

A hand wearing a yellow nitrile glove holds a magnifying glass over a circular silicon wafer. The wafer is held in a metal fork and shows a complex grid of microchips. The background is a blurred blue and yellow. The text 'Annual Accountability Report' is overlaid on the top left in white on pink rectangular backgrounds.

Annual Accountability Report

2016

UNIVERSITY
OF
CALIFORNIA

University of California Accountability Framework

As a public entity, the University is accountable to the people of California and it must and it shall 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.

www.universityofcalifornia.edu/accountability

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**University of California
Annual Accountability Report 2016
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Interactive maps are available at <http://ucal.us/maps>

The University of California

ACCOUNTABILITY REPORT

The University of California produces the annual Accountability Report to provide greater awareness of the University's efforts, operations and impact. The report serves as a planning tool for UC leaders, faculty and staff. As part of the University's transparency efforts, the report is shared with a broad range of external stakeholders. It shows how the University is performing, including areas of strength and those needing improvement, and demonstrates the public benefits that come from state, federal, philanthropic and other investments in the University.

This year, the executive summary emphasizes UC's research enterprise. UC expended roughly \$4.3 billion on research in 2014–15. This distinguishes UC from other segments in the state's public higher education system. Research is fundamentally and inextricably woven into its education and public service missions. UC research informs public policy, drives solutions to societal problems, and fosters the next generation of innovators, leaders and educators.

Graduate students are critical to UC's research. Their research often produces groundbreaking discoveries. They help teach, mentor and provide hands-on research opportunities to undergraduates, who learn to think critically, assess complex problems, adapt to challenges and seek solutions. This kind of creative thinking is sought by employers and positions UC alumni to make contributions to California and the world.

As a research and educational powerhouse, investments in the University of California deliver economic and social benefits to California and its citizens, as illustrated in the following examples:

Research

- UC receives more than half of its \$4.3 billion research budget from outside of California.
- California startups based on UC technology licenses generate nearly \$14 billion in annual revenue.
- UC produces, on average, five new discoveries a day — and holds more active patents than any other university system in the country.

UC at a Glance

- 10 campuses, 5 medical centers and 3 national laboratories
- 251,700 students and 1.6 million alumni
- Fourth-largest health care delivery system in California
- Third-largest employer in California

Education

- 85 percent of undergraduates come from California, and UC puts California students first in admissions, financial aid and outreach.
- UC is an engine of social mobility: 42 percent of its undergraduates are from families in which neither parent holds a four-year degree.
- UC's low-income students graduate at rates comparable to all other students, and on average earn more than their families after graduation.

Public Service

- UC plays a role in the education of more than 200,000 California K–12 and community college students, whether or not they are UC-bound.
- UC Health logged 4.5 million outpatient visits last year through its five medical centers.
- UC's Division of Agriculture and Natural Resources has cooperative extension offices in every California county, and has helped make California the nation's top agricultural state.

The University has a profound impact on the people it touches, who then in turn influence others. This executive summary shares some of those stories, along with examples of UC Presidential Initiatives that coordinate research and operational efforts across the system to enhance UC's impact on California and the world. The full report, along with the data and visualizations, can be downloaded at <http://accountability.universityofcalifornia.edu>.

UC FACULTY: TAKING ON CALIFORNIA'S CHALLENGES AND SPURRING THE STATE'S ECONOMY THROUGH RESEARCH

Over the last decade, a Nobel Prize has been awarded to a UC-affiliated researcher or faculty member nearly every year. There are now 61 Nobel recipients in the UC system. Put another way, if UC were a country, it would place fourth in Nobel Laureates. More than 580 UC scholars have been elected to the National Academy of Sciences; 540 UC faculty have been elected to the American Academy of Arts and Sciences; and over 200 National Institute of Medicine members have a UC affiliation.

UC graduate programs and undergraduate campuses frequently appear at the top of national and international rankings. Six UC campuses are members of the prestigious 62-member Association of American Universities (AAU), a representation no other state system can match. Because of these honors and awards, UC serves as a magnet that draws both talent and investment to California, helping further the reach of UC's teaching, research and public service activities.

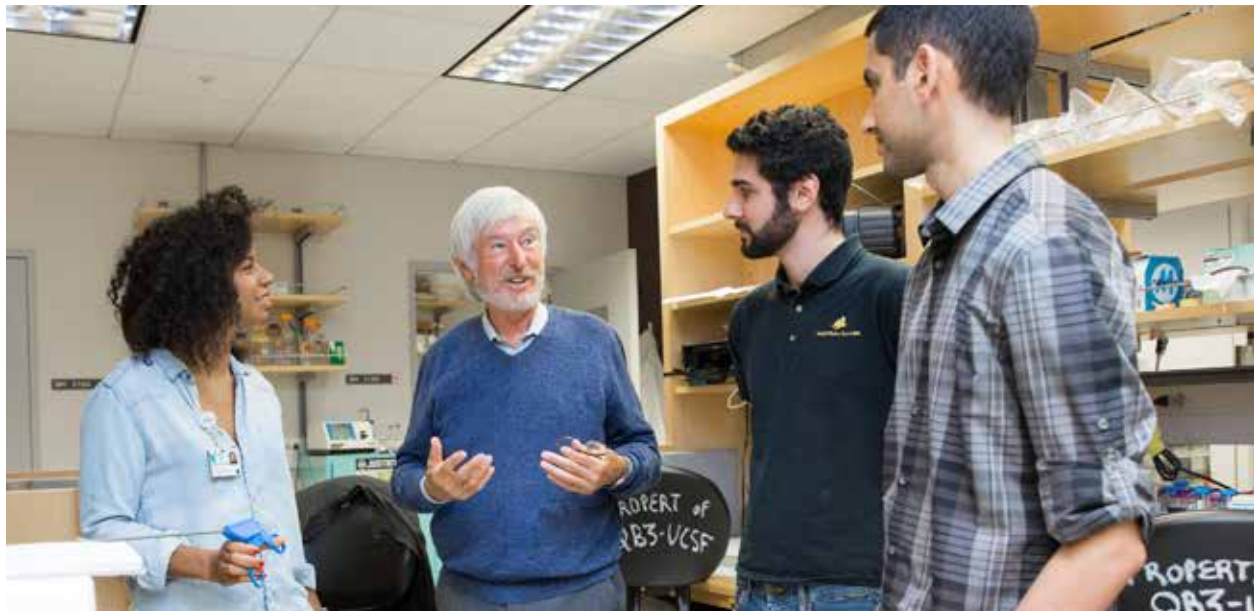
UC research expenditures have doubled to almost \$4.3 billion over the last 15 years, with the majority of funds coming from outside California. UC receives one-tenth of the nation's academic research and development funds, and is the largest recipient

of research funding from the National Institutes of Health and the National Science Foundation. These funds not only support research activities but are also used to create jobs and purchase goods and services throughout California beyond the ten campuses and five medical centers. Furthermore, commercialization of UC research often results in inventions, patents, licenses, products, services and startup companies that create additional jobs and local economic activity throughout California (see UC Research Impacts in California map next page).

UC has launched the Innovation and Entrepreneurship Initiative to further the reach of UC research by building a vibrant and innovative entrepreneurial culture across the entire university. Central to this initiative is the UC Ventures Program, which supports entrepreneurship and technology commercialization by investing in UC discoveries and innovations.

These initiatives amplify the role that UC campuses play as centers of innovation. There are over 85 programs at UC supporting entrepreneurs at all stages of the innovation pipeline: from developing an idea to mentoring to incubating a startup company. Many programs launched or ramped up in FY 2015. Page 5 lists examples of such innovation at UC.

The University of California serves as the state's think tank, researching and addressing some of the most pressing challenges facing California and the



QB3 Director Regis Kelly, Ph.D., OBE, second from left, talks with scientists working in the QB3 Garage incubator space at Mission Bay. QB3 is a state institute that connects private industry with scientists at UC San Francisco, UC Berkeley and UC Santa Cruz. Photo by Susan Merrell, UCSF.

UC RESEARCH IMPACTS IN CALIFORNIA

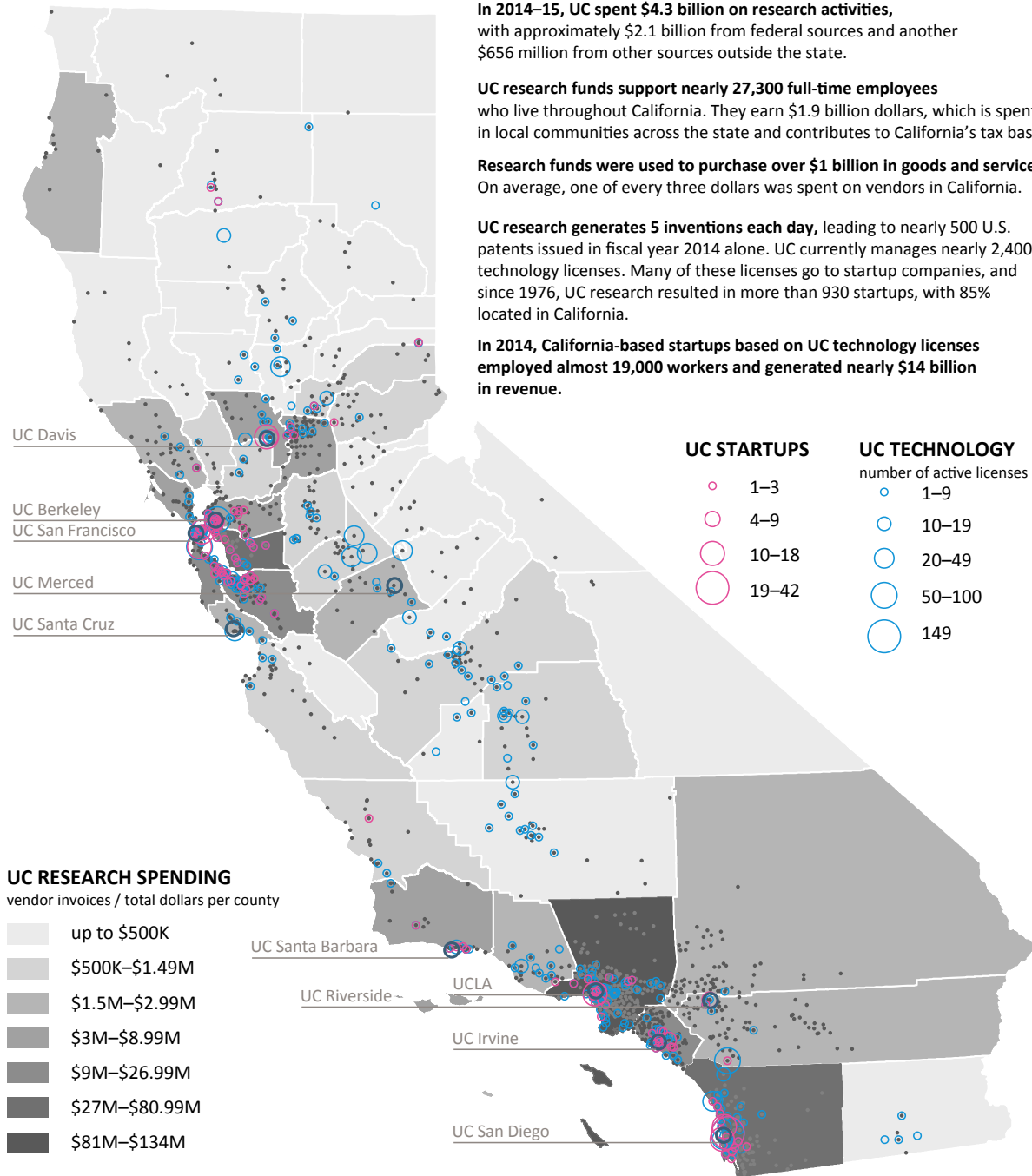
In 2014–15, UC spent \$4.3 billion on research activities, with approximately \$2.1 billion from federal sources and another \$656 million from other sources outside the state.

UC research funds support nearly 27,300 full-time employees who live throughout California. They earn \$1.9 billion dollars, which is spent in local communities across the state and contributes to California’s tax base.

Research funds were used to purchase over \$1 billion in goods and services. On average, one of every three dollars was spent on vendors in California.

UC research generates 5 inventions each day, leading to nearly 500 U.S. patents issued in fiscal year 2014 alone. UC currently manages nearly 2,400 technology licenses. Many of these licenses go to startup companies, and since 1976, UC research resulted in more than 930 startups, with 85% located in California.

In 2014, California-based startups based on UC technology licenses employed almost 19,000 workers and generated nearly \$14 billion in revenue.



• **RESEARCH EMPLOYEES’ HOME LOCATION**

Note: Location is by zip code and can represent multiple employees

world. UC is working to combat global hunger; to develop models for affordable, high-quality health care; and to find answers to complex environmental questions.

As one example, UC has pledged to become carbon neutral by 2025, becoming the first major university to accomplish this achievement. UC's Carbon Neutrality Initiative builds on UC's pioneering work on climate research and furthers its leadership in sustainable business practices. Over the last six years, UC researchers have secured more than \$491 million to develop technologies and management practices aimed at achieving carbon neutrality and addressing global climate concerns. Operationally, UC is improving its energy efficiency, developing new sources of renewable energy and enacting strategies to cut its carbon emissions.

In October 2015, the University hosted a Summit on Pathways to Carbon and Climate Neutrality, which brought together state and federal officials, corporate leaders, and green technology engineers to discuss scalable solutions designed by UC researchers to mitigate climate change and reduce greenhouse gases.

UC faces numerous challenges in pursuing its research mission. The federal government provides more than half of UC's research funding, and fluctuations in the federal budget alter the level of UC's research activity. UC faculty are submitting a higher number of grant applications to maintain the same level of federal support, increasing workloads and costs. UC also faces increased competition in the recruitment and retention of world-class faculty and top-tier graduate students and postdoctoral fellows.

University of California Innovation

Berkeley: The Startup @ Berkeley Law program lets students work with technology companies on intellectual property issues. The Dean's Startup Seed Fund at Berkeley-Haas provides \$5,000 grants to business students' early-stage startups.

Davis: Venture Catalyst and HM.CLAUSE partnered to open the Life Science Innovation Center. Ideas are being turned into businesses by providing labs, greenhouse space, technical services and support.

Irvine: The Applied Innovation Institute joins investors, entrepreneurs and mentors. The COVE incubator makes it easy for startups to access support services.

Los Angeles: The Anderson School of Management and the Library launched the Anderson Venture Accelerator to encourage business formation by multidisciplinary teams including faculty, students, researchers and entrepreneurs.

Merced: The Office of Business Development launched the Venture Lab in downtown Merced. The workspace facilitates student, faculty and community partnerships.

Riverside: The campus is a nexus of economic development in the Inland Empire, including the UCR-run ExCITE business incubator in downtown Riverside.

San Diego: The Basement, a student-centric work and incubation space, encourages undergraduates to enter a new Proof-of-Concept Competition led by The Entrepreneur Challenge student organization.

San Francisco: The Institute for Quantitative Biosciences (QB3), the Entrepreneurship Center, and the Clinical & Translational Science Institute (CTSI) held a campus-wide event to promote entrepreneurial programs.

Santa Barbara: The California NanoSystems Institute (CNSI) opened a wet lab business incubator and partnered with the New Ventures Competition to provide space to competition winners.

Santa Cruz: The Center for Innovation & Entrepreneurial Development supports students and faculty interested in entrepreneurship with seminars, events, and internships.

Systemwide: UC collaborated with Johnson & Johnson Innovation to sponsor primeUC, a pitch competition for biomedical startups. Over 250 startups with a connection to UC participated, with 20 finalists competing for \$300,000 in prize money provided by J&J.



Nobel Laureate and Distinguished Professor Mario Molina, UC President Janet Napolitano, California Governor Jerry Brown and UCSD Chancellor Pradeep Khosla attend the carbon neutrality summit. Photo by Erik Jepsen, UC San Diego Publications.

UC GRADUATE EDUCATION: MEETING CALIFORNIA'S WORKFORCE NEEDS

UC's graduate academic doctoral and graduate professional degree programs rank among the best in the nation, according to recent rankings from US News and World Report. This allows UC to attract talented graduate students from California, the nation and the world, many of whom remain in the state after graduation.

Graduate enrollment, as a share of UC's total undergraduate and graduate enrollment, has remained relatively flat over the past 16 years. UC has a lower overall proportion, at 21 percent, than the average AAU public institution of 27 percent, which is far lower than the 53 percent average for AAU private institutions. As enrollment of California undergraduates increases at UC, the University needs to expand enrollment of graduate students, who provide critical teaching and mentoring of undergraduates.

UC doctoral programs show high levels of success: completion rates are rising in every field and on every campus. UC's doctoral alumni also give their education high marks. In a 2014 survey, 88 percent of UC doctoral alumni respondents said they felt well-prepared or prepared for their careers; 93 percent said they would pursue a doctoral degree again; and 89 percent indicated they would choose the same campus.

UC Graduate Education at a Glance

- More than 20 UC Ph.D. recipients have won a Nobel Prize
- UC Ph.D.s account for 20 percent of CSU faculty
- UC trains about half of the state's medical students and residents
- UC awards most of California's advanced STEM degrees

UC's Ph.D. students and alumni are nationally recognized for innovation and entrepreneurship. At UC's annual Grad Slam competition, students have three minutes to explain their research to a general audience. This year, UC Riverside's Peter Byrley summed up his work with graphene — one of the most abundant materials on earth — to develop a new generation of small, powerful and less costly microprocessors. UC Ph.D. alumni were also recognized by Forbes's "30 Under 30" — a list of "America's most important young entrepreneurs, creative leaders and brightest stars." UC graduates received Pulitzer Prizes in 2016 in journalism and the arts. UC Berkeley's Viet Thanh Nguyen, who won a Pulitzer in fiction, credited his studies for revealing "that literature could matter in terms of politics and social justice."

UC graduate students often become teachers and faculty members in California public schools. Half of UC academic doctoral and master's degree recipients who stay in California work in higher education, including both public and private two-year and four-year colleges. The California State University system reports that over 20 percent of its faculty are UC Ph.D. recipients.

UC's graduate academic programs in science, technology, engineering and mathematics (STEM) support the highly skilled workforce that the state's high-tech industries need. UC produces 75 percent of life science and 65 percent of engineering and computer science doctoral degrees in California.

UC also awards graduate professional degrees in law, medicine, business, architecture and public policy. Many alumni work in the public sector, including California's current Chief Justice Tani Gorre Cantil-Sakauye, a UC Davis transfer student who earned a bachelor's degree and then a Juris Doctor degree. Three of California's seven Supreme Court justices received J.D.s from the University of California, and one-half of all California State justices (including at the appellate court level) got their degrees from UC.

Recently, President Napolitano announced UC's Public Service Law Fellowships, a first-of-its-kind systemwide fellowship program to support UC law graduates committed to public service. The program awards \$4.5 million annually to students at UC Berkeley, UC Davis, UC Irvine and UCLA, making post-graduate and summer positions in the public interest more accessible.

UC UNDERGRADUATE EDUCATION: FURTHERING ECONOMIC MOBILITY AND ADDRESSING THE SKILLS GAP

The Public Policy Institute of California estimates that the state will have a shortage of a million college-educated workers by 2025. Expanding undergraduate access to UC is critical to meeting this need. With graduation rates near 90 percent, UC can help meet the state's workforce needs if it receives additional state funding for enrollment. In partnership with the state, UC plans to increase undergraduate enrollment by 5,000 California residents next year.

The University of California is unique among top research universities in providing educational opportunity to large numbers of low-income and first-generation students. It is also expanding efforts

UC Doctoral Student/Alumni Honors



UC Grad Slam Winner: UC Riverside's Peter Byrley (chemical and environmental engineering Ph.D. student) is working to create smaller, more powerful microprocessors using graphene instead of silicon.



Forbes 30 Under 30: UC San Diego's Sarah Guthals (computer science, Ph.D., emphasis in education) co-founded ThoughtStem, a company that teaches children to code by playing video games like Minecraft.



Pulitzer Prize Winner: UC Berkeley's Viet Thanh Nguyen (English Ph.D. and English @ ethnic studies, BA) won for his debut novel, "The Sympathizer," a darkly humorous thriller about a double-agent living in California after the Vietnam War.

Kolligian
Library





to boost enrollment among underrepresented racial/ethnic groups and community college transfer students. Through its Achieve UC initiative, UC leaders are visiting high schools across the state to encourage diverse, low-income students to prepare for a UC education and to share information on financial aid and resources that make UC affordable and accessible. The University has approved transfer pathways to 21 of the most popular majors on each UC campus, making it easier for transfer students to identify the courses they need for admission to UC.

As part of the growth of 5,000 California residents, UC expects to move closer to its goal of enrolling two freshmen for every one transfer student, or a 2 to 1 ratio. This is an ongoing effort: in 2007–08, the ratio was 2.42 to 1. In 2015–16, it is 2.27 to 1. UC extended its transfer application deadline this year, which increased the applicant pool by 2,000 students.

