000 energy efficiency and new construction projects have registered with the Energy Efficiency Partnership Program, which has allowed UC campuses to avoid more than \$255 million in utility costs while reducing greenhouse gas emissions. Thirty-nine UC projects participated in the program in 2018.

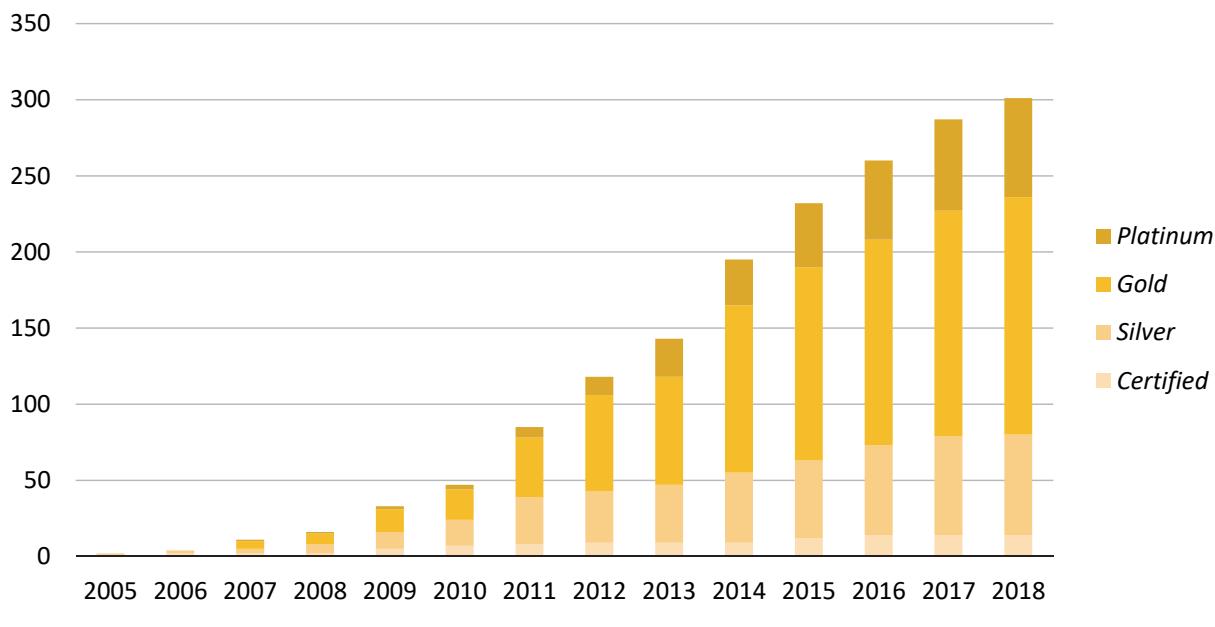
While campuses have used a portfolio approach to balance projects with shorter and longer paybacks, the future focus on the remaining deeper energy efficiency retrofits to achieve climate goals will result in lower levels of net avoided costs due to larger up-front investments.

12.3 SUSTAINABILITY

By the end of 2018, UC had achieved 301 LEED® certifications, more than any other university in the country.

12.3.3 LEED® certifications

Universitywide
2000–2018 (cumulative)



Source: UCOP Capital Resources Management

UC's sustainability policy requires that all new buildings and renovations are designed and constructed to a minimum LEED® (Leadership in Energy and Environmental Design) for New Construction Silver rating. The policy also states that each campus shall seek to certify as many buildings as possible through the LEED – Existing Buildings, Operations and Maintenance (EBOM) rating system to "green" the day-to-day, ongoing environmental performance of its existing facilities.

UC has 301 LEED certifications systemwide, with 42 projects certifying under the LEED – EBOM system. In 2018, five projects earned LEED Platinum certification, eight earned LEED Gold, and two were LEED Silver. UC's total of 301 LEED certifications is the most of any higher education institution in the country.

UC LEED® certifications are listed at:
ucop.edu/sustainability/policy-areas/green-building/index.html

CHAPTER THIRTEEN



Awards and Distinctions

UC San Francisco professor of neurology Ying-Hui Fu, along with three UCSF faculty colleagues, has been elected to the National Academy of Medicine (NAM), one of the highest honors in the fields of health and medicine.

Membership in the NAM recognizes individuals who have demonstrated outstanding professional achievements and commitment to service in the medical sciences, health care, and public health.

Fu, a member of the UCSF Weill Institute for Neurosciences, studies the genetic basis for human circadian rhythms and sleep behaviors. Her lab has identified mutations that underlie various heritable sleep patterns, including extreme “morning lark” behavior (Familial Advanced Sleep Phase) and natural short sleep behavior. Since circadian rhythms and sleep homeostasis are intimately connected with many physiological pathways, including metabolism, immune function, and mood regulation, and have been linked to diseases such as Alzheimer’s, Fu’s studies are shedding light on sleep’s impact on health.

Fu joined the UCSF faculty in 2002 and last year was also elected to the National Academy of Sciences.

AWARDS AND DISTINCTIONS

Overview

Honors and rankings are one way to demonstrate the University's performance and prestige. They reflect reputations and help to position the University nationally and internationally. This chapter first presents metrics of faculty awards and memberships. These represent some of the highest aspirations of research faculty, signaling noteworthy participation and contribution to research and scholarship in a particular area of expertise.

While the University's faculty demonstrate unparalleled excellence, also notable is the opportunity for students of diverse backgrounds to learn and study with these distinguished researchers and educators. One of the points of pride for the University of California is providing students from the bottom end of the economic spectrum with access to an educational and research environment comparable to the nation's finest private institutions but on a significantly larger scale.

This chapter features data from the New York Times' annual College Access Index, showing that the University of California leads the nation in the "Top Colleges Doing the Most for the American Dream." It also features data from the Equality of Opportunity Project and the associated CLIMB (Collegiate Leaders in Increasing MoBility) initiative, which leverage national earnings and taxation data to study how colleges affect social mobility.

Universities are ranked in numerous ways, with publishers of rankings choosing criteria based on different audiences and different aims. This chapter highlights just two well-known rankings. U.S. News and World Report (USNWR) focuses on academic reputation, graduation rates, student selectivity, and financial resources to create its list of America's Best Colleges. The Shanghai Academic Ranking of World Universities ranks institutions around the globe, primarily using faculty research productivity. Additional rankings for UC campuses are available at the link in the section below. While recognizing that these rankings may be useful sources of information, UC does not endorse any particular ranking system nor does it have specific goals with respect to any of them.

For more information

UC Rankings at a glance: ucop.edu/institutional-research-academic-planning/_files/uc-rankings-at-a-glance.pdf

An extended list of rankings: ucop.edu/institutional-research-academic-planning/_files/rankings-brief-2018.pdf

More on the Equality of Opportunity Project: ucop.edu/institutional-research-academic-planning/_files/Economic-Mobility-of-Undergraduates.pdf

13.1 FACULTY AWARDS

UC faculty receive many prestigious awards because they are thought leaders in their fields.

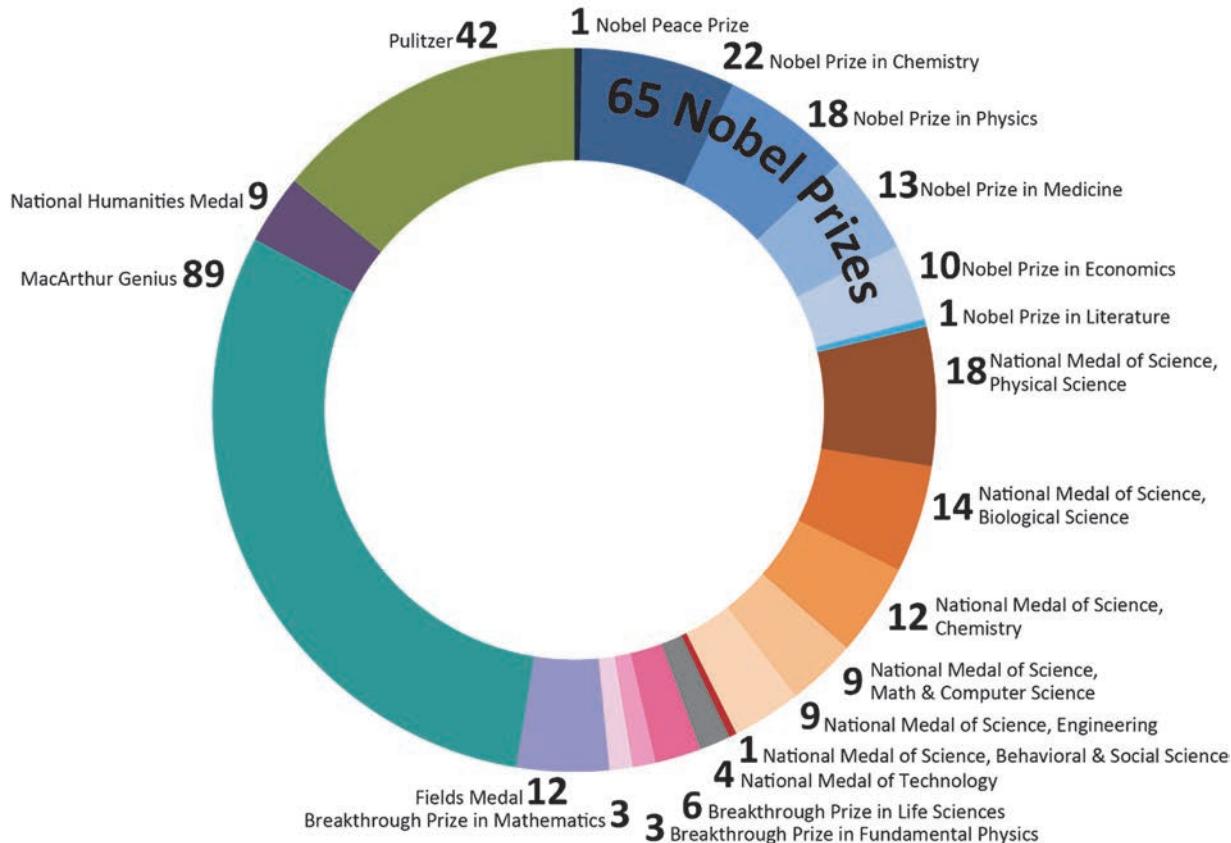
13.1.1 Nobel Prizes by campus affiliation

Sixty-four faculty and researchers affiliated with the University of California have won 65 Nobel Prizes, representing nearly seven percent of the 935 laureates.

A list of UC's laureates can be found at nobel.universityofcalifornia.edu.

| | Chemistry | Economics | Literature | Medicine | Physics | Peace |
|-----------------------|-----------|-----------|------------|----------|---------|-------|
| Berkeley/Berkeley Lab | 9 | 5 | 1 | 1 | 8 | |
| Irvine | 2 | | | | 1 | |
| Livermore Lab | | | | | 1 | |
| UCLA | 3 | 1 | | 1 | 1 | |
| Riverside | 1 | | | | 1 | |
| San Diego | 5 | 3 | | 6 | 2 | |
| San Francisco | | | | | 5 | |
| Santa Barbara | 2 | 1 | | | 4 | |

13.1.2 Prizes, medals, and awards won by UC faculty



In addition to the 296 prizes, medals, and awards presented in the chart above, many UC faculty are members of prestigious National Academies, providing leadership in service and general welfare to the nation.

| National Academy of Sciences | 616 |
|---------------------------------|-----|
| National Academy of Engineering | 265 |
| National Academy of Medicine | 222 |
| National Academy of Inventors | 72 |

13.2 COLLEGE ACCESS INDEX

The New York Times identified UC campuses as the best in the nation at enrolling, supporting, and graduating large numbers of lower-income students.