For families, UC can be the most affordable public higher education option within California. The Institute for College Access & Success (TICAS), an independent nonprofit working to make higher education accessible and affordable, released a brief comparing the total cost of college for very low-income students at the three public postsecondary sectors of California: the nine UC campuses and nearby California State University (CSU) and California Community College (CCC) campuses. Their analysis showed that for six of UC's nine undergraduate campuses, it was less expensive for a student to attend UC than to attend the local CSU or CCC.

UC's strong financial aid program, with significant support from the state and federal government, keeps UC affordable. As a result, 57 percent of UC undergrads in 2014–15 had all systemwide tuition and fees covered by grants, scholarships and other aid. The proportion of students graduating without any debt is higher than it was a decade ago. About 45 percent of students graduate without any debt; of those who do borrow, the amount, on average, is \$20,800, well below the national average of \$29,400. That translates to a monthly loan payment of about \$220, comparable to, if not below, a standard car loan payment.

UC graduation rates have been improving for years and are now at an all-time high. The largest improvements are in four-year rates for freshman entrants and two-year rates for transfer entrants. The majority of UC freshmen (64 percent) graduate in four years, and the majority of transfer students (55 percent) graduate in two years. One term later, graduation rates jump to almost 70 percent, and

UC Undergraduate Education at a Glance

- 42% first-generation students
- 40% Pell Grant recipients
- 57% have all tuition paid by financial aid
- 45% graduate without loans
- Nearly 90% of freshman and transfer entrants earn their degree

one year later, to over 80 percent. As a result, UC's average time to degree is roughly 4.1 years for freshman entrants and just over two years (2.3) for transfer entrants.

Campuses continue to look for ways to improve undergraduate outcomes. UC campuses, in collaboration with the Office of the President, produced a report titled *Advising Strategies to Support Timely Graduation*, which includes programmatic strategies, technology and tools, and organizational strategies to improve graduation rates.

UC has also begun experimenting with adaptive learning technologies to help students succeed in gateway STEM courses. Campuses are also reviewing major requirements to determine if the number of courses in a particular major can be reduced while still meeting accreditation standards and learning outcomes. They are assessing what incentives will encourage students to enroll in summer courses. The Academic Senate is also reviewing the use of Advanced Placement and credit by examination to reduce time to degree.

Roughly 70 percent of UC bachelor's degree recipients stay in California, where they contribute to the local economy and become part of the highly skilled workforce. UC graduates are well-represented in the fields of education, health care, engineering and manufacturing. Labor statistics show that, on average, UC bachelor's degree recipients — regardless of discipline — double their earnings between two and ten years after graduation.

Many UC degree recipients leverage their education and research experience to start businesses. UC alumni have started some of California's most successful enterprises, including Intel, Gap, TMZ,

AIG Retirement Services, GoPro, Zappos, Lyft, PhillyCarShare, Huffington Post, BuzzFeed, the Cato Institute and the Tides Foundation.

This year's Forbes "30 under 30" list included influential entrepreneurs who are advancing innovative technology and social causes, detailed below. UC Santa Cruz graduate Martha Mendoza received her second Pulitzer Prize for journalism as part of an Associated Press (AP) team that uncovered the use of slave labor in the Thai seafood industry. Her first Pulitzer Prize was won in 2000 for investigative reporting as a member of an AP team that exposed civilian slaughter by American soldiers during the Korean War. Of her award and connection to UC Santa Cruz, Mendoza said, "It's no coincidence that this university has produced so many Pulitzer Prize winners. It's a place where students can better understand their role in our society, writing skills are emphasized, and everyone is encouraged to engage in their community and the broader world."

UC undergraduates are exposed to researchers and experts who are at the cutting edge of their fields; their professors are creating discoveries that advance knowledge in their respective disciplines. Over 40 percent of seniors report that they were involved in supporting faculty research, and over 80 percent completed a research project or paper as part of their coursework. UC undergraduates receive a well-rounded education in which research and discovery are infused into the general curriculum.

UC AGRICULTURE AND NATURAL RESOURCES: FEEDING THE PEOPLE OF CALIFORNIA AND BEYOND

California's \$54 billion agriculture sector is one of the state's top industries and produces food that feeds the state, the nation and even the world. UC research is at the forefront, fostering California's agricultural success through scientific and technological innovation, and its efforts to address climate change, drought, invasive species and other challenges. UC's Agriculture and Natural Resources (ANR) division coordinates research conducted through the Agricultural Experiment Station (AES), a multi-campus research unit on the Berkeley, Davis, Riverside and Merced campuses. In addition, Cooperative Extension — ANR's outreach arm — serves the public in all 58 counties by bringing UC research to local communities.

ANR supports Californians' nutritional needs through community partnerships at more than

UC Undergraduate Alumni Honors



Forbes 30 Under 30: UC Santa Barbara's Andrew Yakub (physics, BA) founded Rayton Solar which uses laser deposition technology to make solar wafers that are 1/100th the thickness of standard wafers.



Forbes 30 Under 30: UCLA's Ann Wang (international development studies, BA) and Jessica Willison (communication studies, BA) co-founded Enrou, an online marketplace for products made in US and developing communities in the world.



Pulitzer Prize Winner: UC Santa Cruz's Martha Mendoza (journalism and education, BA) was part of an investigative journalism project that resulted in the freeing of more than 2,000 slaves.

UC Agriculture and Natural Resources at a Glance

- 60 UC Cooperative Extension offices serving all 58 counties
- 1,500 4-H youth development programs
- Over 300 Master Gardener programs
- About 2,400 nutrition and health community programs

2,400 locations statewide, helping to tackle childhood obesity and food insecurity, and fostering nutrition and health. The UC Expanded Food and Nutrition Program helps low-income families improve their nutrition practices and teaches food-budgeting skills. The UC CalFresh Program brings nutrition education to youth in local schools. ANR also manages popular statewide community education programs like the Master Gardener Program and the 4-H Youth Development Program, through which youngsters participate in hands-on education and inquiry-based learning in environmental, plant and animal sciences.

UC President Napolitano, together with UC's 10 chancellors, launched the UC Global Food Initiative in 2014 to build on existing work and create new collaborations among all campuses and the Lawrence Berkeley National Laboratory. UC is drawing on its leadership in agriculture, medicine,

nutrition, climate science, public policy, social science, biological science, humanities, arts and law to help communities in California and around the world eat more sustainably and nutritiously.

UC HEALTH: CARING FOR CALIFORNIANS

Through its academic medical centers at Davis, Irvine, Los Angeles, San Diego and San Francisco, UC operates the largest health science instructional program in the nation. Known as UC Health, it is the fourth-largest health care delivery system in the state, managing more than 165,000 inpatient admissions, 356,000 emergency room visits and 4.5 million outpatient visits each year. Nearly 60 percent of UC Health patients are covered by Medicare or Medi-Cal, or lack health insurance. UC Health also maintains active relationships with more than 100 affiliated Veterans Affairs, county and community-based health facilities in the state. Furthermore, UC is expanding its health outreach through telemedicine so UC experts can provide care for patients living in rural areas or where specialists are not available.

UC Health operates five major trauma centers, providing half of the transplants and one-fourth of the extensive burn care in the state. In 2014, UC hospitals were designated as Ebola treatment centers for California. In 2015, Governor Jerry Brown launched the California Initiative to Advance Precision Medicine with the University of California



Dr. Alison Semrad, UC Davis. Photo by Elena Zhukova.

UC Health at a Glance

- 165,000 inpatient admissions
- 356,000 emergency room visits
- 4.5 million outpatient visits
- 60% of patient days covered by Medicare or Medi-Cal or lack insurance
- Half the transplants and one-quarter of extensive burn care cases in California

to collect, connect and apply research data to better understand why individuals respond differently to treatments and therapies, and to help guide more precise and predictive medicine worldwide.

UC San Francisco (UCSF) is hosting the two-year initiative, through UC Health, with \$3 million in startup funds from the state. The public-private initiative aims to leverage these funds with contributions from academic and industry partners. In February, four UCSF leaders and researchers participated in the Precision Medicine Initiative Summit hosted by President Barack Obama.

At a time of unprecedented budgetary challenges, the financial success of UC medical centers has been an important resource for helping to augment diminishing state support for UC schools of medicine. However, the changing health care environment threatens their success and raises questions about whether the medical centers will be able to support UC medical schools. Among the uncertainties: reductions in federal and state spending for programs such as Medicare and Medi-Cal, cuts to the research budget for the National Institutes of Health, and challenges associated with health care reform.

UC DIVERSITY EFFORTS: EXPANDING OPPORTUNITIES FOR UNDERSERVED GROUPS

UC is committed to reflecting the diversity of California, and has a variety of efforts underway to achieve this. It is working to diversify the UC community at the undergraduate, graduate, post-graduate and faculty levels, and to ensure that its administrators and staff are reflective of the state.

UC Diversity at a Glance

- Underrepresented minority (URM) new freshmen and transfers have grown almost 10 percentage points
- UC Ph.D.'s URM percentage is higher than AAU private and public peers
- UC ties for second in percent of URM new hires compared to Comparison 8 schools

UC runs dozens of K-12 and community college programs to support academic preparation, and college readiness activities to ensure that a diverse pool of California high school graduates is UC-eligible. At the graduate and postgraduate levels, UC launched the UC-HBCU Initiative, which strengthens research and professional ties between UC faculty and their colleagues at historically black colleges and universities (HBCUs), while also creating opportunities for HBCU students to participate in summer research programs at UC.

UC has also expanded its programs to improve faculty diversity, including the President's Postdoctoral Fellowship Program, which encourages outstanding women and minority Ph.D. recipients to pursue faculty careers at UC, and the UC ADVANCE program, which helps campuses recruit, retain and advance women and underrepresented minority women faculty in STEM fields. One outcome of this effort was the hiring of Assistant Professor Constance Iloh, recruited through the Chancellor's Postdoctoral Fellowship Program and recognized on Forbes "30 under 30" list.

Each year, UC enrolls a growing number of undergraduates from underrepresented communities. Expanded enrollment funding is critical to UC's efforts to enlarge underrepresented student populations. UC is making slow but steady progress in diversifying the racial and ethnic makeup of its graduate academic students. The proportions of female and Hispanic/Latino(a) faculty have increased across all fields. UC career staff have become more racially diverse.

UC is not satisfied with its African American and American Indian student enrollment. It is also focused on reducing the undergraduate graduation gap for underrepresented students, increasing the number and percentage of ladder-rank faculty who are female and/or from underrepresented minority groups, and staff diversity in all ranks; and improving the campus climate across all populations. To make advances, UC will need to augment existing efforts.

UC PERSONNEL, FINANCES AND CAPITAL PROGRAMS: PRESERVING THE NATION'S TOP PUBLIC RESEARCH UNIVERSITY

The University of California is a \$28.7 billion operation. UC's largest source of revenue is its medical centers, followed by grants and contracts. Over the past ten years, state educational appropriations have fallen more than \$1 billion in inflation-adjusted dollars despite rising student enrollment. Tuition and fees have gone up to offset those declines, but they have not made up for the reductions in state support. Students and their families now shoulder more of the costs. One of the ways that UC has maintained its affordability for lower-income students is by earmarking about one-third of tuition receipts for financial aid.

Personnel costs, including salaries, wages and benefits, account for more than 60 percent of expenditures. UC employees make University operations possible. As California's third largest employer — with almost 210,000 faculty and staff — the way that UC compensates its workers has a far-reaching impact on the communities where they live. As a result, UC is also working to improve wages for its lowest-paid workers, and this year the University implemented the Fair Wage/Fair Work Plan, requiring that all UC employees working at least 20 hours a week be paid at least \$15 per hour by October 2017.

UC expects to face rising costs for both health care and faculty salaries. Faculty salaries lag behind those of comparable universities by 10 percent.

Questions about the growth in UC's labor costs typically focus on executive compensation. The reality is that compensation for UC's senior management group accounts for less than one percent of its budget. The primary driver behind rising labor costs is growth in UC Health employees.

On the general campus, the number of staff paid with state funds, tuition and student fees has gone down in recent years, as has the number of senior managers.

UC spent about \$1 billion on capital operations in 2014–15, with the majority of these funds used to support academic facilities and deferred maintenance. State funds were historically the primary source of funding for core academic facilities but have only accounted for about 15 percent over the last decade, with external financing now dominating.

UC Operating and Capital Resources at a Glance

- \$28.7 billion in revenues
 - 33% in medical centers
 - 20% in grants and contracts
 - 14% in student tuition and fees
 - 10% in state educational appropriations
- 60 percent of expenditures associated with personnel
- Senior managers represent <1% of employees
- \$1 billion in capital spending
 - 10% from state funds

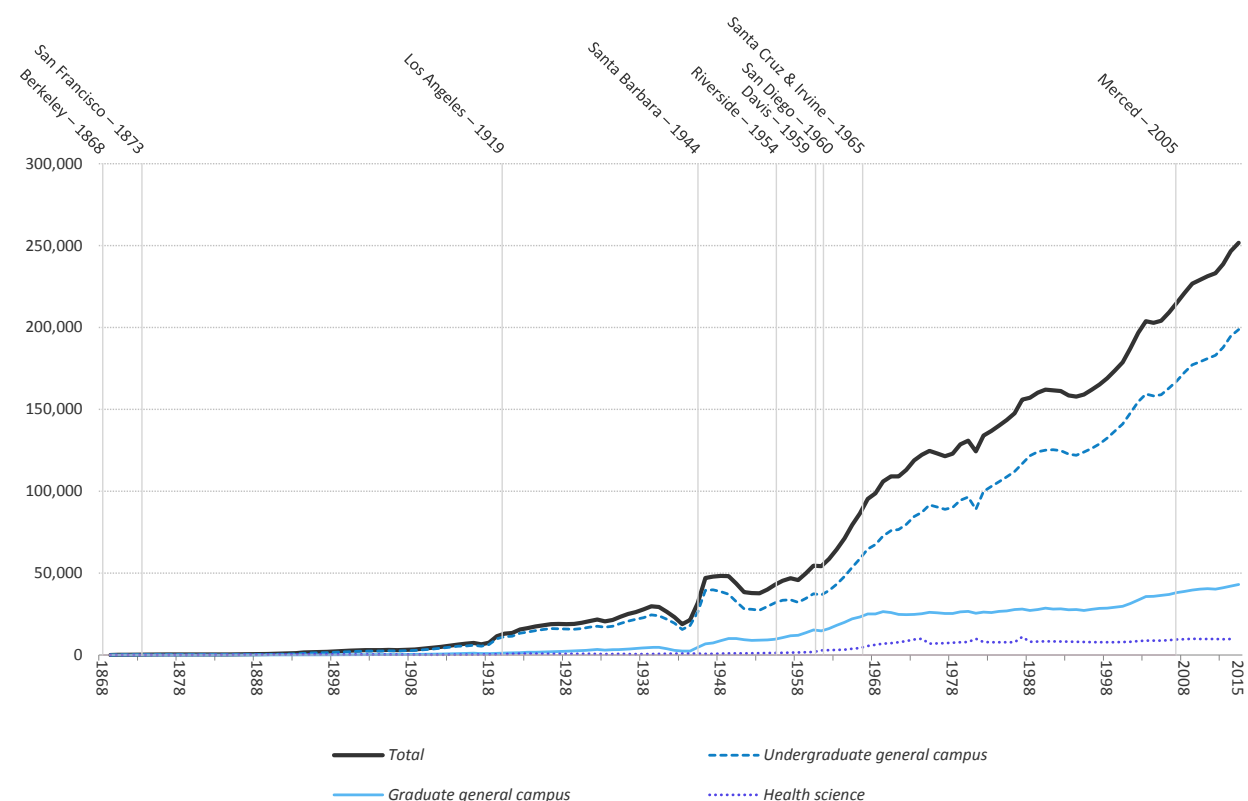
The University spends less today to educate a student than 15 years ago, with inflation-adjusted expenditures per student dropping from \$23,200 in 2000–01 to \$18,900 in 2015–16. At the same time, operational costs are rising and UC has deferred-maintenance backlogs. The University has moved aggressively to reduce operating costs and to identify alternative sources of revenues to protect the academic experience.

Some of the steps taken include:

- Execution of a new retirement program, set to take effect in July 2016, which will result in expected savings of \$99 million per year.
- Implementation of the Working Smarter initiative, which has resulted in savings of \$660 million.
- Execution of UC Health's Leveraging Scale for Value initiative, which resulted in \$59 million in savings in FY 2015 and is on track to deliver savings of \$100 million in FY 2016 and \$150 million in FY 2017.

Student enrollment at the University has quadrupled over the past 50 years.

Undergraduate and graduate student enrollment, with campus opening date Universitywide (Fall 1868 to 2015)



UC: AN INVESTMENT IN CALIFORNIA'S FUTURE

In a keynote address at the Town Hall Los Angeles, President Napolitano said:

“If there is one word that best captures the ethos of the University of California, it is the word ‘opportunity.’ Opportunity is the driving force behind the hundreds of thousands of students that UC educates, a number far greater than those educated by the University’s private peer institutions. Opportunity represents the brainpower of our researchers and faculty, who set the bar for scholarship in their disciplines and fields of study. Opportunity underlies the University’s public service mission. It is a catchall term for the public service we undertake, giving back to the people of this state and this country. Opportunity is what makes the University of California this state’s unique institution.”

One of the best ways UC demonstrates its impact in California is through the educational opportunity that it provides to so many low-income students. Forty percent of UC undergraduates

are Pell Grant recipients, meaning that they come from families with incomes of about \$50,000 or less. That compares to 22 percent for other AAU public institutions and 17 percent at AAU private institutions. Not only does UC enroll more Pell Grant recipients but they also graduate at comparable rates to non-Pell recipients. Within five years of receiving their UC diploma, these alumni earn more, on average, than what their parents earned while the Pell Grant recipients were students at UC.

The New York Times last year described UC as “California’s upward mobility machine,” finding that despite state budget cuts, “The system’s nine colleges still lead the nation in providing top-flight college education to the masses.” The Times’ College Access Index ranked institutions based on their proportion of Pell Grant recipients, the graduation rate of those students and the net cost for attendance. Using that formula, six of the top seven universities in the country were UC campuses.

Over the past half-century, the University has quadrupled its total enrollment, and it is planning to increase the number of California undergraduates

by 5,000 in 2016–17. UC would like to continue to expand enrollment further, including the enrollment of graduate students, and is working with California’s elected leaders to secure additional graduate enrollment funding. Working together, UC and the state can improve access to UC for a diverse pool of undergraduate and graduate student populations — California’s future leaders.

The University of California is the world’s premier public research university, and continues to benefit the state and the nation by developing an educated and enlightened citizenry; producing research that supports economic development and critical discoveries; supporting agricultural and public service needs; and producing future health care professionals while providing essential patient care.

The University of California enrolls more than 251,000 students at its ten campuses. UC produces graduates who meet the state’s critical needs, including the largest proportion of science, technology, engineering and mathematics (STEM) degrees compared to CSU and private counterparts, and half of California’s medical students and residents. More than 70 percent of bachelor’s degree recipients go on to work in California, as do over half of the graduates in academic Ph.D. and master’s programs, and about 65 percent of professional program graduates. Of UC’s more than 1.6 million living alumni, 1.2 million are California residents.

UC is looking for creative ways to use its own resources to support expanded enrollment. The President’s Student Housing Initiative aims to accelerate the creation of affordable student housing at every UC campus. The UC housing initiative has set a target of adding roughly 14,000 more beds to support existing students and future enrollment growth.

UC aims to expand enrollment across the entire UC system, including at UC Merced, its newest campus and one that provides significant educational opportunities for residents of California’s Central Valley. In November, the UC Board of Regents approved UC Merced’s 2020 project, which will double the physical capacity of the campus by 2020 and support enrollment growth from nearly 6,700 students today to 10,000 students within the next five to seven years.

The University will continue to work with the state and federal government to expand financial support for research, to develop partnerships with business leaders, to increase philanthropy, and to leverage existing revenues and investment funds to protect and expand the University of California.

An investment in the university pays dividends:

- Every \$1 the California taxpayer invests in UC and its students generates \$9.80 in gross state product and \$13.80 in economic output.
- With a nearly 90 percent graduation rate, an investment in undergraduate enrollment is an investment in more college graduates.
- Investing in graduate student enrollment helps undergraduate student success and helps UC diversify the state’s future researchers, faculty members and state leaders.
- UC alumni contribute to California’s skilled workforce and help drive its entrepreneurial efforts.
- UC research attracts billions of dollars to California, supporting local innovation hubs and producing the knowledge and discoveries that solve our shared challenges.
- UC ANR protects and strengthens California’s agricultural industry, while UC Health cares for the neediest of Californians and creates the cures for tomorrow.

The opportunity cost of not having a strong University of California is great, not just for the institution but also for the state, the nation and the world. This Accountability Report identifies many of the challenges UC faces but also demonstrates that UC continues to be an outstanding investment for a better tomorrow.

Image credits:

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Chapter 1. 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 qualified freshmen in the top 12.5 percent of California public high school graduates. It also calls for UC to admit all qualified California Community College (CCC) transfer students.

In fall 2015, there were around 158,000 freshmen applicants and 36,000 transfer applicants. Campus admissions decisions are based on a comprehensive review of the qualifications of applicants and target the incoming class size based on available state funding.