13.2.1 New York Times College Access Index, 2017

| | 2017 Rank |
|---------------|-----------|
| Irvine | 1 |
| Santa Barbara | 2 |
| Davis | 3 |
| San Diego | 4 |
| UCLA | 5 |
| Berkeley | 9 |

The New York Times' College Access Index ranks institutions with at least a 75-percent five-year graduation rate by the share for freshman entrants that are Pell Grant recipients, the graduation rates of those students, and overall net cost for low-income students. It aims to identify institutions with a "commitment to economic diversity," based on the number of lower- and middle-income students a

college enrolls and graduates and the price it charges these students.

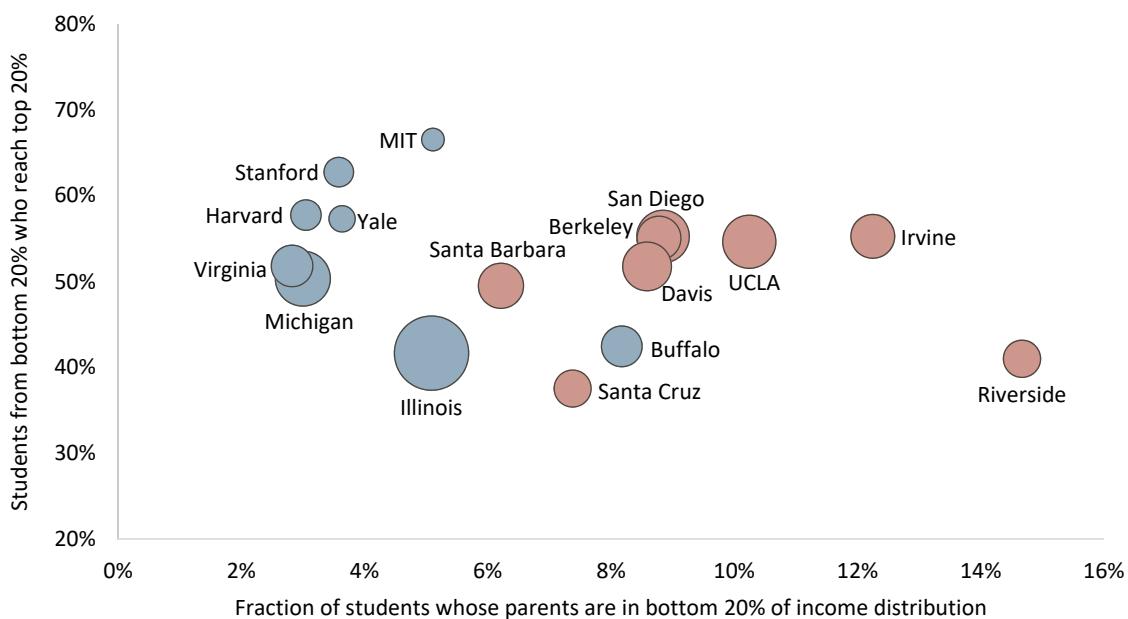
In the 2017 ranking, UC campuses held the top five slots. Six UC campuses were in the top ten. The remaining UC campuses with undergraduates did not meet the index's criteria of at least a 75-percent five-year graduation rate and were thus excluded.

13.3 ECONOMIC MOBILITY

UC campuses are leaders in promoting economic mobility, moving large numbers of students from the bottom to the top of the economic spectrum.

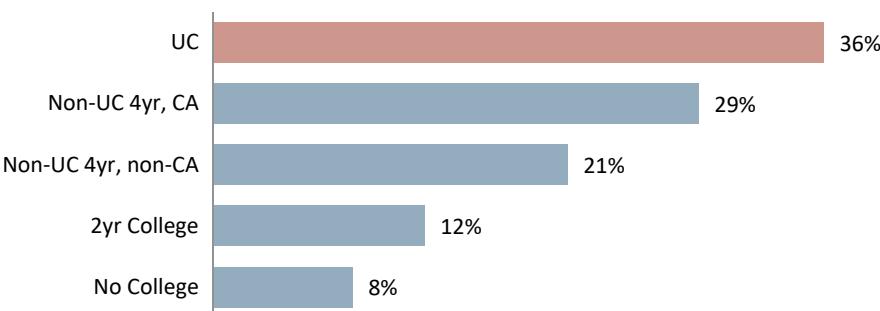
13.3.1 Percent low-income versus upwards social mobility

UC campuses and comparison institutions
1999–2005 college entry cohorts



13.3.2 Percentage from the bottom 20 percent of income who move to the top 20 percent

UC alumni and peers from the same age group
1999–2005 college entry cohorts



UC's collaboration with the Equality of Opportunity Project and the CLIMB Initiative reveals new insights into UC's role in enabling low-income students to achieve intergenerational economic mobility. Through matching UC students to their IRS tax records, and linking them to their parents' tax records when they first enrolled at UC, researchers have been able to determine how many UC students achieve economic mobility.

Thirty-six percent of UC's lowest income students move from the bottom 20 to the top 20 percent of the income distribution as adults, which is higher than other four-year universities in California and the nation.