UC's ongoing "Achieve UC" program is specifically designed to connect diverse, low-income high school students with UC campus leaders, with the goal of inspiring them to see themselves as college students and to educate them about UC eligibility, the application process, financial aid and Transfer Pathways from community colleges, should they choose that route. The effort, now in its fifth year, has helped increase the number of students applying to UC by as much as 30 percent at participating high schools.

As the University increases the number of transfers from community colleges, the goal is to admit entering cohorts that are close to a 2:1 ratio of freshmen to transfer students.

Admissions trends — freshmen

Freshman applicants have risen dramatically over the past two decades, growing five to six percent per year and more than tripling since 1994. With increases in high school graduation rates, particularly among Hispanic/Latino(a) students, the University expects continued growth in demand for college access.

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

Although restricted funding from the state means that certain campuses have admitted a lower percentage of applicants, it is anticipated that this trend will be reversed for fall 2016 given that the University will enroll 5,000 additional California residents. UC continues to reach its Master Plan goals by guaranteeing admission to applicants from California who are either in the top 9 percent of high school graduates statewide or the top 9 percent of graduates from their own high school. 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 trends — transfers

Fall transfer applicants have almost doubled over the last 20 years, reaching a high of 36,200 in 2011. Applicants dropped to 34,800 in 2012 and slightly rebounded to around 35,000 in 2013 and 2014. The number continued to increase in 2015 and is now close to its previous peak.

President Napolitano convened the Transfer Action Team in December 2013 to recommend strategies to strengthen and streamline the transfer pathway between the California Community Colleges (CCCs) and the University of California. Both UC's Transfer Action Team and the CCCs identified state budget cuts to the CCCs as the likely cause of the decline in applications. With improving state revenues and Proposition 98, state support for the CCCs has increased. Preliminary data from 2016 show an increase in CCC transfer applications, lending credence to the idea that the restoration in funding

for the CCCs, coupled with the Academic Senate's efforts to create major-specific UC Transfer Pathways, will likely result in increased transfer applicants. To accommodate the projected growth in applicants and better serve transfer students, the application deadline for fall 2016 was extended by more than a month.

Almost all transfer students enter UC as upper-division juniors. Campus enrollment targets are based on capacity in major programs at the upper-division level.

Enrollments

The University enrolls freshmen and transfer students from every county of California, but students tend to apply to campuses closer to their residence. One of the goals of UC's Eligibility in the Local Context (ELC) program and the president's transfer initiative is to increase the geographic diversity of entrants.

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 freshmen to new CCC transfers. Over the past several years, UC has moved closer to that ratio, from 2.42:1 in 2007–08 to 2.28:1 in 2015–16. The report from the Transfer Action Team recommits the University to achieving that goal by 2017–18. The report is available at <http://ucop.edu/transfer-action-team/transfer-action-team-report-2014.pdf>.

Compared to a decade ago, freshman and transfer entrants today are better prepared academically as measured by grades, and — for freshmen — test scores and the number of rigorous high school courses completed. As academic qualifications of the entering class continue to improve, UC maintains access for populations historically underserved by higher education. About 40 percent of new undergraduates come from low-income families, and 42 percent do not have parents with a four-year degree.

The number of nonresident domestic and international students has increased in recent years, though their proportion is still much lower than at comparable research universities. Nonresident

students enrich and diversify the student body; they also pay supplemental tuition (\$24,708 in 2015–16) above in-state charges. This extra revenue enables UC to improve educational programs for all students.

Looking ahead

The University is committed to sustaining access to its campuses and meeting the challenge of educating as many California residents as it can. UC plans to increase enrollment of California residents at UC campuses by a total of 10,000 full-time equivalent (FTE) students over the next three years. The strategy will begin by enrolling 5,000 additional freshmen and transfer students for the academic year 2016–17 and 2,500 students for each of the following two years.

UC has a long history of welcoming student veterans and military personnel to its campuses. UC enrolls an increasing number of veterans and other military-connected personnel as part of its diverse student community, with enrollments of undergraduates with military backgrounds more than doubling since 2002–03. UC has engaged in a variety of programs to meet the needs of those who have served. As a result of consultation with student veterans from all ten campuses on the needs and challenges of veterans and military personnel enrolled at UC, President Napolitano convened an Advisory Council on Student Veterans in 2014. UC has since launched a comprehensive website to provide prospective and current student veterans with information regarding admissions, campus Veterans Services, educational benefits, priority housing and other information necessary to their academic success.

UC also held a Veterans Career Success Forum in April 2016, providing participants with the opportunity to learn about networking and to engage with veteran-friendly California employers, UC veteran alumni and UC graduate/professional school representatives. Each UC campus Veterans Resource Center provides a number of ongoing services to military students, including but not limited to the following: designated veterans space, veterans admission support, academic advising, priority class registration, financial aid, counseling

and psychological services, and programs for veterans' dependents or families.

As UC's student veteran population grows, the University continues to seek opportunities for promoting their academic success and social well-being. "Serving those who serve" continues to be an important part of the University's mission.

For more information

Information on admissions:

www.universityofcalifornia.edu/admissions

Information for California Community College students on the Transfer Pathways, which provide a roadmap to 21 of the top majors for UC transfer applicants:

<http://admission.universityofcalifornia.edu/transfer/preparation-paths/>

Information for student veterans, including links to campus-specific veteran websites:

<http://veterans.universityofcalifornia.edu/>

Data visualization showing quick facts on UC applications, enrollment and degrees:

www.universityofcalifornia.edu/infocenter/uc-quick-facts-glance

Data tables on UC freshman and transfer applicants, admits and enrollees (tables include breakdowns by ethnicity, source school, residency, and UC campus):

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

www.universityofcalifornia.edu/infocenter/admissions-source-school

Data dashboards on UC freshman and transfer admissions trends

www.universityofcalifornia.edu/infocenter/freshman-admissions-summary

www.universityofcalifornia.edu/infocenter/transfer-admissions-summary

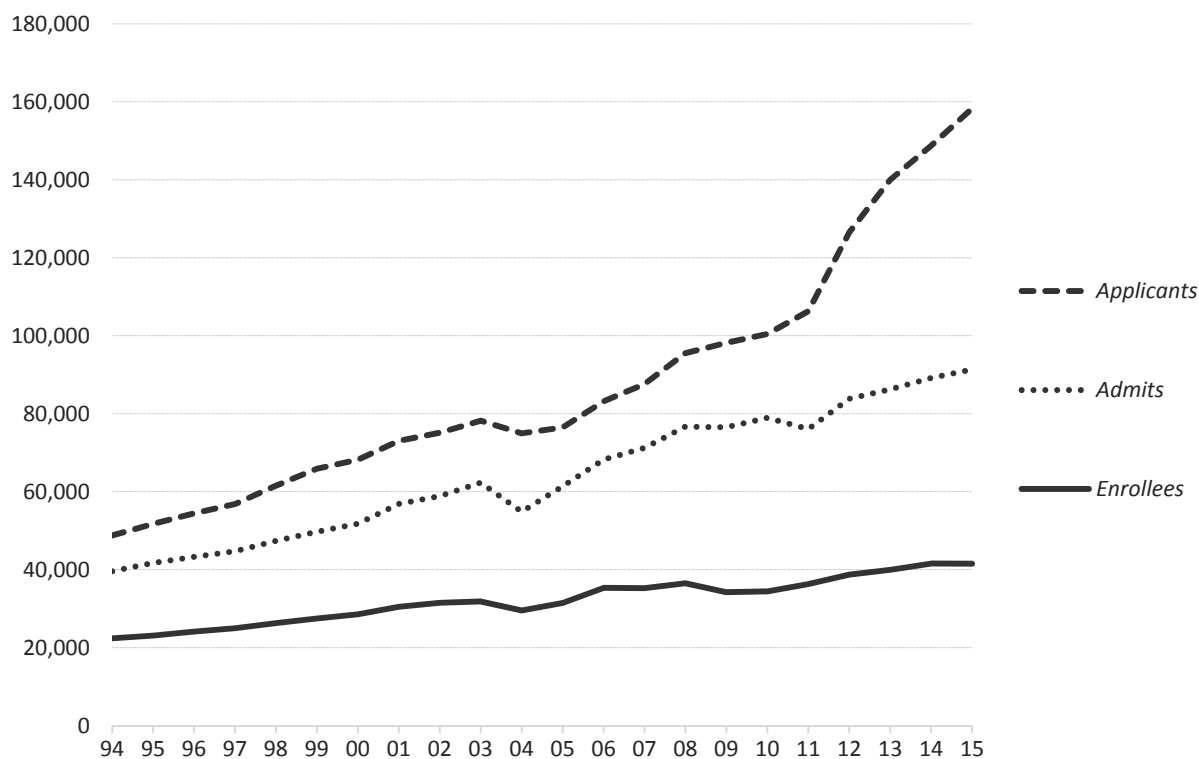
Data table on UC fall enrollment:

www.universityofcalifornia.edu/infocenter/fall-enrollment-headcounts

1.1 APPLICANTS, ADMITS AND ENROLLEES

Demand for UC continues to grow.

1.1.1 Freshman applicants, admits and enrollees Universitywide Fall 1994 to 2015



Source: UC Information Center Data Warehouse¹

The rapid growth in freshman applicants 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 with California graduates. UC continues to maintain its obligations under the Master Plan by guaranteeing admission to all qualified students.

Some qualified applicants are not offered admission at the campus they applied to but instead are admitted to another campus by a referral process. 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 such an offer. This procedural change is reflected in indicators 1.1.1 and 1.1.2 for Merced.

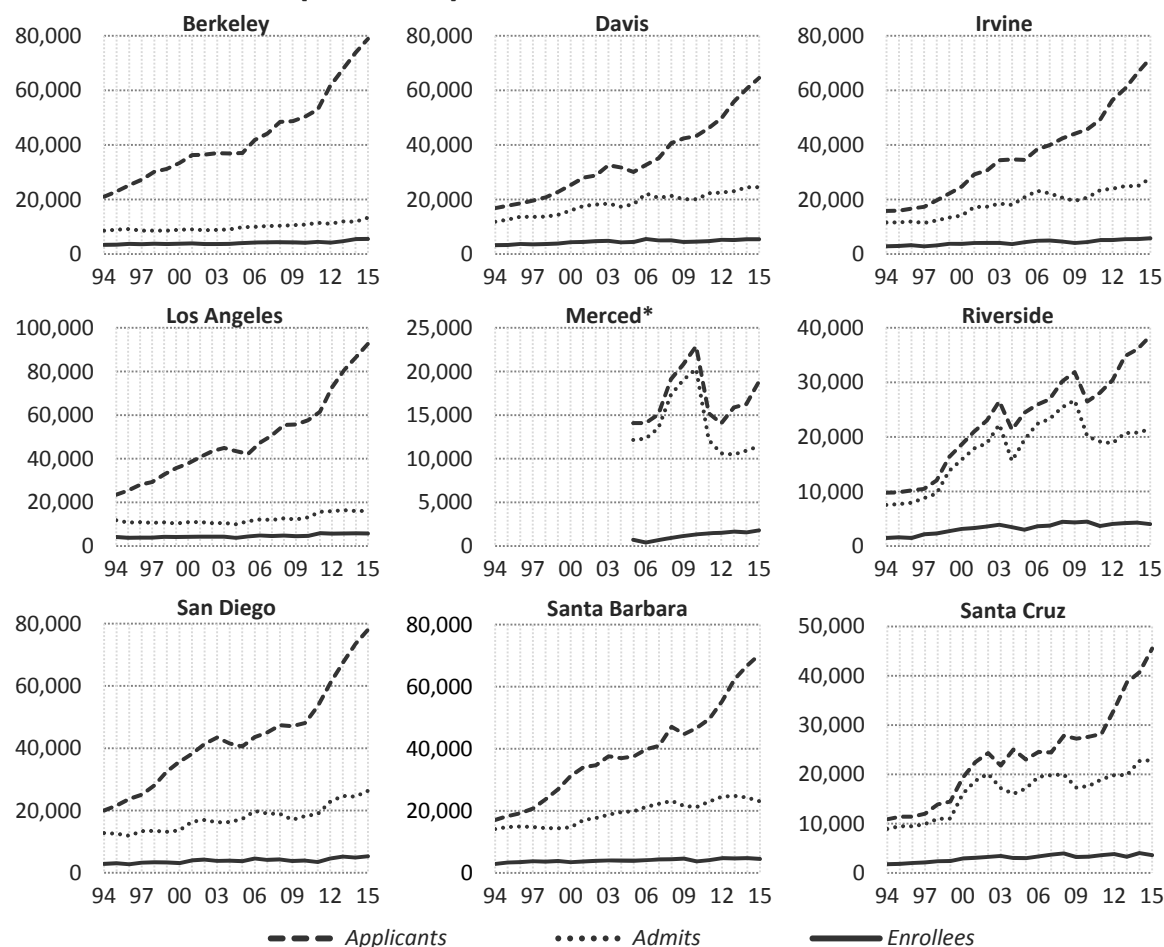
From 2010 to 2015, unduplicated freshman applicants grew 58 percent, compared to a 27 percent increase in the six-year period between 2003 and 2009. The 58 percent growth consists of increases of 21 percent among California residents, 19 percent among domestic nonresidents and 18 percent among international applicants.

¹ Admits and enrollees here include the "referral pool," which comprises applicants guaranteed admission who are not offered admission at a campus to which they applied but who are admitted by another campus that has sufficient capacity. 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. Students who apply to multiple UC campuses are counted only once in this Universitywide indicator.

1.1 APPLICANTS, ADMITS AND ENROLLEES

Most UC campuses have experienced tremendous growth in applications and admissions. Trends in campus enrollments have been more stable over time.

1.1.2 Freshman applicants, admits and enrollees UC campuses Fall 1994 to 2015 [SCALES VARY]



Source: UC Information Center Data Warehouse¹

Most UC campuses have seen considerable growth in the number of freshman applications they receive, as demonstrated by the steep dashed lines in the graphs above.

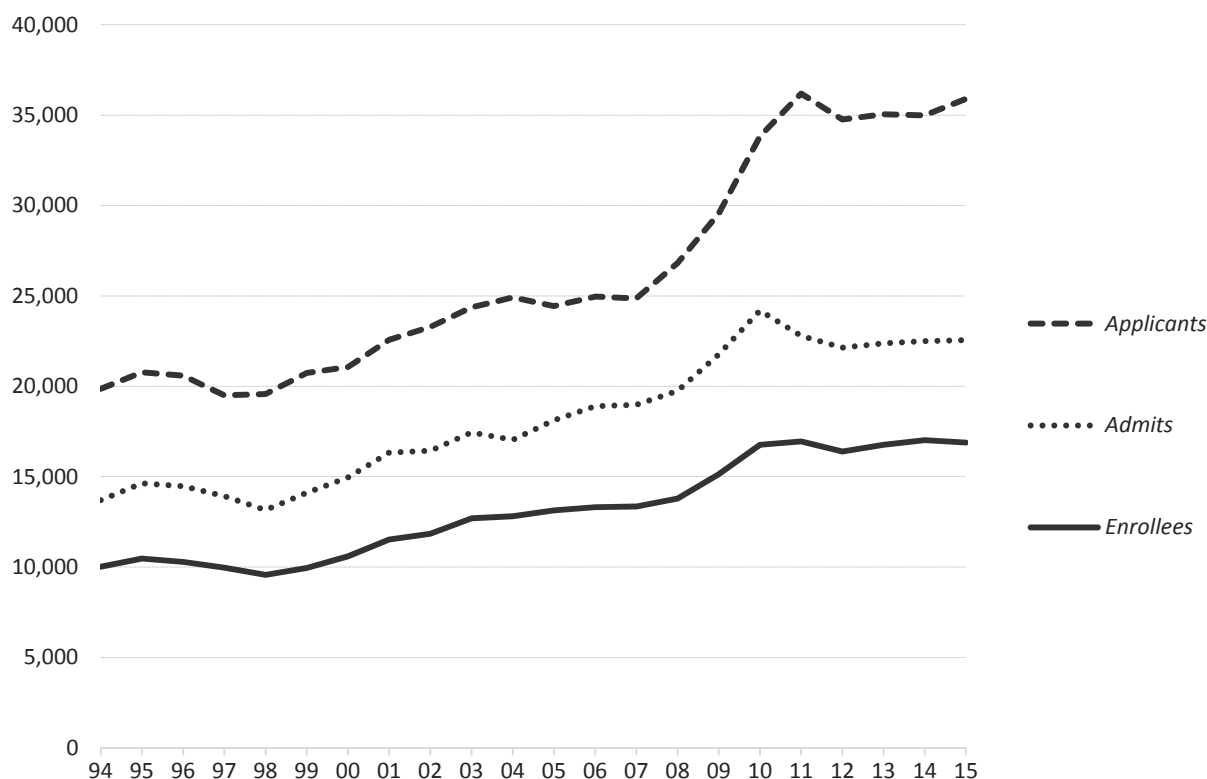
One factor contributing to this growth is the increase in the number of UC campuses chosen by each applicant; this grew from about 2.8 campuses per applicant in 1994 to over 3.5 campuses per applicant in 2015.

¹ Applicants here include the “referral pool,” which comprises applicants guaranteed admission who are not offered admission at a campus to which they applied, but who are admitted to another campus with sufficient capacity. Some campuses admit fall applicants for a subsequent term (winter or spring). These “rollover” admits and enrollees are excluded from these graphs, which only show fall data. A change in accounting for referral students is responsible for the apparent drop in 2011 admits. Beginning that year, UC Merced began admitting only students who indicated interest in a referral offer, rather than every student who qualified for such an offer. This procedural change is reflected in the 1.1.2 and 1.1.4 graphs for Merced. *Merced opened in 2005.

1.1 APPLICANTS, ADMITS AND ENROLLEES

Since 2012, transfer applicants, admissions and enrollments have fluctuated but all are higher now than three years ago.

1.1.3 Transfer applicants, admits and enrollees Universitywide Fall 1994 to 2015



Source: UC Information Center Data Warehouse¹

After a period of sizable growth from 2007 to 2011, which followed a decade of more modest growth, UC experienced a significant drop in California resident transfer applicants in 2012, and the number has fluctuated each year since. As of fall 2015, the number of transfer applicants is the highest it has been since the peak in 2011. Among admits and enrollees, the numbers have generally increased steadily since 2012, although the number of enrollees dropped slightly in 2015.

The decline in applicants likely was due to fiscal constraints in the California Community Colleges (CCCs), which forced them to decrease enrollment by about 500,000 students over the past few years, curtail courses that students needed for transfer, and cut counseling services.

Recent funding increases to the CCCs and UC's transfer initiative are likely to expand the number of students that transfer to UC. Preliminary data from 2016 indicate that CCC transfer applications may be rebounding at an increasing rate.

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.

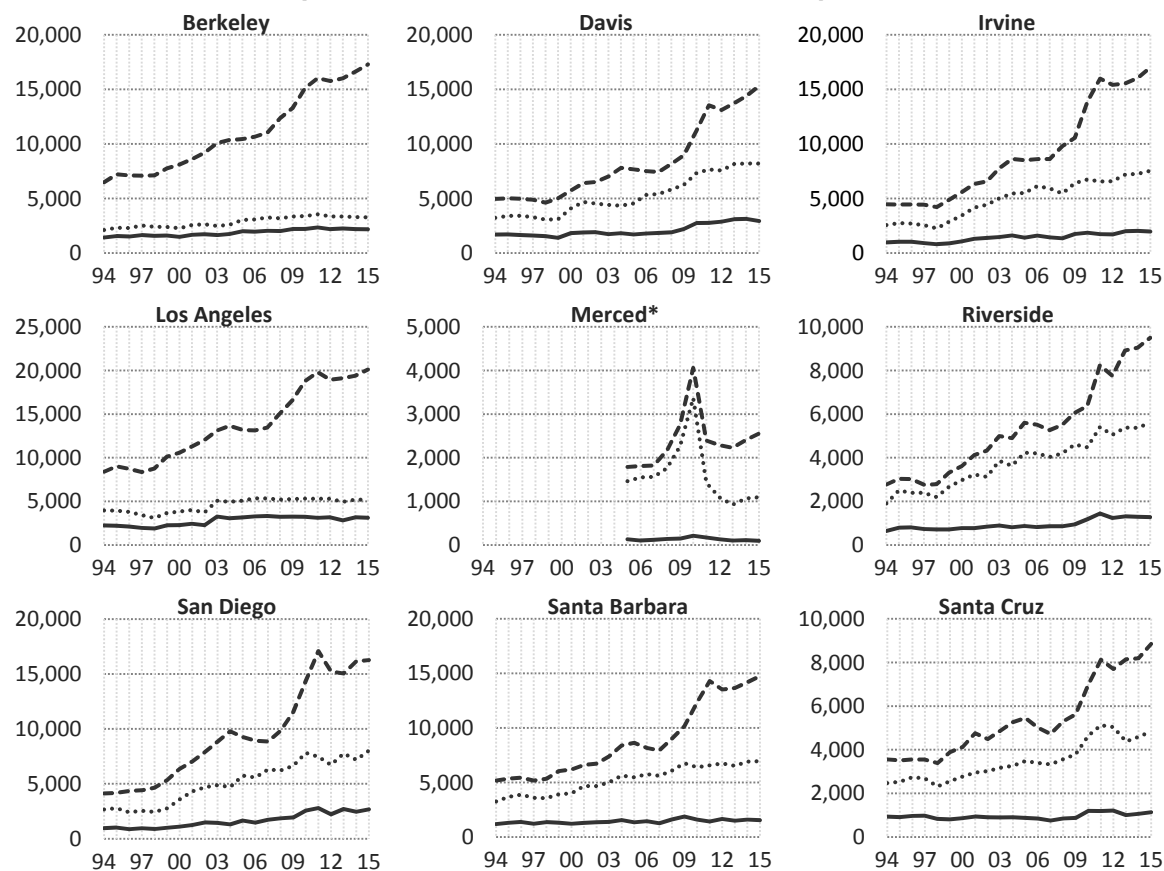
1.1 APPLICANTS, ADMITS AND ENROLLEES

Since 1994, transfer applications, admissions and enrollees have increased at every campus.

1.1.4 Transfer applications, admits and enrollees

UC campuses

Fall 1994 to 2015 [SCALES VARY; SEE LEGEND ON PREVIOUS PAGE]



Source: UC Information Center Data Warehouse

Consistent with UC's commitment to transfer students, the fall enrollment of new California Community College (CCC) California resident transfers has increased 63 percent since 1994 (from 8,400 to over 13,700). In terms of enrolling large numbers of new transfer students, UCLA and UC Davis lead the nation among top-tier colleges. Six UC campuses rank in the top 15 (see indicator 14.7.1).

In June 2012, the UC Academic Senate approved a restructuring plan that helps clarify the transfer process for CCC students interested in UC and also improve their preparation for upper division coursework at UC. These changes lay the foundation for the Transfer Action Team's recommendations,

which the University has implemented and continues to build upon.

Key among these recommendations was the creation of the UC Transfer Pathways, which provide students with an outline of courses to take at a community college in order to be prepared for admission to one of the 21 most popular majors at any UC campus:¹

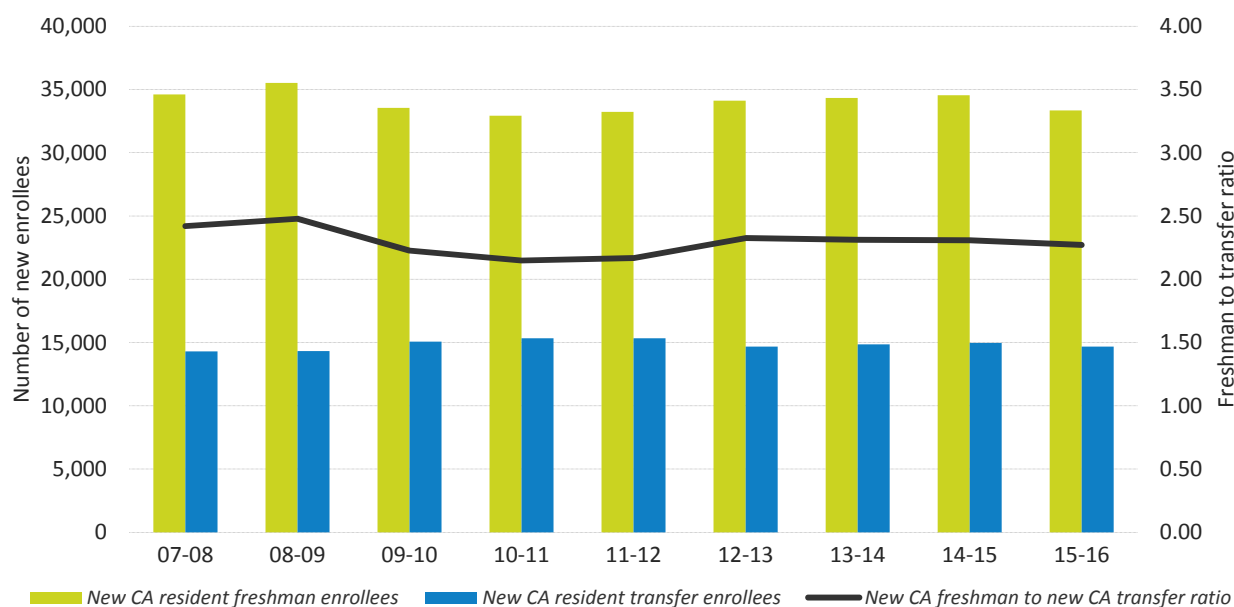
Anthropology	Economics	Philosophy
Biochemistry	Electrical engineering	Physics
Biology	English	Political science
Business administration	Film and media studies	Psychology
Cell biology	History	Sociology
Chemistry	Mathematics	
Communication	Mechanical engineering	
Computer science	Molecular biology	

¹ For more information on UC's Transfer Pathways, see <http://admission.universityofcalifornia.edu/counselors/q-and-a/transfer-pathways/index.html#1>. *Merced opened in 2005.

1.1 APPLICANTS, ADMITS AND ENROLLEES

UC continues to work toward achieving its goal of a 2:1 ratio of California resident freshmen to transfer students.

1.1.5 New freshmen and transfer students Universitywide 2007–08 to 2015–16



Source: UC Corporate Student System¹

The Master Plan calls for UC to accommodate all qualified California Community College (CCC) transfer students. It specifies that the University maintain at least a 60:40 ratio of upper-division (junior- and senior-level) to lower-division (freshman- and sophomore-level) students to ensure space for CCC transfers. Students transferring into the upper division from CCCs are crucial to maintaining this balance. To do so, UC aims to enroll one new CA resident CCC transfer student for each two new CA resident freshmen, or 67 percent new resident freshmen to 33 percent new resident CCC transfer students.

With the extension of the fall 2016 application deadline for transfer applicants and the anticipated enrollment of 5,000 additional California residents, UC aims to move even closer to the 2:1 ratio next year.

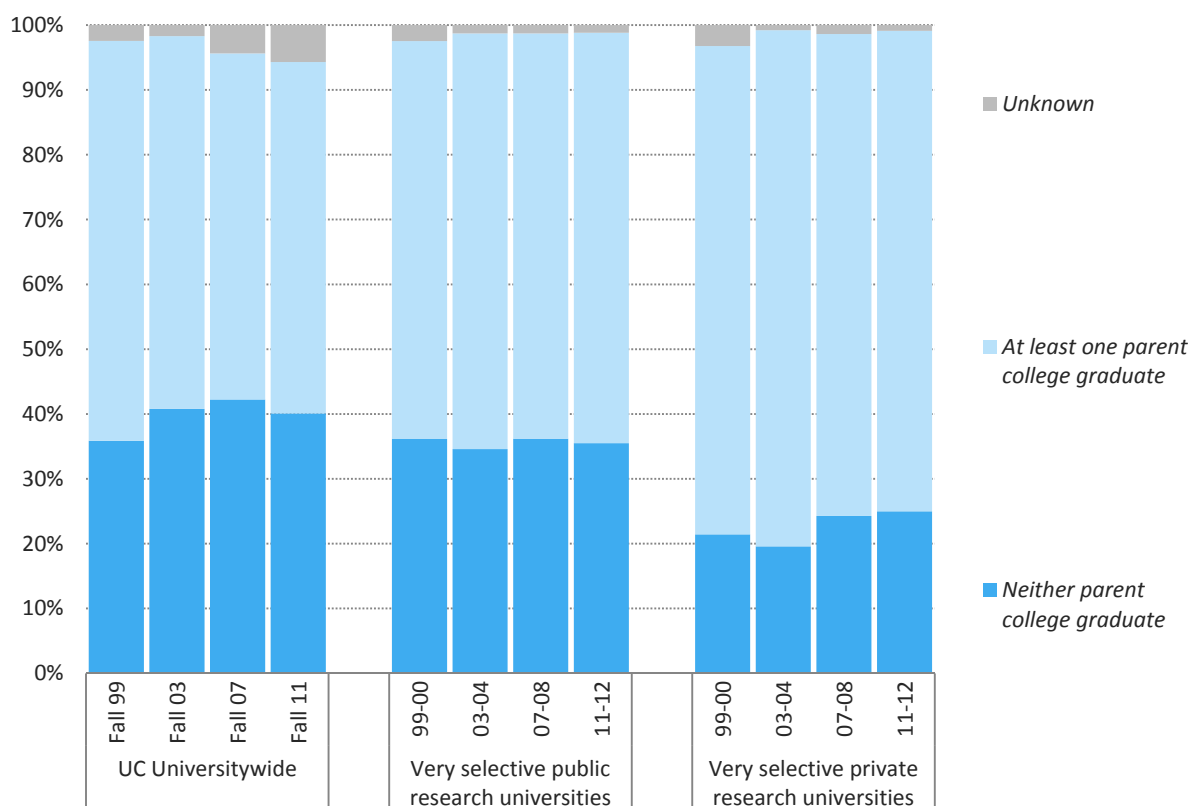
2015–16	% New CA resident freshmen	% New CA resident transfers	Ratio of new CA freshmen to new CA transfers
Berkeley	68%	32%	2.15
Davis	62%	38%	1.63
Irvine	72%	28%	2.51
Los Angeles	62%	38%	1.61
Merced	93%	7%	14.00
Riverside	77%	23%	3.35
San Diego	63%	37%	1.74
Santa Barbara	75%	25%	2.95
Santa Cruz	74%	26%	2.86
Universitywide, all campuses	69%	31%	2.27
Universitywide, excl. Merced	69%	31%	2.22

¹ Enrollment numbers include applicants to fall, winter and spring terms.

1.2 DEMOGRAPHIC OUTCOMES

UC enrolls a higher proportion of first-generation students than other very selective public and private universities.

1.2.1 First-generation undergraduate students Universitywide and very selective public and private research universities 1999–2000, 2003–04, 2007–08 and 2011–12



Source: NPSAS and UC Corporate Student System¹

A first-generation student is one whose parents do not hold four-year college degrees. Having one or both parents with a college degree can provide a student with additional tools for success in college, such as having college role models, a better understanding of college expectations, and possibly having financial means that ease transition from high school to college.

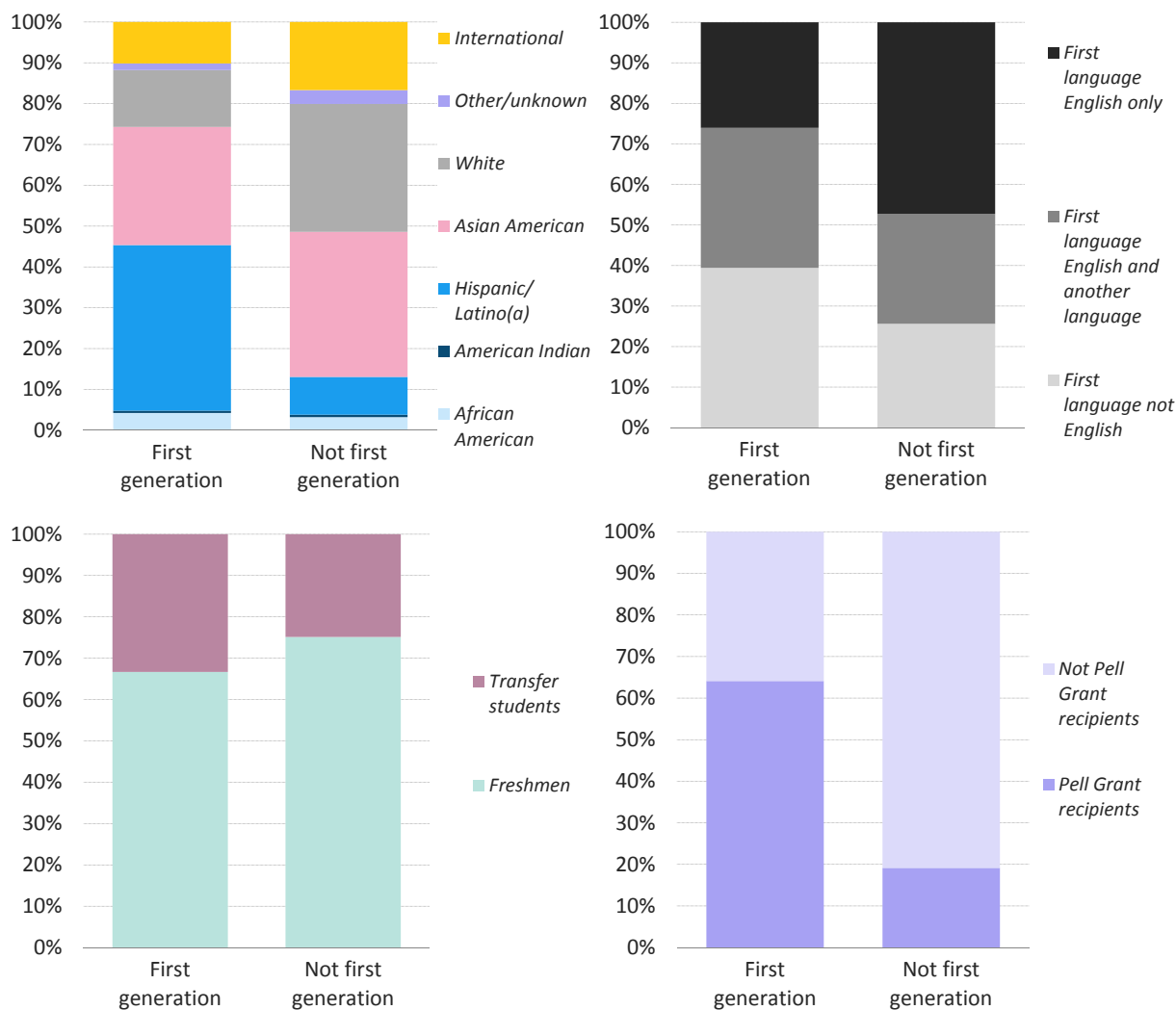
In 2011, around 40 percent of UC undergraduates came from first-generation families, compared to 36 percent for very selective public research universities and 25 percent for very selective private research universities.²

¹ Selectivity as defined in IPEDS is based on two variables: 1) the centile distribution of the percentage of students who were admitted (of those who applied); and 2) the centile distribution of the midpoint between the 25th and 75th percentile SAT/ACT combined scores reported by each institution (ACT scores were converted into SAT equivalents). The institutions included here are in the most selective group.

1.2 DEMOGRAPHIC OUTCOMES

UC's entering first-generation students are more likely to be from an underrepresented racial/ethnic group, to have a first language other than English, to enter as a transfer student and/or to have a lower income than students with at least one parent who graduated from college.

1.2.2 Entering students by first-generation status, race/ethnicity, first language spoken at home, Pell Grant receipt and entering level Universitywide Fall 2015



Source: UC Corporate Student System and UC Information Center Data Warehouse¹

¹ First-generation students do not have a parent with a 4-year college degree. Total of first-generation students is 24,702 (42.2%); non-first-generation students total 32,431 (55.4%); and missing/unknown are 1,446 (2.5%). Unknowns are excluded from charts. Pell Grant receipt is used as a proxy for low-income status.

1.2 DEMOGRAPHIC OUTCOMES

There are significant differences in the racial/ethnic and income profiles for students entering UC via the freshman or transfer paths.

1.2.3 Entering domestic undergraduates by race/ethnicity, Pell Grant status and class level Universitywide Fall 2015

		Freshmen	Transfers	All	
Pell Grant recipients	URM	18%	16%	17%	
	Asian/Pac Islander	13%	15%	13%	
	White	4%	13%	7%	
Pell Grant recipients total (includes unknown ethnicities)		36%	46%	38%	n=22,503
Non-Pell Grant	URM	10%	10%	10%	
	Asian/Pac Islander	22%	12%	19%	
	White	17%	17%	17%	
Non-Pell Grant total (includes unknown ethnicities)		51%	39%	47%	n=27,759
International		14%	15%	14%	n=8,317
All		100%	100%	100%	
		n=41,571	n=17,008		N=58,579

Source: UC Information Center Data Warehouse

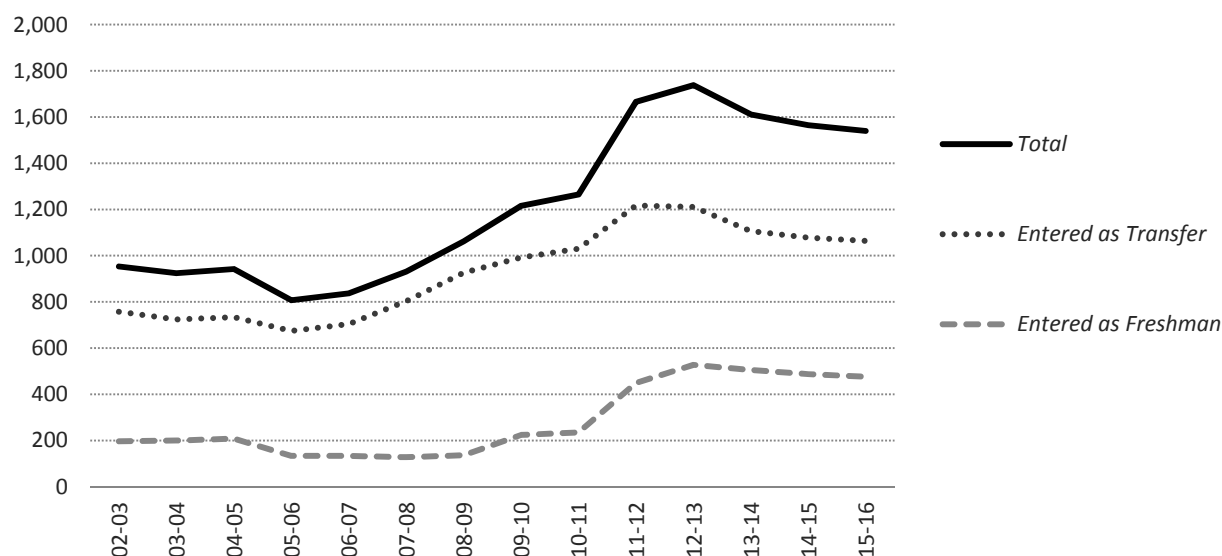
Underrepresented minority (URM) students, comprised of African American, Hispanic/Latino(a) and American Indian students, constitute a larger proportion of the incoming freshman class than of the entering transfer class for Pell Grant recipients. Among Asian/Pacific Islander students and white students, a higher share of Pell Grant recipients are found in the transfer class compared to the freshman class, while Asian/Pacific Islander students from non-Pell families are almost twice as prevalent in the freshman class as the transfer class.

The transfer route is used by students of all racial/ethnic and income groups.

1.2 DEMOGRAPHIC OUTCOMES

The number of veterans and military students enrolling at UC is higher than it was a decade ago.

1.2.4 Enrolled undergraduates who are veterans or military students, by entry level
Universitywide
2002–03 to 2015–16



Source: UC Corporate Student System

UC's veteran and military student population has grown in the last decade, peaking in 2012–13 and declining in the last three years. In 2015–16, UC enrolled more than 1,500 undergraduate students who have served in the United States Armed Forces, including veterans, those on active duty, reservists and members of the National Guard. These numbers do not include undergraduate Army Reserve Officers' Training Corps (ROTC) participants, of which there were over 400 in 2015–16. Additionally, over 500 current graduate students have also served.

Over half of UC's veterans and military students are enrolled at three campuses: San Diego, Davis and Irvine. Berkeley and Irvine have seen the most growth in veterans in recent years. While most veterans access UC through the California Community College system, the freshman pathway has expanded for veteran and military undergraduates. About 31 percent of undergraduate veterans enrolled in 2015–16 entered as freshmen, up from 21 percent in 2002–03.

1.2.5 Share of Universitywide undergraduate veteran and military student enrollment by campus
2015–16

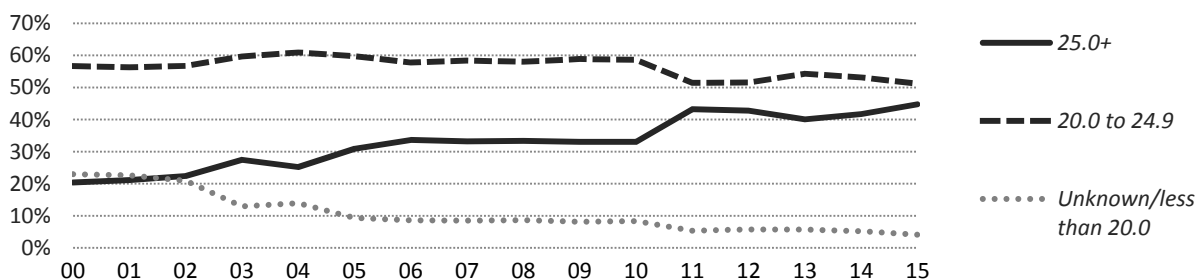
Campus	Share
San Diego	18%
Davis	17%
Irvine	16%
Berkeley	14%
Los Angeles	12%
Santa Barbara	10%
Riverside	7%
Santa Cruz	5%
Merced	1%
Total	100%

1.3 PREPARATION OUTCOMES

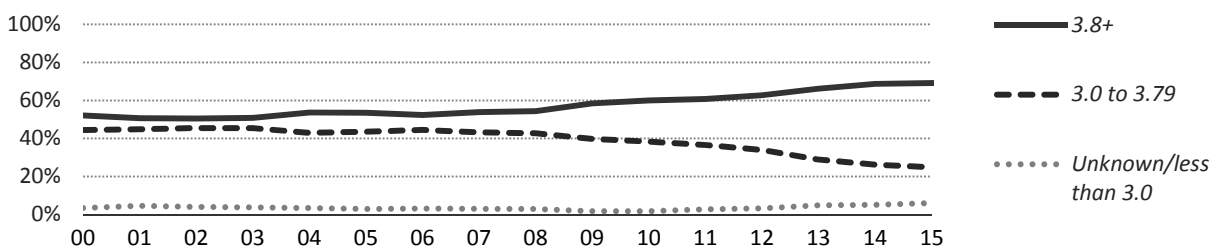
Freshmen entering UC are increasingly well prepared.