13.4 RANKINGS

Of the top ten national public universities in the U.S. News and World Report ranking, six are UC campuses.

13.4.1 U.S. News: America's Top National Public Universities 2019

| | Public | National |
|---------------|--------|----------|
| UCLA | 1 | 19 |
| Berkeley | 2 | 22 |
| Santa Barbara | 5 | 30 |
| Irvine | 7 | 33 |
| Davis | 10 | 38 |
| San Diego | 12 | 41 |
| Santa Cruz | 26 | 70 |
| Riverside | 35 | 85 |
| Merced | 67 | 136 |

The U.S. News and World Report, in its 2019 national university rankings, focused on academic reputation, financial resources, and selectivity in undergraduate admissions. Its assessment on these metrics placed UC campuses among the very best public universities in the country:

- UC Berkeley and UCLA were ranked as the top public institutions
- Five UC campuses were among the top ten public institutions in the nation

- For public and private institutions combined, six UC campuses ranked among the top 50

Numerical rankings can provide false precision based on very small actual differences among campuses. For example, there is only a three-point difference out of 100 in the overall score for universities ranked 37th and 46th.

Three UC campuses appear in the top 20 of the Academic Rankings of World Universities.

13.4.2 Shanghai Ranking Consultancy: Academic Rankings of World Universities 2018

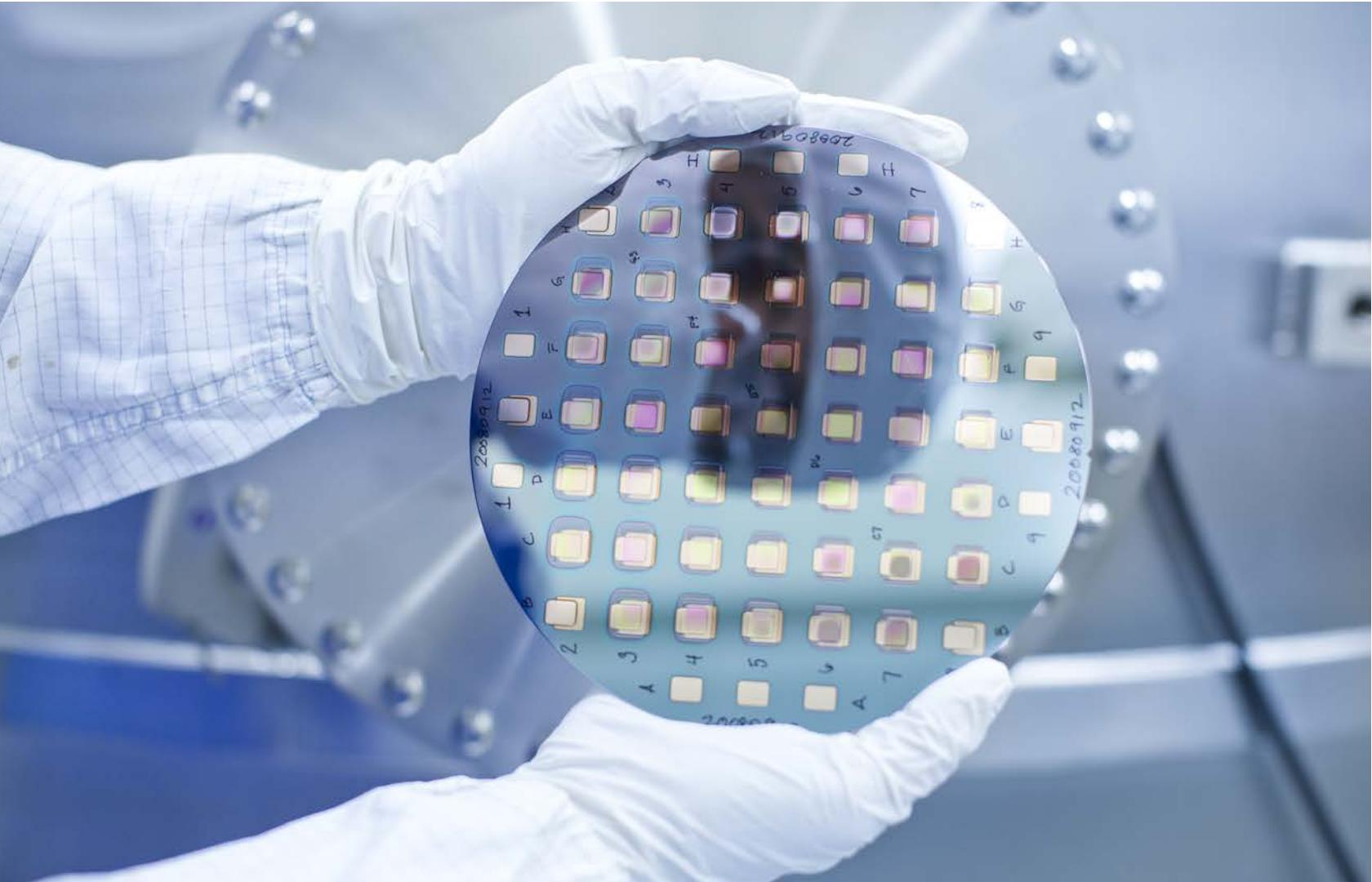
2018 ARWU Shanghai

| | |
|---------------|---------|
| Berkeley | 5 |
| UCLA | 11 |
| San Diego | 15 |
| UCSF | 21 |
| Santa Barbara | 46 |
| Irvine | 83 |
| Davis | 96 |
| Santa Cruz | 101-150 |
| Riverside | 151-200 |

The Academic Rankings of World Universities (ARWU) was created in 2003 by Shanghai Jiao Tong University in China to determine the global standing of Chinese research universities. Since 2009, the Shanghai Ranking Consultancy has published these rankings.