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 2000 to fall 2015

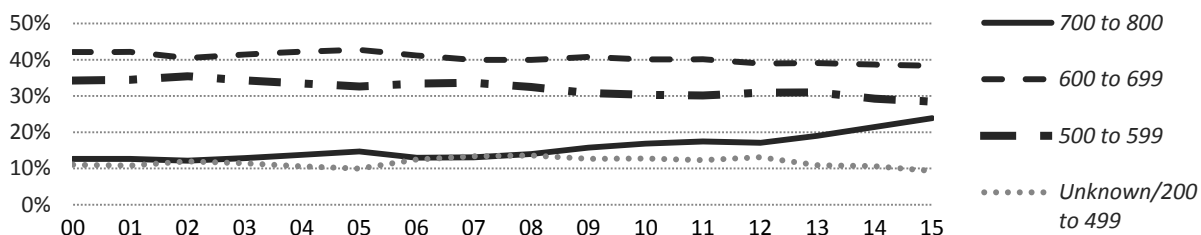
Yearlong “A–G” courses



High school weighted GPA



Test score



Source: UC Corporate Student System (A–G courses and test score) and UC Information Center Data Warehouse (GPA)

The academic qualifications of UC applicants and admitted students continue to improve, as reflected by an increase in the number of college-preparatory courses completed, higher achievement on standardized entrance exams (SAT/ACT) and rising high school GPAs. UC uses both weighted and unweighted GPAs to evaluate freshman applicants. A weighted GPA provides extra credit for succeeding in

difficult courses, such as those in the College Board’s Advanced Placement programs. An A in such a course receives 5 points, a B 4 points and so forth. In other college preparatory courses, an A counts for 4 points, a B for 3 and so forth. For UC eligibility purposes, the weighted, capped GPA is used (shown above) and includes this extra credit for a maximum of eight semester-long courses.

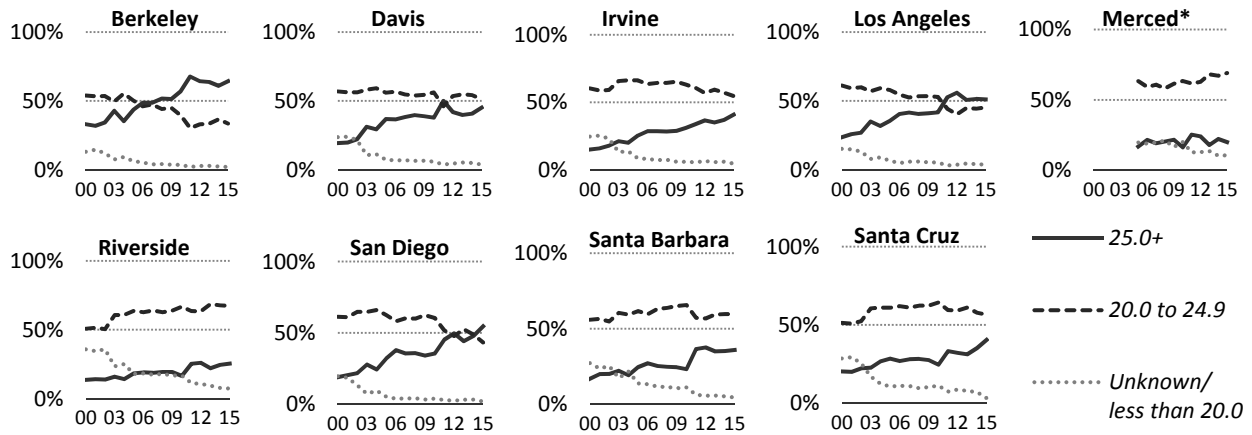
¹ A–G courses refer to those high school courses that UC has reviewed and approved as college preparatory.

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

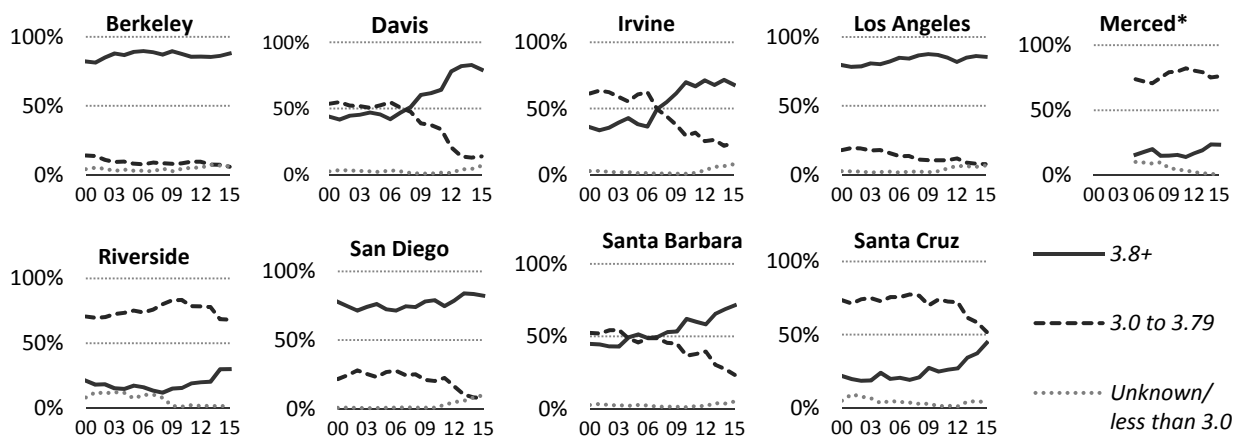
³ Test scores are the highest of either SAT or ACT scores. ACT scores are converted to the 800 SAT scale. From 2000 to 2005, SAT scores are the average of SAT I math and verbal scores. From 2006 onward, SAT scores are the average of SAT math and critical reading scores.

1.3 PREPARATION OUTCOMES

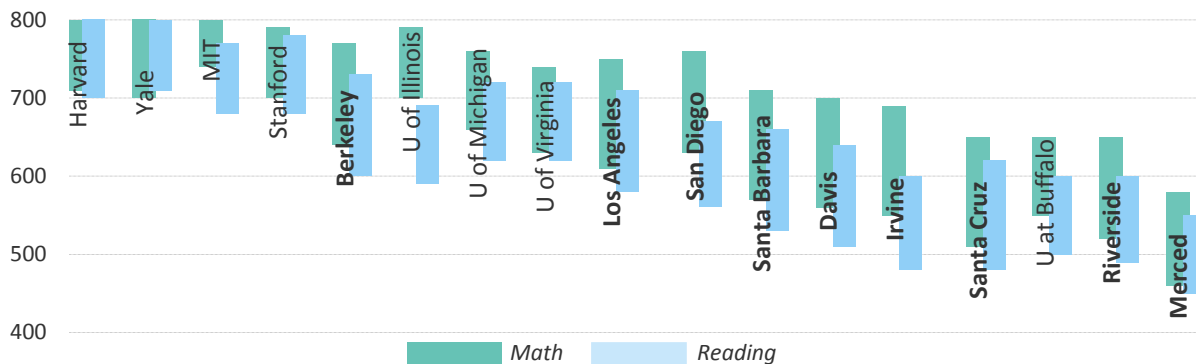
1.3.2 A–G (college preparatory)¹ courses of entering freshmen by campus, as share of class by campus Fall 2000 to fall 2015



1.3.3 High school weighted, capped GPA of entering freshmen by campus Fall 2000 to fall 2015



1.3.4 SAT reading and math scores, 25th to 75th percentile UC campuses and comparison institutions² Fall 2014



Source: IPEDS (SAT scores) and UC Information Center Data Warehouse (A–G courses and GPA)

¹ A–G courses refer to those high school courses that UC has reviewed and approved as college preparatory. *Merced opened in 2005.

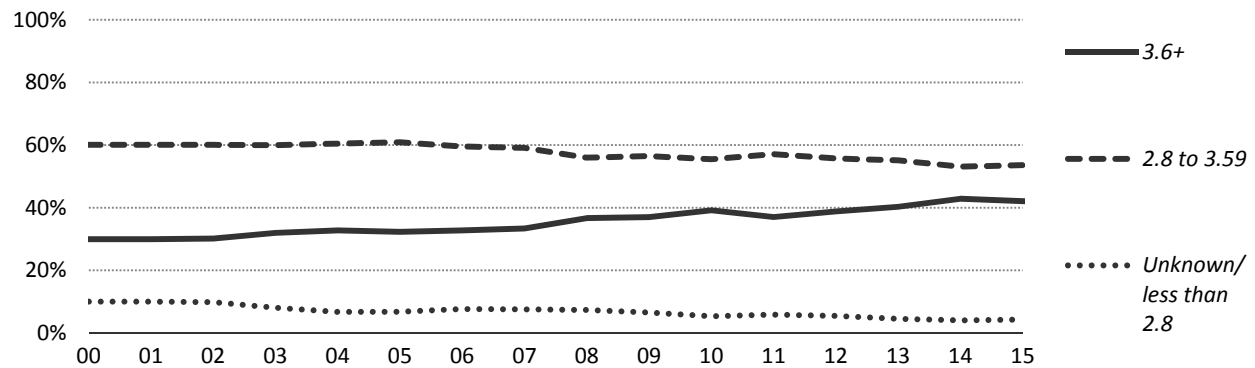
² UC campuses and comparison institutions are sorted by the sum of the 75th-percentile math and reading scores.

1.3 PREPARATION OUTCOMES

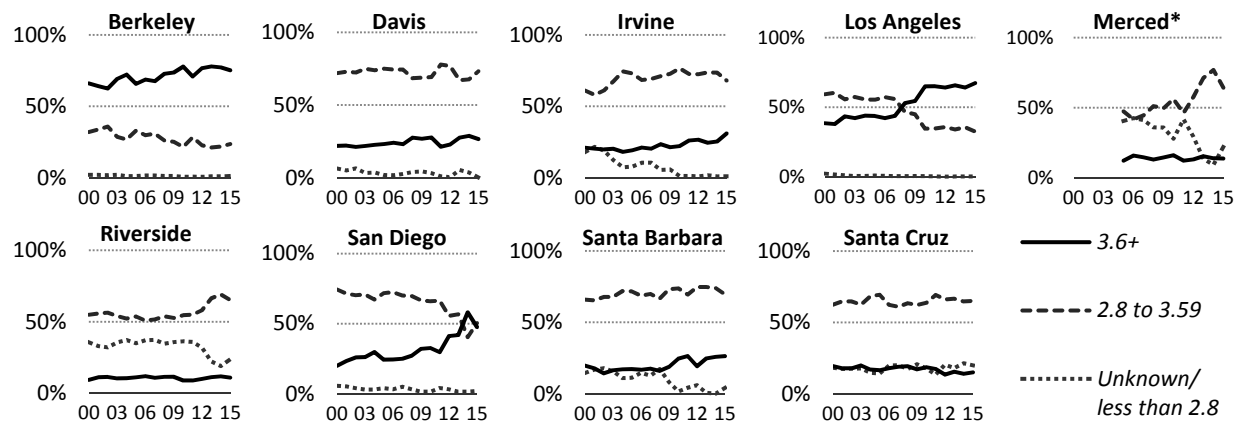
Like freshmen, UC transfer students in fall 2015 were better prepared academically than their counterparts a decade ago, as measured by their grades.

1.3.5 College grade point average (GPA)¹ of entering transfer students, as share of class
Fall 2000 to 2015

Universitywide



UC campuses



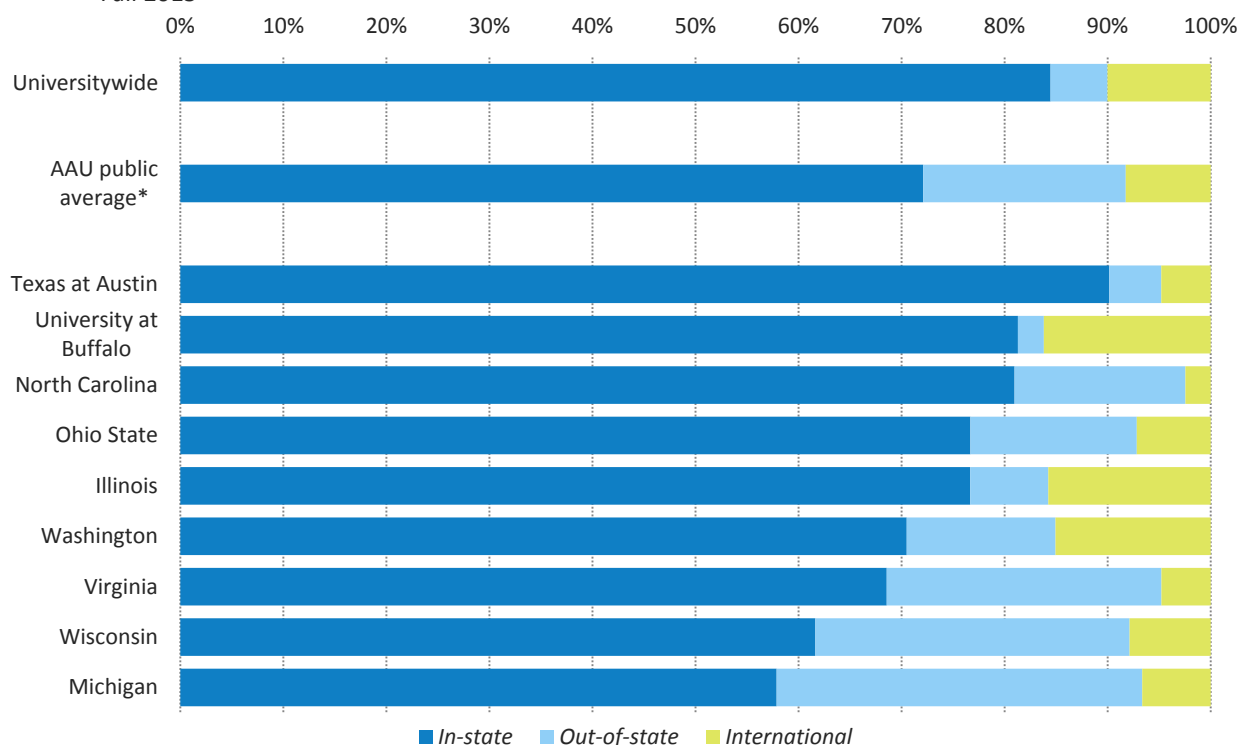
Source: UC Information Center Data Warehouse

¹ The transfer GPA is based on grades for college-level academic courses from the college(s) where students were previously enrolled. *Merced opened in 2005.

1.4 GEOGRAPHIC ORIGINS AND NONRESIDENTS

UC has a substantially lower proportion of out-of-state undergraduates than other AAU universities. In fall 2015, only 15.5 percent of UC's enrollees were out-of-state or international, compared with 27.9 percent for other AAU publics.

1.4.1 Residency of undergraduate students Universitywide and comparison institutions Fall 2015



Source: UC Information Center Data Warehouse (UC numbers) and Common Data Set (comparator numbers)
*AAU public 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's 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 2015–16, tuition and fees at UC campuses for a nonresident undergraduate, including health insurance, ranged from \$39,400 to \$41,400, compared to \$14,700 to \$16,700 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.

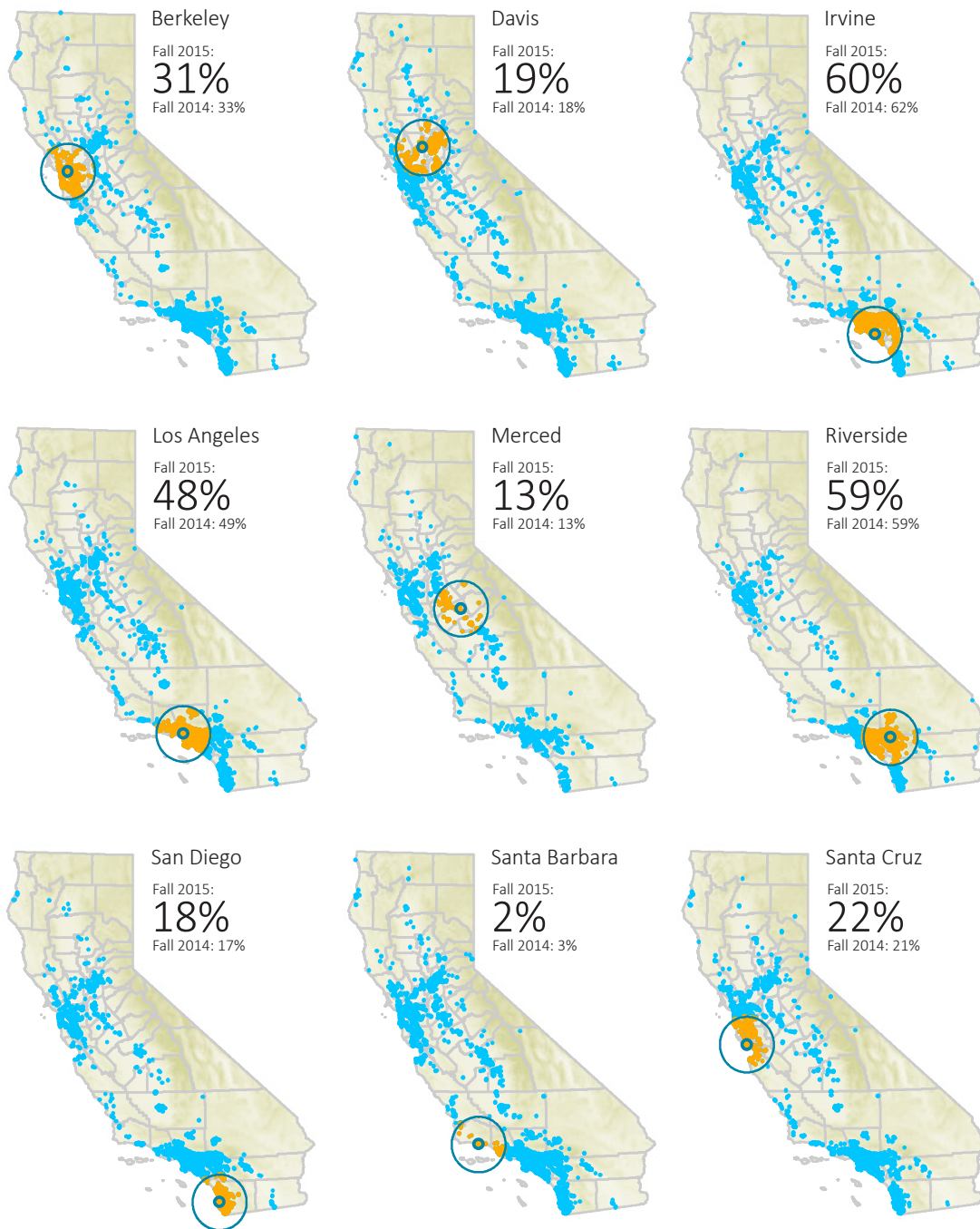
For an even broader comparison of nonresident enrollment, UC's 15.5 percent and the AAU public average of 27.9 percent are both much lower than the average at AAU private institutions (about 73 percent).¹

¹ Data for AAU private institutions is for fall 2014 and comes from the Common Data Set for those who publish their data. A few institutions do not publish their CDS data; for Columbia University, Duke University, Emory University, the University of Chicago, and the University of Rochester, the National Center for Education Statistic's College Navigator tool was used.

1.4 GEOGRAPHIC ORIGINS AND NONRESIDENTS

UC campuses attract students from their local regions and the major urban areas of California, with an overall local attendance rate of 32 percent.

1.4.2 Percentage of new CA resident freshman enrollees living within a 50-mile radius of their campus UC campuses Fall 2015

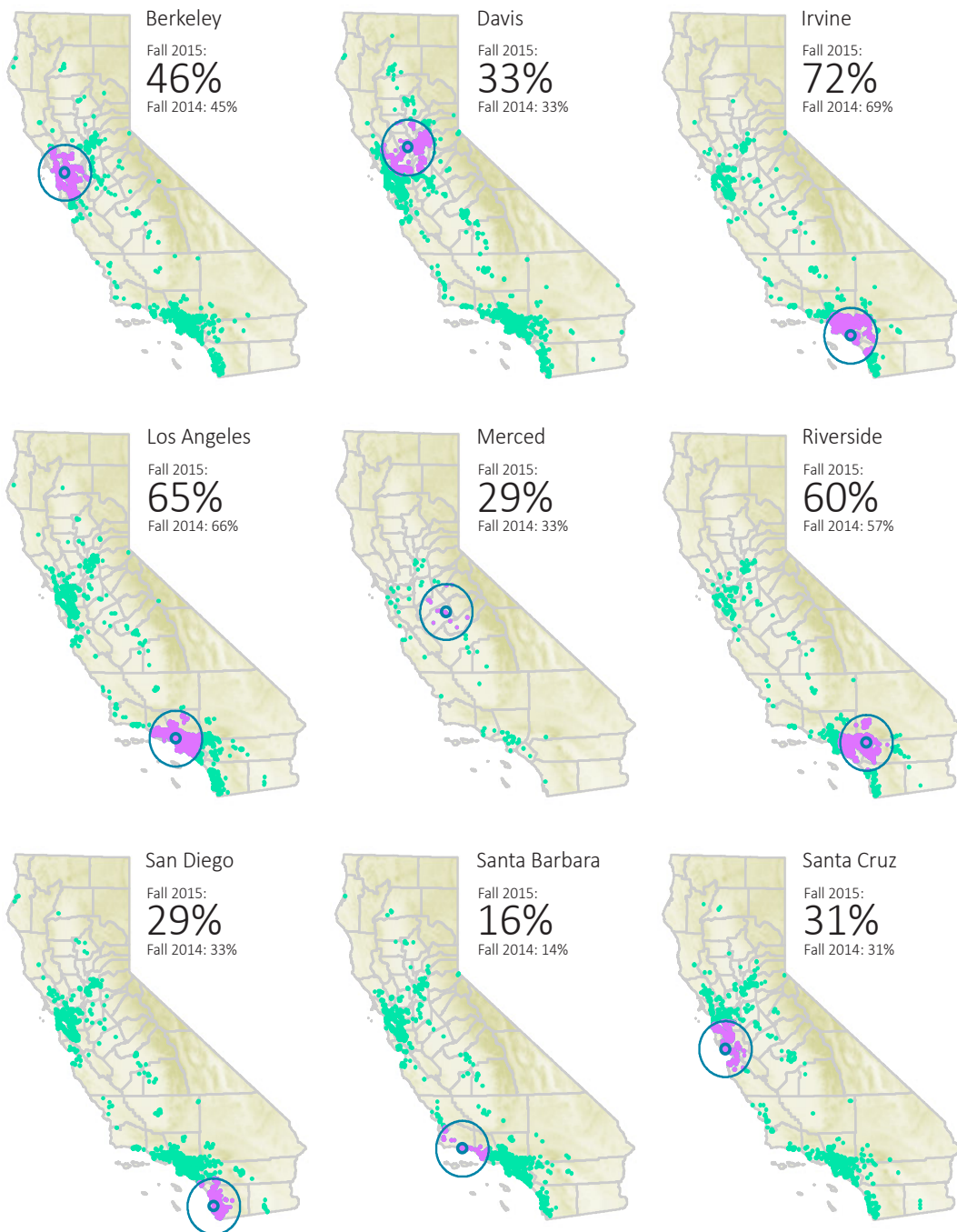


Source: UC Information Center Data Warehouse

1.4 GEOGRAPHIC ORIGINS AND NONRESIDENTS

While freshmen have a high local attendance rate, transfer enrollee rates are even higher, with 45 percent enrolling at a UC campus within 50 miles of their home.

1.4.3 Percentage of new CA resident transfer enrollees living within a 50-mile radius of their campus UC campuses Fall 2015

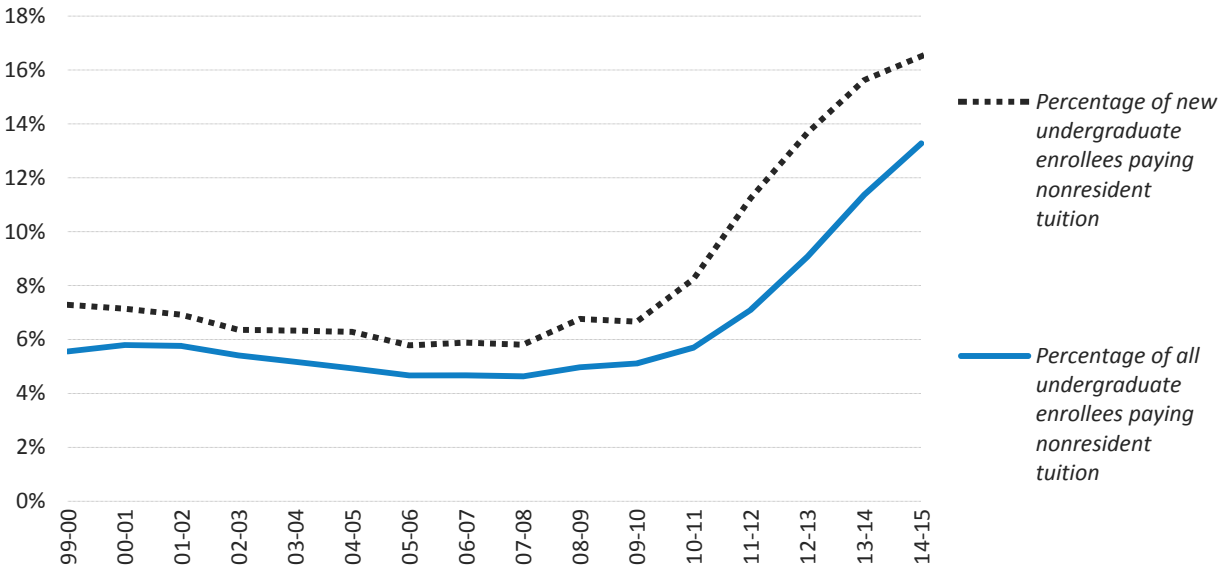


Source: UC Information Center Data Warehouse

1.4 GEOGRAPHIC ORIGINS AND NONRESIDENTS

The proportion of undergraduate students paying nonresident tuition is rising.

1.4.4 Percentage of full-time-equivalent undergraduate enrollees paying nonresident tuition Universitywide 1999–2000 to 2014–15



Source: UC Corporate Student System

The proportion of nonresident students at individual campuses varies depending on a campus's capacity as well as its ability to attract nonresident students.¹

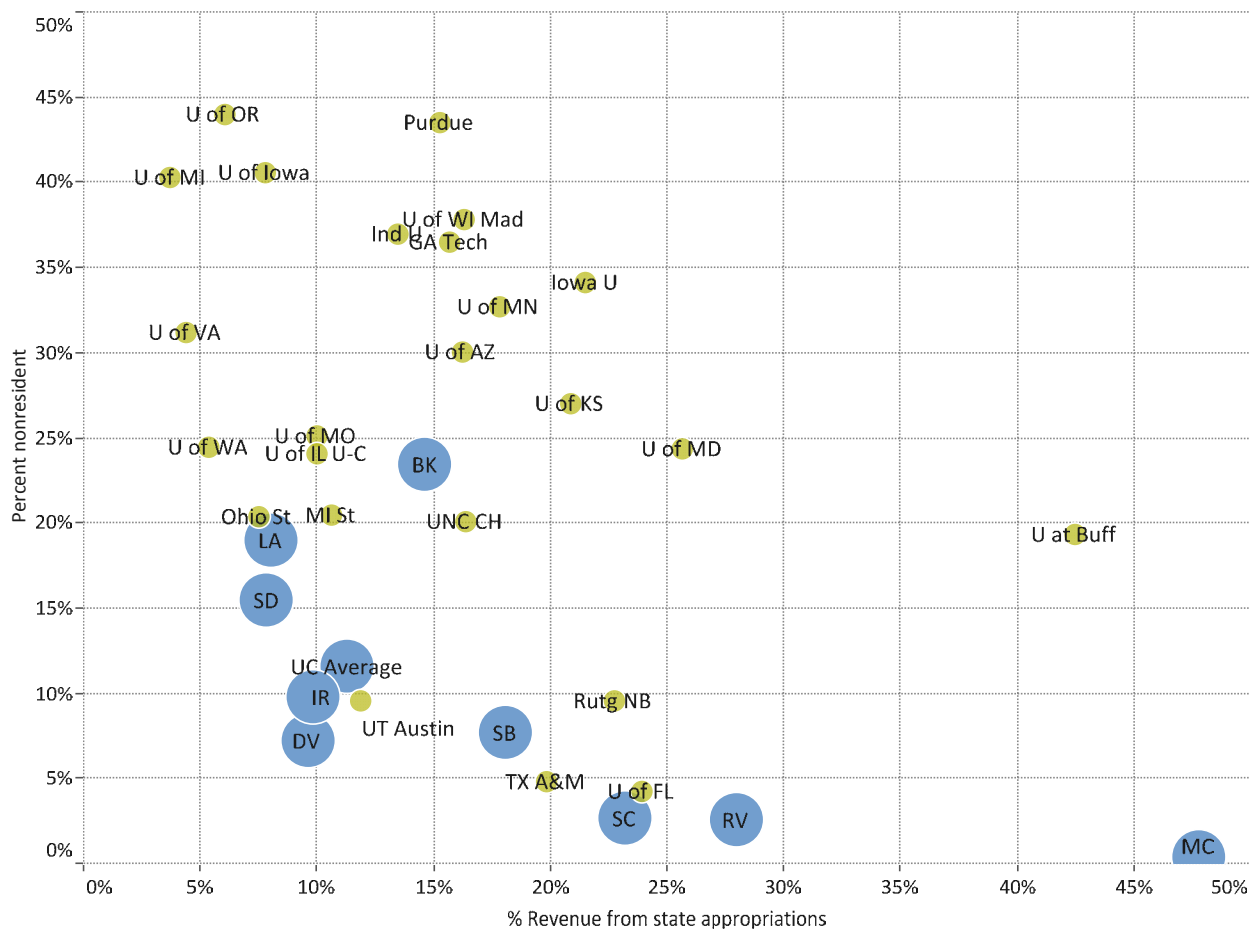
With decreases in state support and flat undergraduate tuition, some UC campuses are leveraging increased revenue from nonresident tuition to support the provision or expansion of undergraduate courses or to expand financial aid for California residents.

¹ Not all nonresident students pay nonresident tuition. Some have statutory exemptions, such as AB540 students, children of UC employees and others designated by the state. AB540 students are considered California residents for tuition purposes as established by Assembly Bill 540, passed in 2001.

1.4 GEOGRAPHIC ORIGINS AND NONRESIDENTS

As a system, UC enrolls far fewer nonresidents than other public research universities, despite receiving a smaller proportion of its revenue from state support.

1.4.5 State funding versus percentage of nonresidents UC and comparison institutions Fall 2013



Source: State appropriations and total revenues (including operating and nonoperating revenues) are from IPEDS. AAU Public nonresident percentages are from Common Data Set. UC nonresident percentages are from the UC Information Center Data Warehouse and reflect nonresident tuition payers.

Even the UC campuses with the highest proportions of nonresidents are still below the average among public members of the AAU. There is an association between declining state funding and increasing nonresident enrollment, a clear trend seen across the nation.





Chapter 2. 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 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 parental financial resources set the framework for what is required to provide adequate financial support.

Focusing on in-state students that live on campus, the total 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 just over \$33,000. This figure compares to about \$26,000 on average at other AAU publics and around \$63,000 for the AAU privates.

The income profile indicators demonstrate that the University remains accessible to students from all income groups, including low-income students.

Since 2008–09, the proportion of UC undergraduates in the lowest income category increased from 13 percent to 18 percent of the total undergraduate student body, with an offsetting decline among upper- and upper-middle-income families. This may reflect, in part, a statewide decline in the incomes of middle-income families due to the economic recession.

In fall 2015, 40 percent of all UC undergraduates qualified for Pell Grants, which are federal grants 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 and/or borrowing.

More gift aid is available to UC students than students at other AAU public institutions, which dramatically reduces the net cost of attendance for the neediest students and enables them to enroll in sizable numbers and proportions. The inflation-adjusted net cost of attendance for students from families in the lowest income bracket (less than \$54,000) has actually declined 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. This program helps cover fee costs through the Blue and Gold Opportunity Plan, which ensures that needy students with family incomes below \$80,000 receive gift aid sufficient to cover both tuition and fees and non-fee costs such as room, board and book expenses. As a result of this robust institutional financial aid program combining support from different sources, 57 percent of California resident undergraduates paid no tuition in 2014–15.

Since 2013–14, undocumented California students who qualify for in-state tuition and fees under AB 540 have been eligible for Cal Grants under the California Dream Act. Approximately 2,300 of these students received Cal Grants in 2014-15, totaling \$28.6 million. These students are also eligible for UC-funded awards.

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. In the academic year 2013–14, the proportion of students working more than 20 hours per week increased to 10 percent, up from 7 percent two years earlier.

For the academic year 2014–15, about 41 percent of undergraduates relied on federal student loans to help finance their education, with loan amounts averaging \$6,326. These figures are lower than the year before. Parental borrowing under the federal PLUS program remained at 6 percent; the average loan amounts remained about \$16,000 per year.

Limiting cumulative debt

The proportion of undergraduates leaving with debt is lower than a decade ago. About 55 percent of the class of 2014–15 graduated with debt, with an average amount of \$20,800. This translates into a monthly repayment amount of about \$220 for 10 years at a 5 percent annual interest rate.

Comparison data show the 2013–14 cumulative debt for UC undergraduates was \$20,500, compared to \$25,900 for public 4-year institutions and \$29,700 for private nonprofit 4-year institutions.

Looking forward

Recognizing the need for student loan access to place undocumented students on equal footing with their peers, the state enacted the Dream Loan Program (SB 1210) in 2014. Under this program, UC and CSU will use state General Fund appropriations matched with institutional resources to fund and administer loans to undocumented students. Taking effect in the 2015–16 academic year, this program will help to address one of the final financial barriers faced by undocumented California students in their pursuit of a baccalaureate degree at UC or CSU — their lack of eligibility to participate in federal student loan programs. Together with the AB 540 nonresident tuition exemption and eligibility for state and institutional grants established through the California Dream Act, the Dream Loan Program will help eligible undocumented students have borrowing opportunities similar to those enjoyed by their documented counterparts.

Veterans will also benefit from recently expanded financial aid options. The first is a nonresident tuition exemption, granted by Section 702 of the Veterans Access, Choice and Accountability Act of 2014. The second is a provision of the Post-9/11 GI Bill that allows institutions and the Department of Veterans Affairs to partially or fully fund tuition and fee expenses that exceed the maximum amount previously covered by the GI Bill.

Students' access to affordable housing and food is also a priority for the University. Food security is a global issue, and UC researchers and administrators are addressing the topic starting at the campus level with the intent to develop solutions for larger populations. President Napolitano and UC's 10 chancellors launched the UC Global Food Initiative in July 2014, with the first phase including a survey of UC students to assess food security concerns and providing short-term relief where needed. The results of this survey will be available in next year's Accountability Report. As UC pilots longer-term solutions, the objective is to expand successful programs to help other communities.

Given the high demand for housing across California, UC is also making efforts to keep housing accessible for students. In January 2016, President Napolitano announced a housing initiative aimed at supporting current students and future enrollment growth across the UC system. The two goals of the effort are to ensure that each UC campus has sufficient housing for its student population to keep housing affordable for UC students.

For more information

UC costs and financial aid, including UC's Blue and Gold Opportunity Plan and financial aid estimators: <http://admission.universityofcalifornia.edu/paying-for-uc>

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

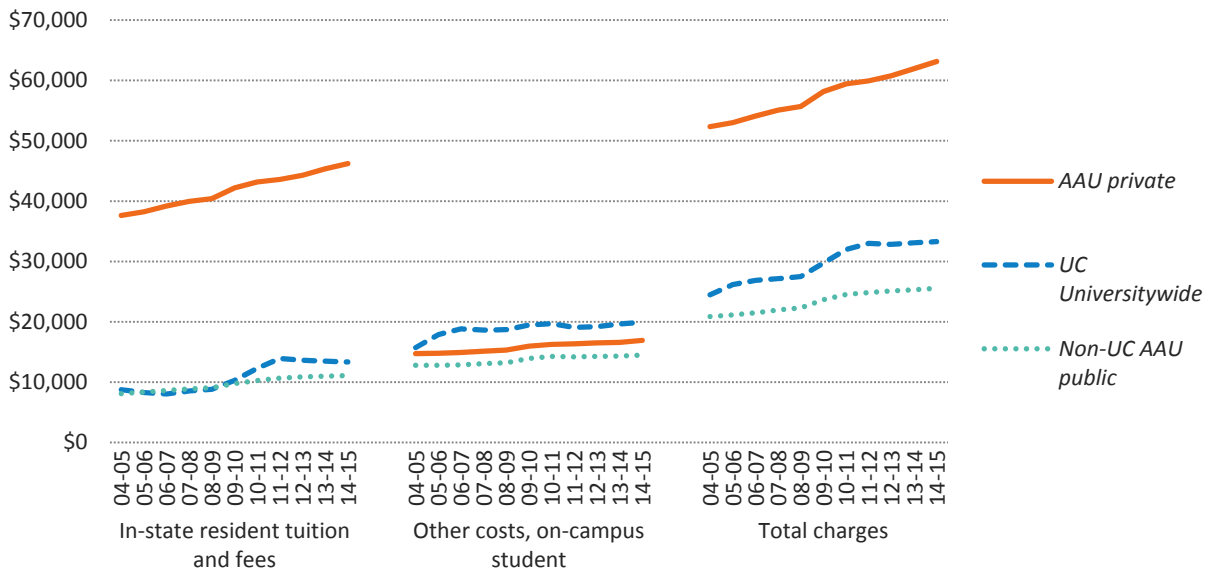
Storyboard on UC's affordability for undergraduates: www.universityofcalifornia.edu/infocenter/uc-remains-affordable-undergraduates

Data tables with downloadable figures on Pell Grant status by campus, residency and demography: www.universityofcalifornia.edu/infocenter/fall-enrollment-headcounts

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 2004–05 to 2014–15



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 partly because of the relatively high cost of living in California.

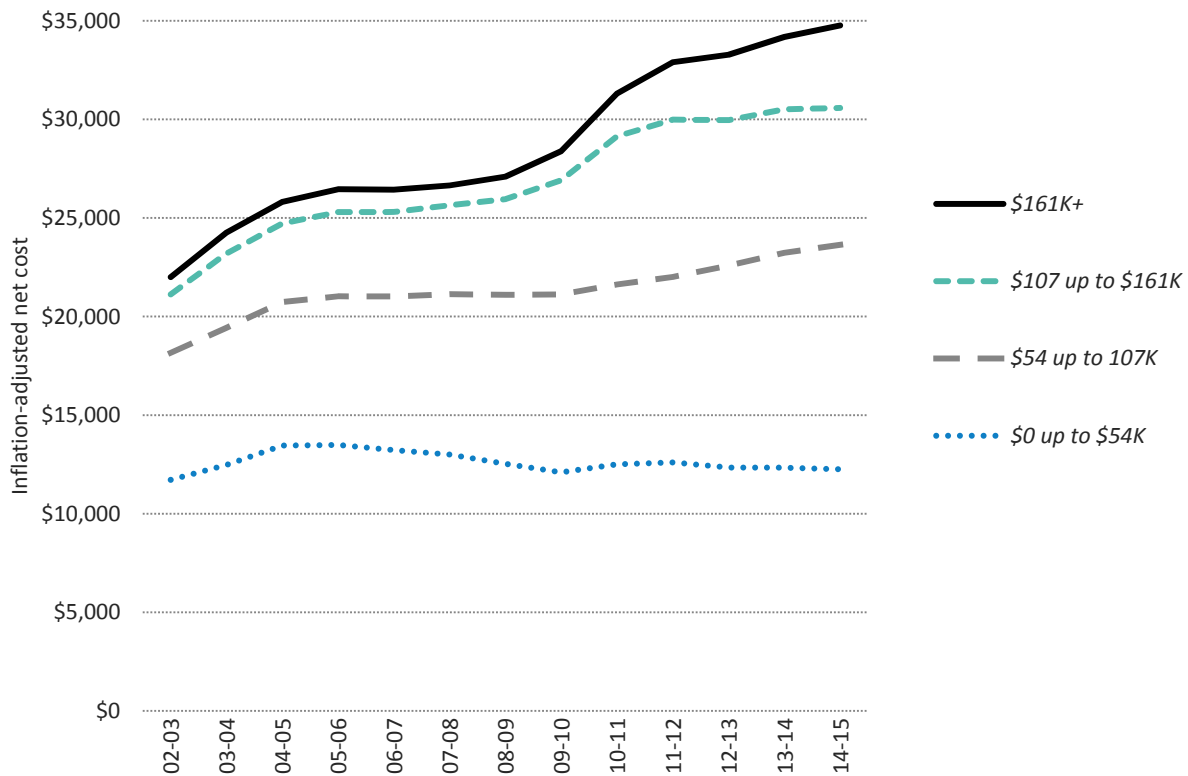
After several years of increases, UC tuition and fees and the total cost of attendance have remained relatively flat in the past few years.

¹ Charges are for in-state students living on campus. Averages are simple averages. Weighted averages for UC can be found at <http://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

The net cost of attendance for students from families in the lowest income categories has actually declined since 2004–05, after accounting for inflation, while it has increased for students from middle- and high-income families.

2.1.2 Net cost of attendance by family income Universitywide 2002–03 to 2014–15



Source: UC Corporate Student System¹

A general measure of the University’s affordability is its average net cost of attendance. This represents the actual cost of attending 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.