The rankings are based entirely on measures of research strength and faculty honors and awards. English-speaking universities, especially those in the United States, tend to dominate the ARWU rankings.

This ranking system emphasizes research outputs, such as total research expenditures. Because research outputs are not normalized by number of faculty, larger institutions tend to rank more highly than smaller ones. Institutions with strong research programs, especially in the sciences, also tend to score higher than those whose major strengths are in the humanities and social sciences.



Glossary and data sources

Photo credits

GLOSSARY

AAU — Association of American Universities. The AAU is a highly selective membership organization of preeminent public and private research universities. AAU currently has 60 American and two Canadian member institutions. In this report, the Canadian institutions are excluded from calculations. Of the ten UC campuses, six are AAU members: Berkeley, Davis, Irvine, Los Angeles, San Diego, and Santa Barbara.

AB 540 — AB 540 is an Assembly bill passed in 2001. It allows undocumented high school students who meet certain requirements to pay in-state, instead of nonresident, tuition at California's public higher education institutions.

Academic Senate — The Academic Senate represents the faculty in the shared governance of the University of California.

ARRA — American Recovery and Reinvestment Act, passed in 2009, was an economic stimulus package intended to ameliorate the effects of the 2007–09 recession.

Auxiliary enterprises — Auxiliary enterprises are campus services that charge fees for goods and services, and therefore are self-supporting. Examples include student housing, dining facilities, and bookstores.

Climate — Climate is a term employed to measure diversity at UC campuses and the degree to which the campuses are welcoming and inclusive of different groups and affiliations.

Clinical faculty — Clinical faculty are instructors in medical and health sciences fields. They include professors in residence, professors of clinical __ (__ being the name of the discipline or specialty), and health science clinical professors. Clinical faculty are not members of the Academic Senate.

Comparison institutions; comparators — UC historically has used eight universities against which to benchmark faculty salaries. The comparison institutions — four public and four private — are: University of Illinois, University of Michigan, University at Buffalo, and University of Virginia (all public); and Harvard, Massachusetts Institute of Technology, Stanford, and Yale (all private).

FTE — Full time equivalent — a unit of measurement of employee or student workload or attendance. Two individuals each engaged in half-time employment constitute a single FTE. In this report, FTE counts are represented with a single decimal to differentiate them from headcounts. (See *headcount*.)

General campus — Used to distinguish the non-health science areas of a campus from the health science areas. Berkeley, Davis, Irvine, Los Angeles, Riverside, and San Diego include both general campus and health science areas. Merced, Santa Barbara and Santa Cruz are general campus only, and San Francisco is an exclusively health science campus.

General funds — General funds include State General Funds, which are funds from the State of California, and UC general funds, which are primarily indirect cost recovery and nonresident tuition.

Graduation rate — The proportion of students in a cohort who finish their degrees within a specified period. Undergraduate graduation rates are generally measured in four-, five- .and six-year increments for entering freshmen, and two-, three-. and four-year increments for transfer students.

Headcount — Headcount is the actual number of individuals without accounting for full- or part-time status. Two students each attending school half-time constitute a headcount of two. (See *FTE*.)

Health sciences instruction — Seven UC campuses offer health sciences instruction. Davis, Irvine, Los Angeles, San Francisco. and San Diego have schools of medicine and other health sciences such as pharmacy, nursing. and dentistry; Riverside has a school of medicine; Berkeley offers health sciences instruction in optometry and public health.

K-12 — Kindergarten through 12th-grade instruction.

Ladder-rank — Ladder-rank faculty are faculty who are tenured or have potential to receive tenure, and generally are members of the Academic Senate.

Master Plan — The Master Plan for Higher Education establishes a system of public higher education in California that defines the roles of public institutions, with the goal of making higher education available to all Californians. The Master Plan was originally drafted in 1960 and has been updated several times to accommodate changing circumstances.

Non-ladder-rank faculty — Non-ladder rank faculty are faculty who are neither tenured nor on track to receive tenure, and generally are not members of the Academic Senate. Non-ladder rank faculty includes lecturers, visitors, adjuncts, instructional assistants, and clinical faculty.

Nonresident — Nonresident students come from outside California to attend a UC campus. They must pay the full cost of attendance.

Pell Grant — The Pell Grant is a federal program that provides need-based grants to low-income individuals for the purposes of obtaining a college degree. A Pell Grant recipient is defined as a student who received a Pell Grant at any point while attending an institution.

Postbaccalaureate teaching credential — The postbaccalaureate teaching credential trains individuals to meet state standards for teacher certification.

Postdoctoral scholar — Postdoctoral scholars are engaged in further research or training in the fields in which they obtained their doctoral degrees for the purpose of gaining additional expertise and skills. Postdoctoral scholars may hold concurrent titles in other academic or staff categories.

SCH, student credit hours — Student credit hours are a measure of faculty teaching workload. SCH are calculated as the number of student enrollments in a course multiplied by the number of credits available from that course. For example, a 4-credit course with 50 students generates 200 SCH; a 2-credit course of 15 students generates 30 SCH.

Shared governance — At the University of California, faculty, operating through the Academic Senate, have a voice in the operation of the University and a measure of responsibility for the manner in which the University operates. This system is known as shared governance.

STEM — Science, technology, engineering, and mathematics. In this report, includes physical sciences and mathematics, life sciences, engineering, computer science, and health sciences.

TICAS — The Institute for College Access and Success. TICAS is an independent, nonprofit organization that conducts and supports nonpartisan research, analysis and advocacy with regard to access and affordability of higher education.