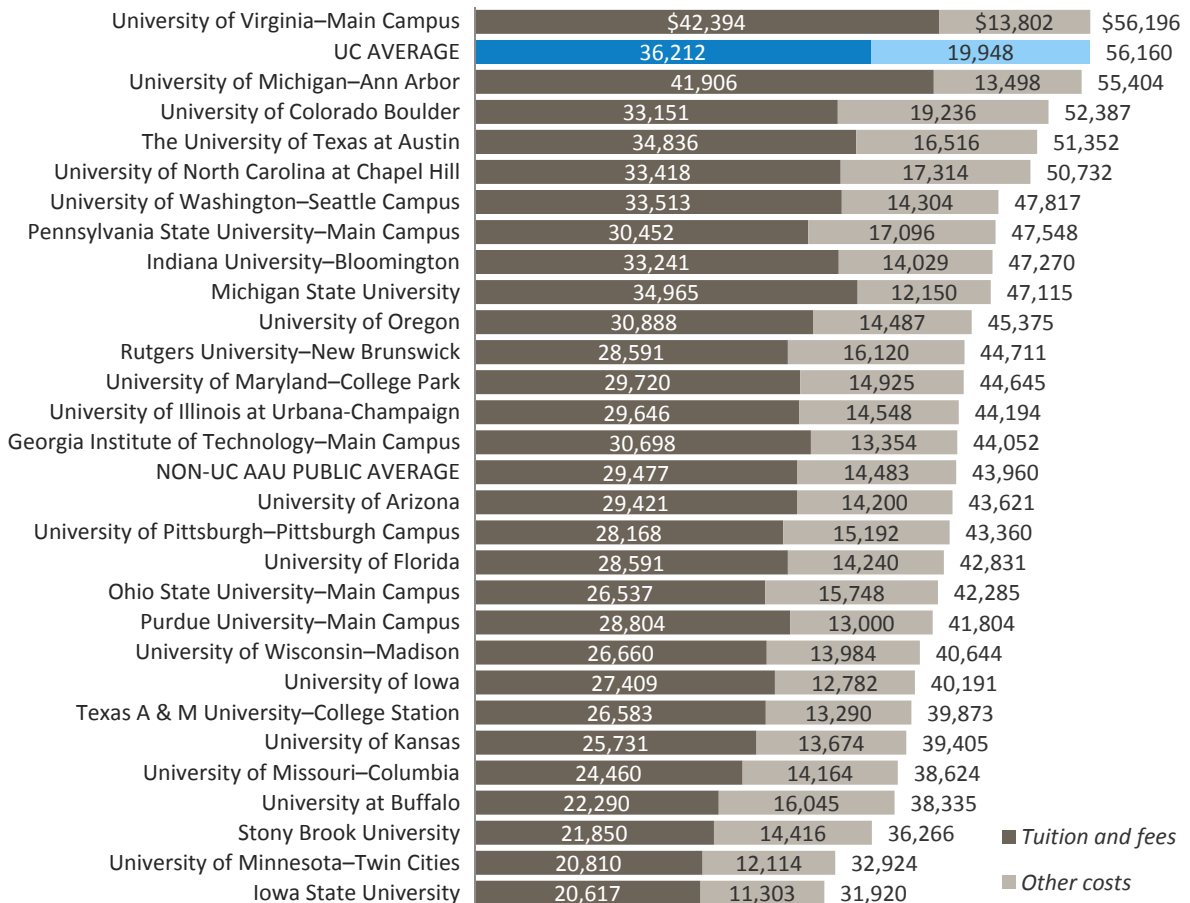
Between 2002–03 and 2014–15, the average increase in inflation-adjusted net cost for all UC undergraduate students, including independent students, was approximately \$4,600. Inflation-adjusted increases ranged from \$500 for low-income students to about \$12,800 for high-income students.

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.

2.1 COST OF ATTENDANCE

UC's cost of attendance for nonresident students is among the highest of all public AAU institutions.

2.1.3 Total cost of attendance for nonresidents Universitywide and comparison institutions 2014–15



Source: IPEDS¹

UC charges higher nonresident tuition than all but two nationally ranked public universities. Because of California's higher cost of living, compared to other states, when all expenses are taken into account, UC ties with Virginia as the most expensive public university for nonresident undergraduates in the nation.

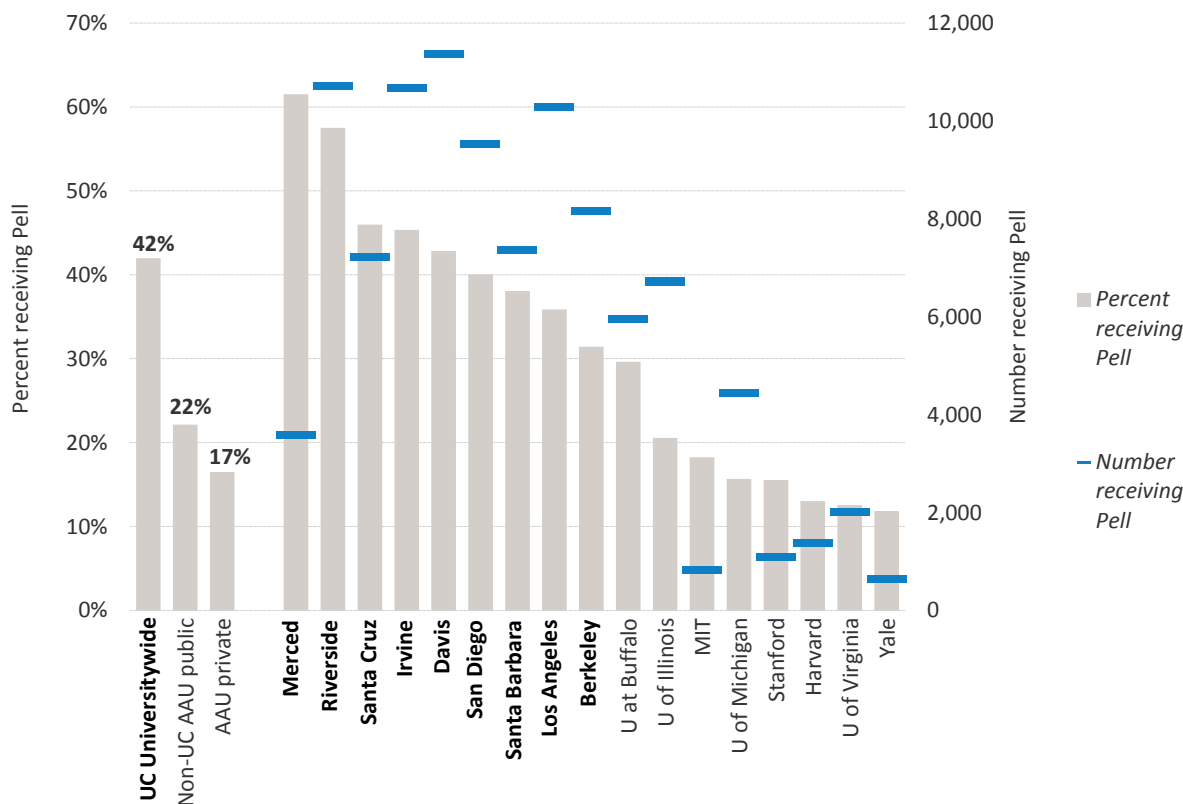
There is fierce competition among institutions for nonresidents who pay significantly higher fees than residents across the country. UC's competitors, such as Michigan, regularly provide tuition discounts labeled as gift aid to nonresident students, which means they are paying less than the "sticker price" above. Legislative action in 2015 prohibited UC from providing similar discounts, putting UC at a disadvantage in the competition for nonresident students who do not have to pay the "sticker price" at peer institutions.

¹ Averages are not weighted by student population. "Other costs" include living costs and books.

2.2 INCOME PROFILE

UC enrolls a higher percentage of Pell Grant recipients than any other top research university in the country.

2.2.1 Undergraduate Pell Grant recipients UC and comparison institutions 2013–14



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.

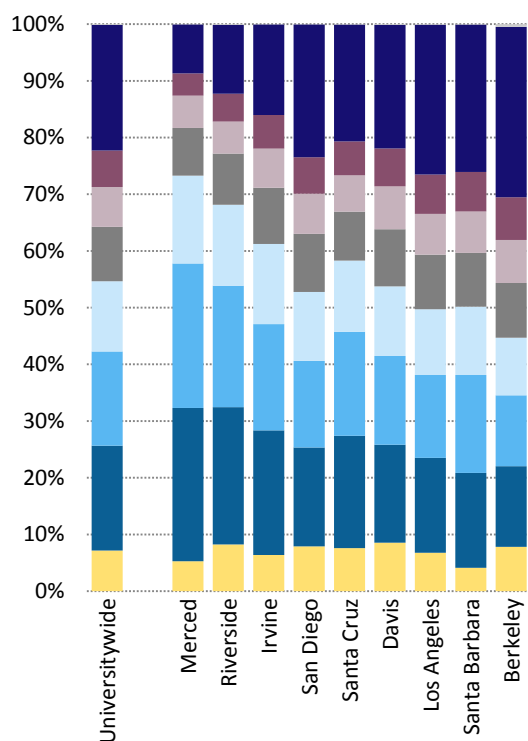
The data shown above represent the most recent year that data on comparison institutions are available. The proportion of UC undergraduates receiving Pell Grants went up from 31 percent in 2008–09 to 42 percent in 2013–14. This is primarily a result of increased federal spending, which made more students eligible for Pell Grants, as well as the economic downturn, which caused broad declines in family income. In fall 2015, 40 percent of UC undergraduates were Pell recipients.

¹ Percentage reported is that of students who received Pell Grants at any time during the 2013–14 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.

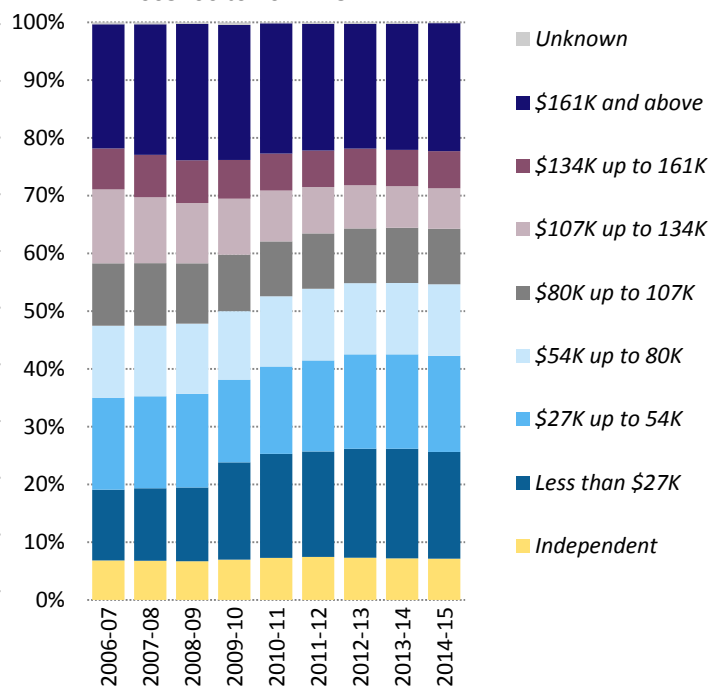
2.2 INCOME PROFILE

A large proportion of UC students come from low-income families, especially at UC's newer campuses.

2.2.2 Undergraduate income distribution Universitywide and UC campuses 2014–15



2.2.3 Trends in the parent income of UC undergraduates, 2013 constant dollars Universitywide 2005–06 to 2014–15



Source: UC Corporate Student System¹

While all UC campuses enroll a significant proportion of low-income students, the proportion varies across the campuses.

The income distribution of UC undergraduates has remained stable for many years despite increases in the University's cost of attendance. This suggests that the University's financial aid programs keep the University's net cost of attendance within reach of low- and middle-income families, and that UC's total cost of attendance remains affordable for others.

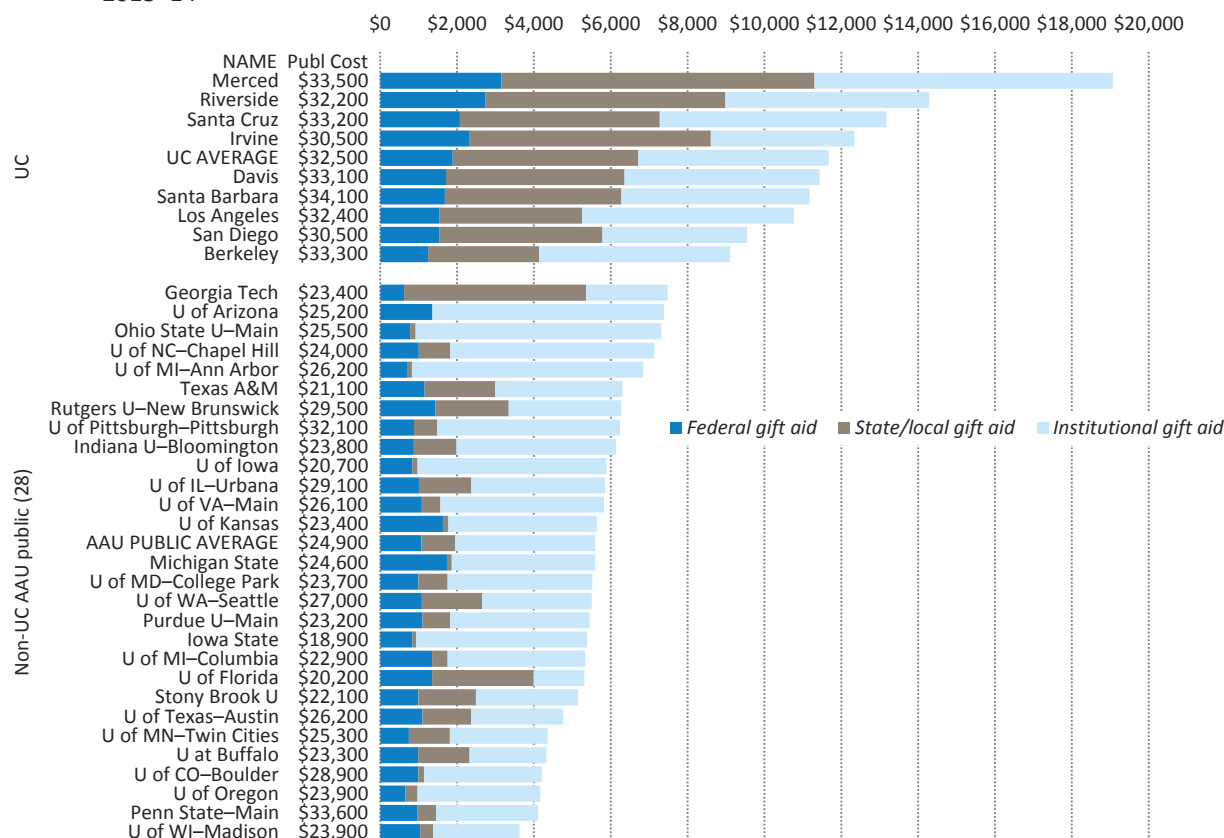
The chart above also shows the impact of the recent economic downturn on UC families: since 2008–09, the proportion of UC students in the lower income categories increased noticeably, with an offsetting decline among upper- and upper-middle-income families.

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 GIFT AID AND NET COST

More gift aid is available to UC students than to students at other AAU public institutions.

2.3.1 Per capita gift aid for new freshmen UC campuses and comparison institutions 2013–14



Source: IPEDS¹

One remarkable aspect of UC’s financial aid awards is the high level of gift aid compared to other AAU public institutions. While federal Pell Grants are available to low-income students at any institution, UC students currently benefit from the combination of a strong state financial aid program (Cal Grants) and a strong UC aid program. AAU institutions in other states generally have either a strong state aid program or a strong institutional aid program, but not both.

Institutional gift aid is the largest source of grant and scholarship support for UC undergraduates. The primary source of institutional gift aid is the nearly one-third of all undergraduate tuition and fee revenues that UC sets aside for need-based financial aid. Although over 90 percent of all gift aid received by UC students is based on need, nearly one in four UC undergraduates receives a merit-based scholarship. In 2014–15, the average merit-based scholarship was about \$3,983, funded from a mix of federal, state, external private and institutional sources.

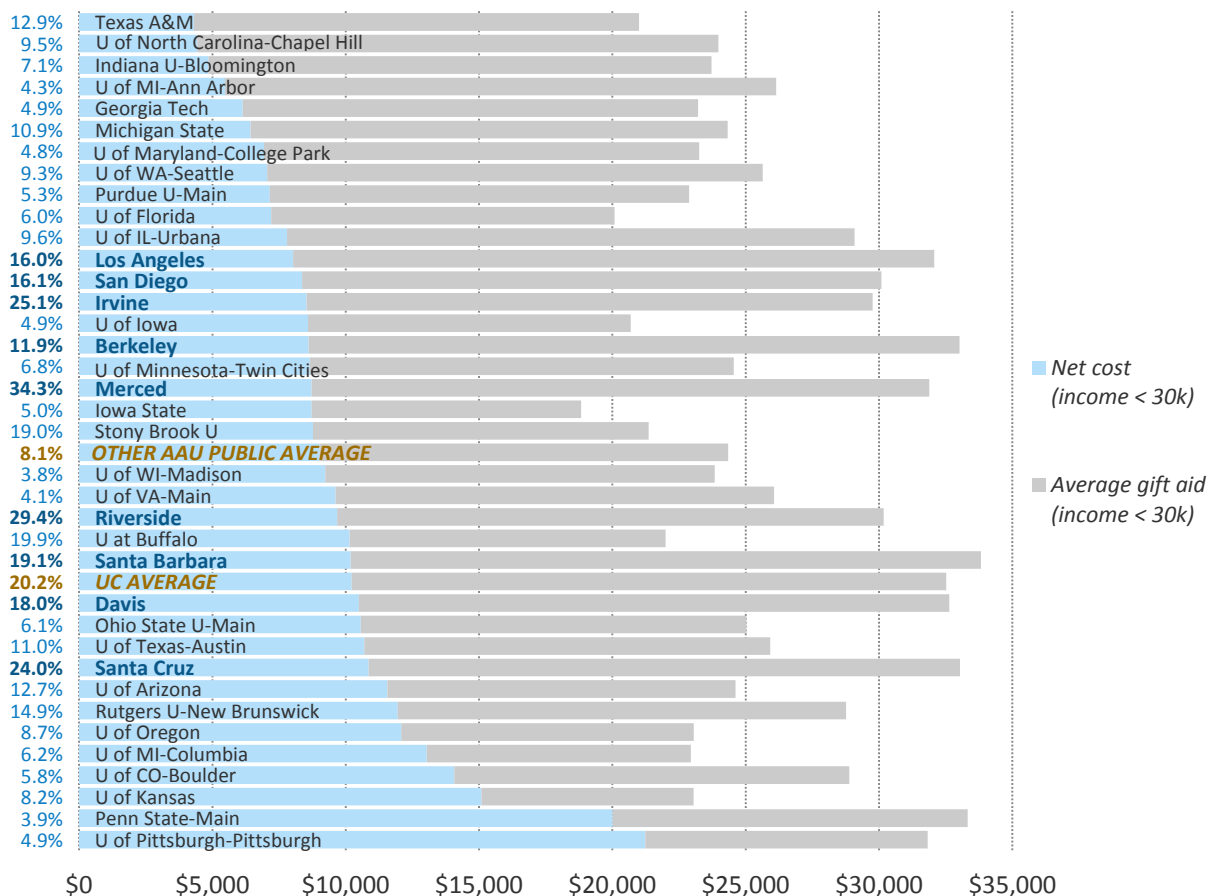
¹ Figures include gift aid given to all full-time, first-time students, while the data in indicator 2.3.2 shows gift aid only to very low-income students. Pell Grants are the main source of federal gift aid. For California students, Cal Grants are the main source of state gift aid. “Publ cost” in the column to the right of the institution names is the published cost for in-state students living on campus.

2.3 GIFT AID AND NET COST

For very low-income students, the comparatively high cost of attendance at UC campuses is offset by the higher-than-average amounts of gift aid they receive. This enables UC to attract, support and graduate a sizable proportion of high-achieving students from low-income families.

2.3.2 Average gift aid, cost of attendance and net cost for very low-income students UC campuses and public AAU institutions 2013–14

Percentage shown is the percentage of full-time, first-time freshmen whose families have incomes below \$30,000.



Source: IPEDS¹

Despite a greater proportion of very low-income students and higher total costs at UC, the net cost of UC for these students is comparable to that of other AAU public institutions.