Transfer students — Transfer students enter UC after completing their freshman- and sophomore-level studies at a California Community College. The Master Plan calls for UC to admit as juniors all qualified California Community College students and specifies that the University maintain a 60:40 ratio of upper-division (junior- and senior-level) to lower-division (freshman- and sophomore-level) students.

UC Extension — UC Extension is a program of courses offered by UC campuses to working professionals to meet their continuing-education needs through both credit and non-credit programs. UC Extension does not award degrees; it offers only certificates and continuing education credit.

UCUES — University of California Undergraduate Experience Survey. UCUES is a biennial survey that solicits undergraduate opinions on all aspects of the UC experience. *See Data Sources entry below for more information.*

WSCUC — Western Association of Schools and Colleges Senior College and University Commission. WSCUC is UC's regional accrediting agency. It is recognized by the U.S. Department of Education as the accrediting agency for colleges and universities in the western United States and the Pacific Basin.

Data Sources

Association of American Universities (AAU)

The Association of American Universities (AAU) is an association of 62 leading public and private research universities in the United States and Canada. A list of the institutions can be found in Table 6 of this glossary. Membership in AAU is by invitation and is based on the high quality of programs of academic research and scholarship and undergraduate, graduate and professional education in a number of fields. Throughout this report, the two AAU institutions in Canada are excluded from the “Non-UC AAU Public” group because they do not submit data to the U.S. Department of Education, the source of the AAU data used here. For more information, visit aau.edu.

American Association of University Professors (AAUP)

The American Association of University Professors is an organization of professors and other academics in the United States. It conducts an annual survey of faculty compensation, used in this report to compare UC’s faculty salaries. More information on the AAUP data set can be found at aaup.org/our-work/research/annual-report-economic-status-profession.

Consumer Price Index (CPI)

The CPI is a measure of inflation experienced by consumers, and an important indicator of the condition of the economy. It can be used to adjust other economic data for changes in price level and to convert them into inflation-free dollars. For example, retail sales and income data are “deflated” to assess their “real” movements over time. This report uses the calendar year average of the CPI-W (CA), which is the Consumer Price Index for Urban Wage Earners and Clerical Workers.

Council for Aid to Education (CAE)

The Council for Aid to Education (CAE) is a national nonprofit organization based in New York City. Initially established in 1952 to advance corporate support of education and to conduct policy research on higher education, CAE today is also focused on improving quality and access in higher education. CAE’s Voluntary Support of Education (VSE) survey is the authoritative national source of information on private giving to higher education and private K–12 classrooms, consistently capturing about 85 percent of the total voluntary support to colleges and universities in the United States. CAE has managed the survey as a public service for over 50 years. For more information, visit cae.org.

Integrated Postsecondary Education Data System (IPEDS)

IPEDS is a system of interrelated surveys conducted annually by the National Center for Education Statistics (NCES) of the Institute of Education Sciences, U.S. Department of Education. IPEDS gathers information from every college, university, and technical and vocational institution that participates in federal student financial aid programs. IPEDS provides basic data needed to describe — and analyze trends in — postsecondary education in the United States, in terms of the numbers of students enrolled, staff employed, dollars expended, and degrees earned. For more information, visit nces.ed.gov/ipeds.

National Postsecondary Student Aid Study (NPSAS)

The National Postsecondary Student Aid Study is the most comprehensive, nationally representative survey of student financing of postsecondary education in the United States. Since 1987, NPSAS has been conducted every three to four years by the National Center for Education Statistics (NCES) of the Institute of Education Sciences, U.S. Department of Education. Undergraduate and graduate students enrolled at all types of postsecondary institutions are represented. For more information, visit nces.ed.gov/surveys/npsas.

National Student Clearinghouse (NSC)

The National Student Clearinghouse reports on all institutions that a student has attended or received a degree/credential at. Estimates are conservative due to imperfect matching of students. For more information, visit studentclearinghouse.org/.

Survey of Earned Doctorates (SED)

The Survey of Earned Doctorates (SED) is a federal survey conducted by the National Opinion Research Center (NORC) for the National Science Foundation and five other federal agencies (National Institutes of Health, U.S. Department of Education, National Endowment for the Humanities, U.S. Department of Agriculture and the National Aeronautics and Space Administration). The SED gathers information annually from new U.S. research doctorate graduates about their educational histories, funding sources and postdoctoral plans.

UC Audited Financial Statements

UC, like all public entities, is audited by an external auditing firm. UC's external audit is performed by Price Waterhouse Coopers, an independent certified public accounting firm reporting to the Regents. UC's audited financial statements can be accessed at universityofcalifornia.edu/reportingtransparency.

UC Budget for Current Operations

UC budget documents can be found at ucop.edu/operating-budget/budgets-and-reports/index.html.

UC Corporate Financial System (CFS)

The Corporate Financial System (CFS) contains financial data for all UC campuses. The primary source of data in the CFS is a monthly transmittal file from each of the ten UC campuses. Each campus file contains data reflecting current financial, budgetary, and encumbrance balances, and current month financial activity in the campus' general ledger. More information can be found at data.ucop.edu/subject-area/financial-data-warehouse.html.

UC Corporate Personnel System (CPS)

The Corporate Personnel System (CPS) is a reporting system with demographic, personnel and pay activity data on employees. More information can be found at data.ucop.edu/subject-area/cps-assets/personnel-data-warehouse.html.

UC Data Warehouse

The Data Warehouse is a set of databases and processes that provides information to meet the management, analytical, and operational needs of the UC Office of the President. The databases are created and/or updated with data received from the campuses and other sources. More information can be found at data.ucop.edu/subject-area/index.html.

UC Faculty Instructional Activities dataset (“TIE” data collection)

UC conducts annual data collections from campuses on faculty instructional activities. This data collection was originally undertaken in response to a state reporting requirement that was not renewed. The 2007 annual report to the Legislature was the last mandated report; it can be found at ucop.edu/academic-planning-programs-coordination/_files/documents/fia/fia_annlrpt2007.pdf. Since that time, UC has continued to collect these data for management and accountability purposes.

UC Graduate Student Support Survey

The UCOP Student Affairs department conducts periodic surveys of the competitiveness of UC graduate student support. Reports on this survey can be found at ucop.edu/student-affairs/data-and-reporting/graduate-student-support/index.html.

UC Information Center

The UC Information Center is a website providing a central source of information about the University that allows the public to explore the UC story through data. The site can be accessed at <https://www.universityofcalifornia.edu/infocenter>.

UC Medical Centers Audited Financial Statements

The UC medical centers, like all public entities, are audited by an external auditing firm. The medical center audited financial statements are published separately from UC's external audit. UC's audited financial statements can be accessed at universityofcalifornia.edu/reportingtransparency.

UC Medical Schools

Six UC campuses include medical schools: Davis, Irvine, Los Angeles, Riverside, San Diego, and San Francisco. More information on these schools can be found at health.universityofcalifornia.edu/medical-centers/.

UC Student Financial Support Annual Reports

These reports, produced by the UCOP Student Affairs department, can be found along with other financial aid information at ucop.edu/student-affairs/data-and-reporting/index.html.

University of California Undergraduate Experience Survey (UCUES)

The University of California Undergraduate Experience Survey (UCUES) biennially solicits student opinions on all aspects of the UC experience. UCUES content is broad and covers most aspects of students' academic and co-curricular experiences. Students evaluate such things as instruction, advising, and student services. The systemwide response rate for UCUES was 38 percent in 2006, 39 percent in 2008, 42 percent in 2010, 36 percent in 2012, and 37 percent in 2014. More information can be found at studentsurvey.universityofcalifornia.edu/.

Table 1. Broad Discipline Classification

| Broad Discipline | CIP Categories Included | |
|---|---|--|
| | When Using UC Corporate Data | When Using IPEDS Degree Data |
| Arts & Humanities | Visual/Performing Arts English Literature Foreign Languages Philosophy History Liberal Arts | Visual/Performing Arts English Literature Foreign Languages Philosophy History Liberal Arts |
| Life Sciences | Bio/Life Sciences Conservation Science Agricultural Science (select 01 CIPs) | Bio/Life Sciences Conservation Science Agricultural Science (select 01 CIPs) |
| Physical Sciences, Technology, Engineering, and Mathematics (PSTEM) | Math Physical Science Engineering Computer Science | Math Physical Science Engineering Computer Science |
| Social Sciences | Area Studies Psychology Social Sciences (except UCSD Pacific Affairs, UCI Criminology) Agricultural Business/Production (select 01 CIPs) | Area Studies Psychology Social Sciences Agricultural Business/Production (select 01 CIPs) |
| Other Disciplines | Interdisciplinary Other/Unknown Business Architecture Education Public Admin. Law (non-J.D.) Communications Criminology Health Sciences Library Science Social Sciences (UCSD Pacific Affairs and UCI Criminology) | Interdisciplinary Other/Unknown Business Architecture Education Public Admin. Law (non-J.D.) Communications Criminology Health Sciences Library Science Theology Parks & Recreation Military Science Homeland Security |

Table 2. Faculty Discipline Groupings

| Discipline Grouping - Accountability | UAS Discipline | Discipline Grouping - Accountability | UAS Discipline |
|---|---------------------------------|---|-------------------------------------|
| Arts & Humanities | Fine & Applied Arts | Medicine | Medicine |
| Arts & Humanities | Foreign Languages | Other General Campus Professional | Architecture & Environmental Design |
| Arts & Humanities | Letters | Other General Campus Professional | Criminology |
| Arts & Humanities | Theology | Other General Campus Professional | Social Welfare |
| Business/Management Education | Business & Management Education | Other General Campus Professional | Communications |
| Engineering & Computer Science | Computer & Information Sciences | Other General Campus Professional | Library Science |
| Engineering & Computer Science | Engineering | Other Health Science | Veterinary Medicine |
| Interdisciplinary/Other | Interdisciplinary Studies | Other Health Science | Dentistry |
| Interdisciplinary/Other | Physical Education | Other Health Science | Nursing |
| Interdisciplinary/Other | Military Sciences | Other Health Science | Pharmacy |
| Interdisciplinary/Other | Home Economics | Other Health Science | Public Health |
| Law | Law | Other Health Science | Optometry |
| Life Sciences | Biological Sciences | Physical Science | Other Health Professions |
| Life Sciences | Agriculture & Natural Resources | Social Science & Psychology | Physical Sciences |
| Math | Mathematics | Social Science & Psychology | Psychology |
| | | Social Science & Psychology | Social Sciences |
| | | | Area Studies |

Table 3. Faculty Categories, Faculty Series, and Class Title Outline Codes

| Category | Faculty Series Included | Class Title Outline (CTO) Codes¹ |
|--|--|---|
| Faculty – Ladder-rank and Equivalent (LRE) | <ul style="list-style-type: none"> • Professorial – Tenure, Non-Tenure and Recall² • Clinical Prof. of Dentistry – 50% or More • Supervisor of Physical Education – Tenure, Non-Tenure and Recall • Acting Professor – Senate and Non-Senate • Lecturer with Security of Employment and with Potential Security of Employment – 100%, and Recall³ • Astronomer – Tenure, Non-Tenure and Recall • Agronomist – Tenure, Non-Tenure and Recall | <ul style="list-style-type: none"> • 010, 011, 012 • 030, 031 • 040, 041, 042 • 114, 124 • 210, 211, 212 • 520, 521, 522 • 530, 531, 532 |
| Faculty – Clinical/In-Residence/Adjunct | <ul style="list-style-type: none"> • Professor in Residence • Professor of Clinical ____ (e.g., Medicine) • Health Sciences Clinical Professor • Adjunct Professor • Visiting Professor | <ul style="list-style-type: none"> • 311 • 317 • 341 • 335 • 323 |
| Faculty – Lecturers | <ul style="list-style-type: none"> • Lecturer • Lecturer with Potential Security of Employment – Part Time • Instructional Assistant (non-student) | <ul style="list-style-type: none"> • 225 • 221 • 357 |

¹ The CTO code identifies a group of titles with similar duties and/or conditions of appointment.

² “Recall” denotes retired faculty who have been recalled to active service to perform teaching, research, and/or public service duties. They are included in reporting on headcounts and FTE of incumbent faculty, but they are excluded from reporting on faculty new hires and separations.

Note: Faculty members with tenure are conferred the Emeritus title upon retirement. If they return to University service in a paid position, they are appointed in Recall titles. Emeritus faculty without Recall appointments are not included in faculty counts in the Accountability Report.

³ Lecturers in these titles are also called “Senate Lecturers.” They have or are eligible for the equivalent of tenure, and they are represented in the Academic Senate.

Table 5. AAU Member Universities, as of June 2017 (United States only)

| UC | Non-UC Public | Private |
|---------------|---|---|
| Berkeley | Georgia Institute of Technology — Main Campus | Boston University |
| Davis | Indiana University — Bloomington | Brandeis University |
| Irvine | Iowa State University | Brown University |
| Los Angeles | Michigan State University | California Institute of Technology |
| San Diego | Ohio State University — Main Campus | Carnegie Mellon University |
| Santa Barbara | Pennsylvania State University — Main Campus | Case Western Reserve University |
| | Purdue University — Main Campus | Columbia University in the City of New York |
| | Rutgers University — New Brunswick | Cornell University |
| | Stony Brook University | Duke University |
| | Texas A & M University | Emory University |
| | The University of Texas at Austin | Harvard University |
| | University at Buffalo | Johns Hopkins University |
| | University of Arizona | Massachusetts Institute of Technology |
| | University of Colorado at Boulder | New York University |
| | University of Florida | Northwestern University |
| | University of Illinois at Urbana — Champaign | Princeton University |
| | University of Iowa | Rice University |
| | University of Kansas | Stanford University |
| | University of Maryland — College Park | Tulane University of Louisiana |
| | University of Michigan — Ann Arbor | University of Chicago |
| | University of Minnesota — Twin Cities | University of Pennsylvania |
| | University of Missouri — Columbia | University of Rochester |
| | University of North Carolina at Chapel Hill | University of Southern California |
| | University of Oregon | Vanderbilt University |
| | University of Pittsburgh — Pittsburgh Campus | Washington University in St Louis |
| | University of Virginia — Main Campus | Yale University |
| | University of Washington — Seattle Campus | |
| | University of Wisconsin — Madison | |

Table 6. Inflation Adjustments

Unless otherwise noted, all inflation adjustments are to 2017 calendar year dollars using the consumer price index for urban wage earners and clerical workers, California (CPI-W) published by the California Department of Finance at <http://www.dof.ca.gov/Forecasting/Economics/Indicators/Inflation/>.

| Calendar Year | Fiscal/ Academic Year | CCPI-W, CA (1982– 84=100) | Calendar Year | Fiscal/ Academic Year | CCPI-W, CA (1982– 84=100) | Calendar Year | Fiscal/ Academic Year | CCPI-W, CA (1982– 84=100) |
|---------------|-----------------------------|---------------------------------|------------------|-----------------------------|---------------------------------|------------------|-----------------------------|---------------------------------|
| | 1996 | 1996–97 | | 2004 | 2004–05 | | 2012 | 2012–13 |
| 1997 | 1997–98 | 155.0 | 2005 | 2005–06 | 195.9 | 2013 | 2013–14 | 234.9 |
| 1998 | 1998–99 | 157.6 | 2006 | 2006–07 | 203.3 | 2014 | 2014–15 | 239.0 |
| 1999 | 1999–00 | 162.2 | 2007 | 2007–08 | 209.9 | 2015 | 2015–16 | 241.6 |
| 2000 | 2000–01 | 168.1 | 2008 | 2008–09 | 217.6 | 2016 | 2016–17 | 246.2 |
| 2001 | 2001–02 | 174.7 | 2009 | 2009–10 | 216.3 | 2017 | 2017–18 | 253.2 |
| 2002 | 2002–03 | 179.0 | 2010 | 2010–11 | 219.7 | | | |
| 2003 | 2003–04 | 183.8 | 2011 | 2011–12 | 226.4 | | | |

Student Level Classification Summary:

UCOP classifies graduate students into five enrollment levels that rely on campus-provided information on program type and student enrollment level. Within UCOP's central student data system, campuses indicate whether each of their programs of study is academic or professional at the master's and doctoral levels. These indications, combined with the actual enrollment level (masters or doctoral) of the student, serve as the determination of whether a student is enrolled in an academic doctoral, professional doctoral, academic master's, or professional master's program. Two exceptions to this rule include: (1) all self-supporting students are treated as professional (master's or doctoral based on level) regardless of how the campus may have classified the program; and (2) all students enrolled in programs associated with professional licensure (law, medicine, and other health professions) are treated as professional practice.

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