UC's net cost for very low-income students is also comparable to other public institutions in California; the net cost for these students at six of UC's nine undergraduate campuses is lower than at either a CSU or a CCC in the same region.²

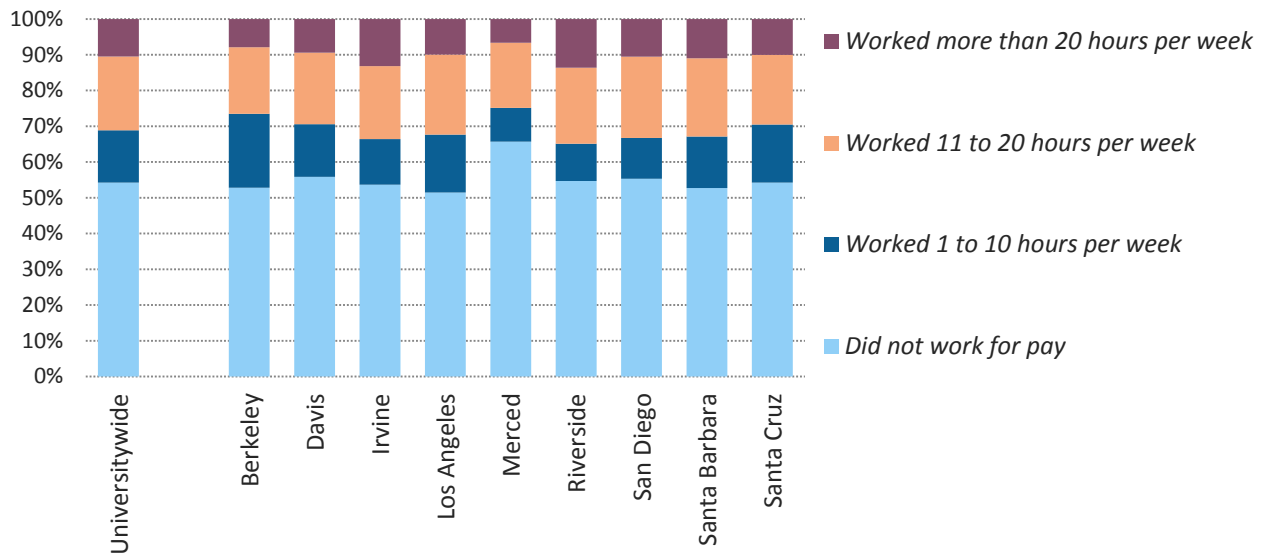
¹ Very low-income students shown here have family incomes below \$30,000. Published Cost of Attendance = Tuition + Published Living Expenses. Living expenses vary depending on a student's housing choices and on the housing market around a campus. This leads to the slightly different averages shown in this chart for the different UC campuses.

² According to The Institute for College Access & Success (TICAS): http://ticas.org/sites/default/files/pub_files/npc_california_map.pdf

2.4 STUDENT WORK

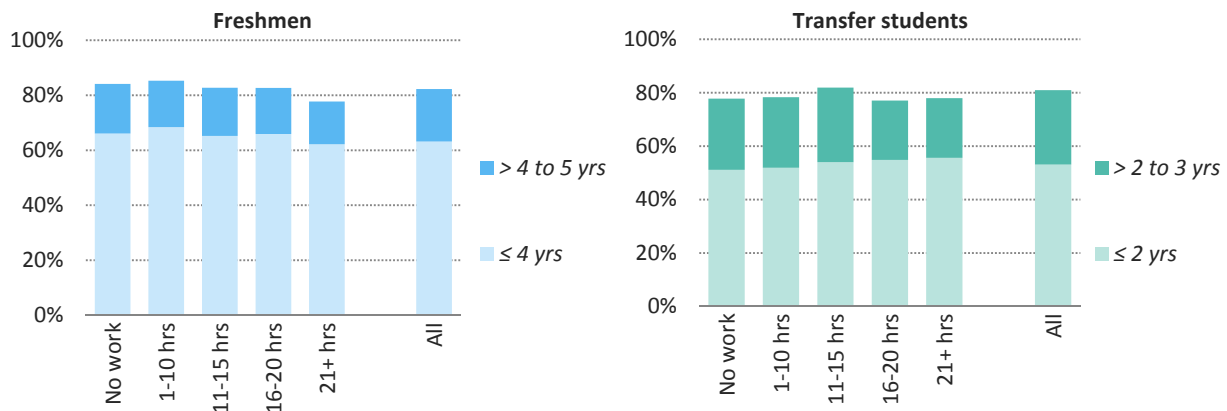
The proportion of undergraduates working more than 20 hours per week was less than 10 percent in 2013–14. A little over half of undergraduates did not work for pay.

2.4.1 Undergraduate hours of work Universitywide and UC campuses 2013–14



Source: UCUES

2.4.2 Graduation rates by hours worked in first year Universitywide 2009–10 entering freshmen and transfer students



Source: UCUES and Corporate Student System

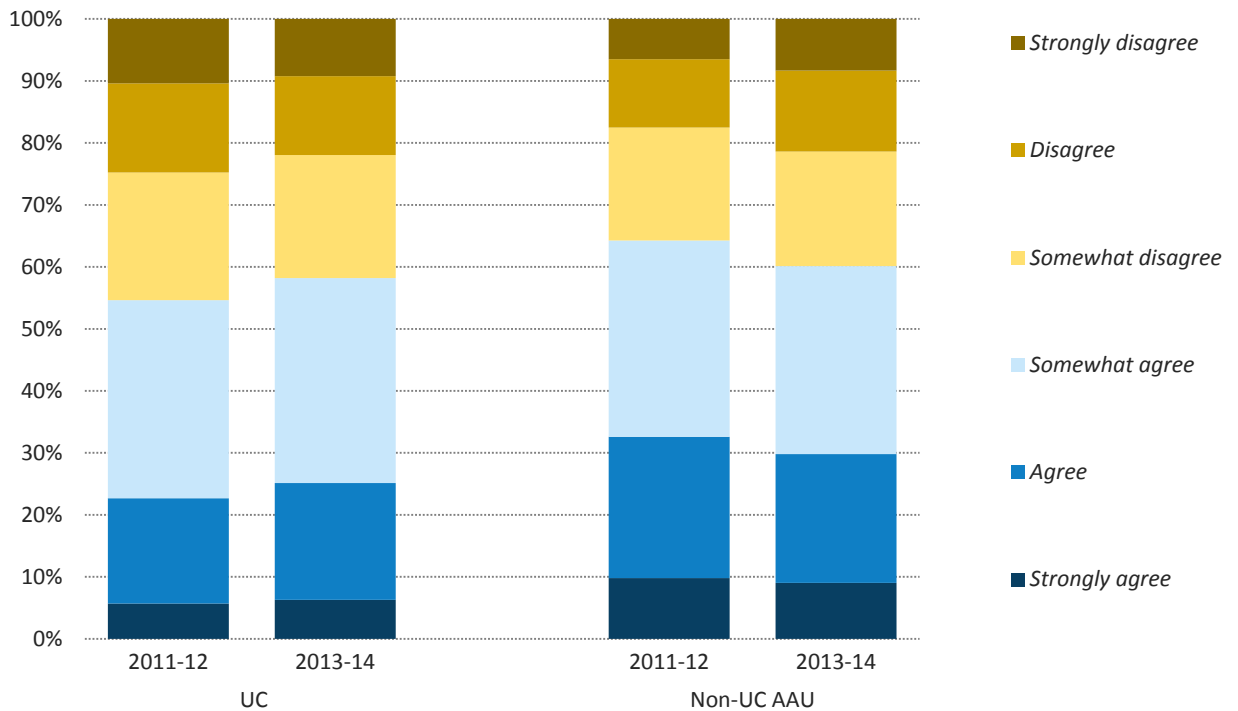
UC expects all students to help finance their education through a combination of work and borrowing. With respect to student work, the University's goal is for students to work at a reasonable level that does not impede progress toward completion of the baccalaureate degree.

The above charts show that work in excess of 20 hours a week may affect progress to degree, though the difference is only apparent for freshmen.

2.5 STUDENT DEBT

The proportion of undergraduates who feel that the cost of their education is manageable has increased from two years ago.

2.5.1 Student response to “With grants and scholarships, if any, the total cost of attending the school is manageable” Universitywide and comparison institutions 2011–12 and 2013–14



Source: UCUES and SERU¹

Fifty-eight percent of UC undergraduates report feeling that the cost of attendance is manageable. This figure is up from 55 percent in the previous UCUES survey. Sixty percent of survey respondents at other AAU schools agree that the cost of their education is manageable.

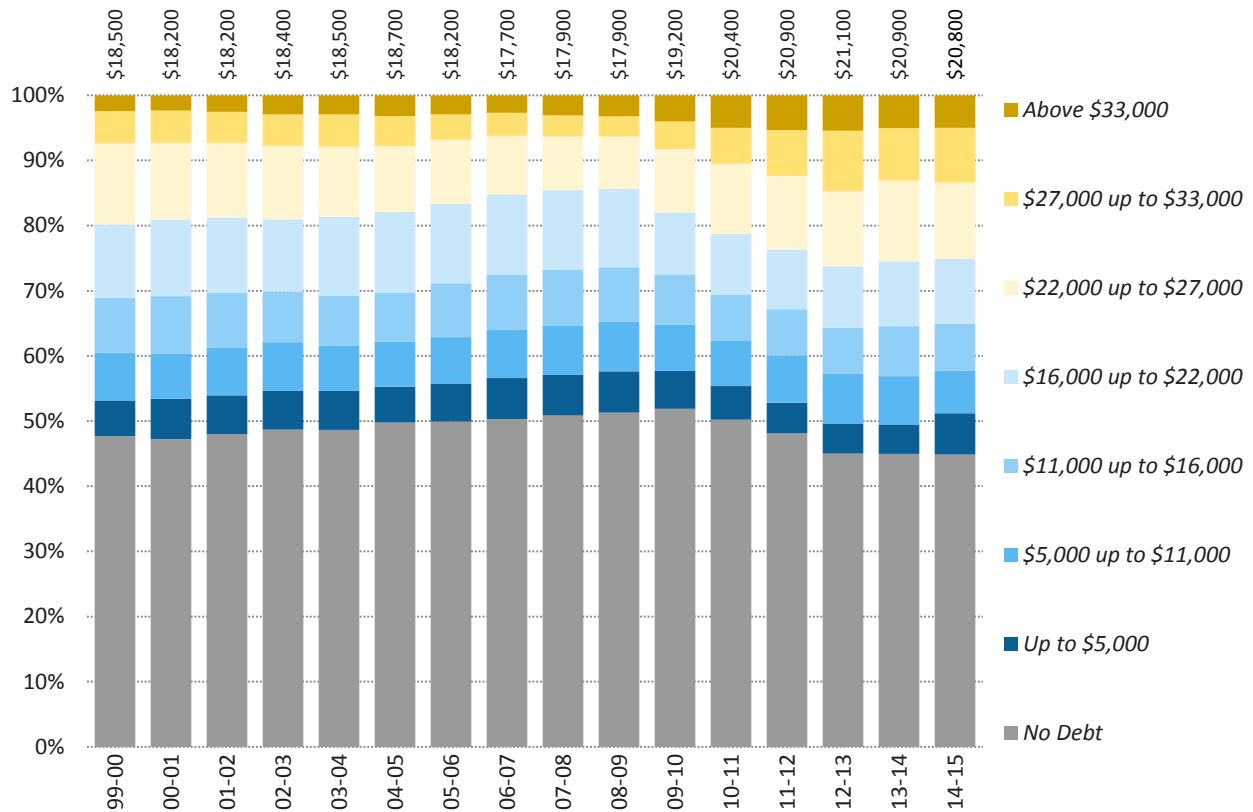
Among non-UC AAU schools, a direct comparison between the 2011–12 survey and the 2013–14 survey should be viewed with caution, since the number of schools in the SERU consortium has grown.

¹ SERU is the Student Experience in the Research University survey, which is administered at a number of AAU institutions. There were more non-UC AAU institutions included in the survey in 2013–14 compared with 2011–12. Non-UC schools included in 2011–12: U Minnesota, Rutgers U, U Pittsburgh, USC, Texas A&M U and U Virginia. In 2013–14, additional schools included U Michigan, Indiana U, Purdue U, U Iowa and U Washington.

2.5 STUDENT DEBT

The average inflation-adjusted debt at graduation of student borrowers increased by 12.4 percent (from \$18,500 to \$20,800) over the past 15 years.

2.5.2 Student loan debt burden of graduating seniors, inflation-adjusted Universitywide 1999–2000 to 2014–15 (average debt of those with debt shown above each year)



Source: UC Corporate Student System¹

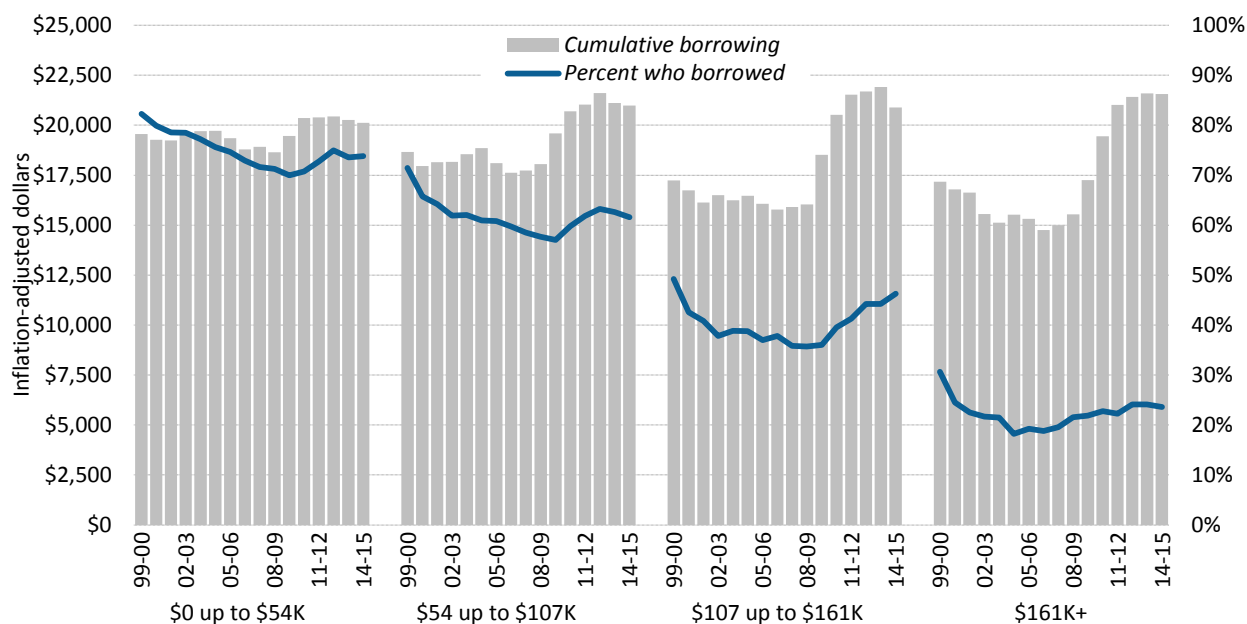
Forty-five percent of UC undergraduates graduate with no debt at all. For those who do borrow, the average student loan debt at graduation in 2014–15 was about \$20,800. The monthly repayment for this amount is about \$220 for 10 years at the 5 percent average interest rate that typically applies to student loans. Lower payments are available with longer repayment periods.

¹ Figures are adjusted for inflation in 2014 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.

2.5 STUDENT DEBT

Despite recent increases, the proportion of students graduating with loan debt across all incomes was still lower in 2014–15 than it was 15 years ago.

2.5.3 Student loan debt burden of graduating seniors by parent income Universitywide 1999–2000 to 2014–15



Source: UC Corporate Student System¹

The proportion of students who borrow decreased steadily from 1999–00 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 two years, however, student borrowing remained the same or decreased slightly for the lowest two income categories and for the highest income category.

2.5.4 Average cumulative loan debt UC and national comparison institutions 2013–14 graduates

Berkeley	\$17,580
Davis	\$19,710
Irvine	\$20,320
Merced	\$20,410
UC AVERAGE	\$20,530
Los Angeles	\$20,760
Santa Barbara	\$21,045
Riverside	\$21,170
San Diego	\$21,170
Santa Cruz	\$22,580
Public 4-year	\$27,200
Private nonprofit 4-year	\$31,100
National Average	\$28,950

Source: TICAS and Common Data Set. National average does not include private for-profit institutions.

¹ Figures are adjusted for inflation in 2014 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.





Chapter 3. Undergraduate Student Success

Goals

The University of California seeks to enable all freshmen and transfer 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.

Improving graduation rates

By traditional graduation rate measures, UC's undergraduates are highly successful.

UC's four-year graduation rates for freshmen have risen significantly over the past 15 years — from 46 percent for the 1997 entering cohort to 64 percent for the 2011 cohort. The most recent six-year graduation rate is 85 percent, which increases to 88 percent when including students who transfer to non-UC institutions and still graduate within six years. In addition, time to degree has steadily improved over time with freshman entrants taking on average 4.1 years to graduate.

Transfer entrants have made similar gains, with average two-year graduation rates increasing from 37 percent for the 1997 entering cohort to 55 percent for the 2013 cohort. The most recent four-year graduation rate for transfers (2011 entering cohort) is 88 percent.

Researching factors that affect graduation rates

This year's report includes graduation rates by race/ethnicity. Many factors are at play here, from socioeconomic background to peer effects to academic preparedness. These factors may explain some of the difference in graduation rates, and these factors may intersect and be cumulative.

For instance, an underrepresented minority student may experience attending a poorly performing high school differently from a nonunderrepresented student, and being both low-income and first-generation will often affect a student more than just having one of those characteristics, even though they are closely correlated.

Holding a job while attending school is often thought to negatively affect graduation rates. However, undergraduates have to work a significant number of hours (i.e., 21 hours or more) for employment to play a role, and a very small proportion of undergraduates work that many hours while attending school.

Undergraduate outcomes

The number of undergraduate degrees awarded by UC over the past 15 years has grown by 50 percent, from about 32,700 in 1999–2000 to 49,200 degrees in 2014–15. Increases in the size of the entering freshman class and improving graduation rates have contributed to these positive developments. Over one-third of the undergraduate degrees awarded by UC in 2014–15 were in STEM disciplines (science, technology, engineering and mathematics).

Four years after graduation, more than a quarter of bachelor's degree recipients have enrolled in graduate or professional programs.

Analysis of wage data reported for UC alumni working in California shows differences in earnings depending on the student's major. Generally, the earning capacity of UC alumni increases rapidly; ten years after graduation, alumni have doubled what they were earning at two years post-graduation. Success in the California labor workforce is seen across all socioeconomic groups, including students whose families qualified for federal Pell Grants. Within five years of graduation, Pell Grant recipients earn an average income higher than their parents' combined incomes during the time those students attended UC (approximately \$50,000).

California employment data for UC bachelor's degree recipients also illustrate the benefits of a UC degree. They show that, by ten years after graduation, approximately 30 percent of life science majors work in health care and social assistance; more than 15 percent of engineering/computer science majors are in the internet and computer systems industry and another 12 percent are in engineering services; and 11 percent of social science majors are employed in K–12 education.

Looking forward

Despite UC's record of success, there are continued systemwide and campus efforts to improve undergraduate outcomes.

The March 2016 Performance Outcomes report, UC's annual report to the California Legislature, showed that when comparing Pell and non-Pell recipients, there is a gap in graduation rates at the four-year mark that all but disappears by six years for freshmen. Graduation rates at UC tend to be lower for socioeconomically disadvantaged students (especially African-American and Hispanic/Latino males) and for students from first-generation families.

As part of the 2015 state budget agreement, the Office of the President, working with the campuses, developed a report to provide guidance to campuses on advising practices that support timely graduation of students and help reduce the achievement gap among different socioeconomic cohorts of UC students. This "Advising Strategies to Support Timely Graduation" report highlights programmatic strategies, technology and tools and organizational improvement strategies that support student success and timely graduation. President Napolitano provided the report to campus leadership in January 2016, encouraging them to share it with campus advisors and adopt those strategies that will best meet the needs of their students. The report is also published on the Office of the President website.

For more information

The March 2016 Performance Outcomes report submitted to the legislature:

www.ucop.edu/operating-budget/_files/legreports/15-16/PerformanceOutcomeMeasuresLegRpt-3-17-16.pdf

UC's report on Advising Strategies to Support Timely Graduation

www.ucop.edu/institutional-research-academic-planning/_files/Advising_strategies.pdf

A summary of UC's innovations in education to improve student outcomes:

www.ucop.edu/institutional-research-academic-planning/_files/innovation_in_education_2-27-15.pdf

A data story on UC's undergraduate alumni outcomes, including employment industry and earnings:

www.universityofcalifornia.edu/infocenter/uc-undergraduate-alumni-outcomes

Interactive data dashboard summarizing degrees awarded at UC by campus, discipline and degree type:

www.universityofcalifornia.edu/infocenter/degrees-awarded-glance

A data table of total degrees awarded by degree type, campus, gender and race/ethnicity:

www.universityofcalifornia.edu/infocenter/degrees-awarded-data

3.1 GRADUATION RATES

Four-year graduation rates for students who enter as freshmen have improved substantially since 1997. They are better than the average graduation rates at AAU public institutions, and some campuses approach the average graduation rates of AAU private institutions.

3.1.1 Freshman graduation rates UC and comparison institutions Cohorts entering fall 1997 to 2011



Source: UC Corporate Student System and IPEDS¹

UC's four-year graduation rates for freshmen have risen significantly over the past 15 years, from 46 percent for the 1997 entering cohort to 64 percent for the 2011 cohort. This steady improvement in graduation rates is due to many factors, including

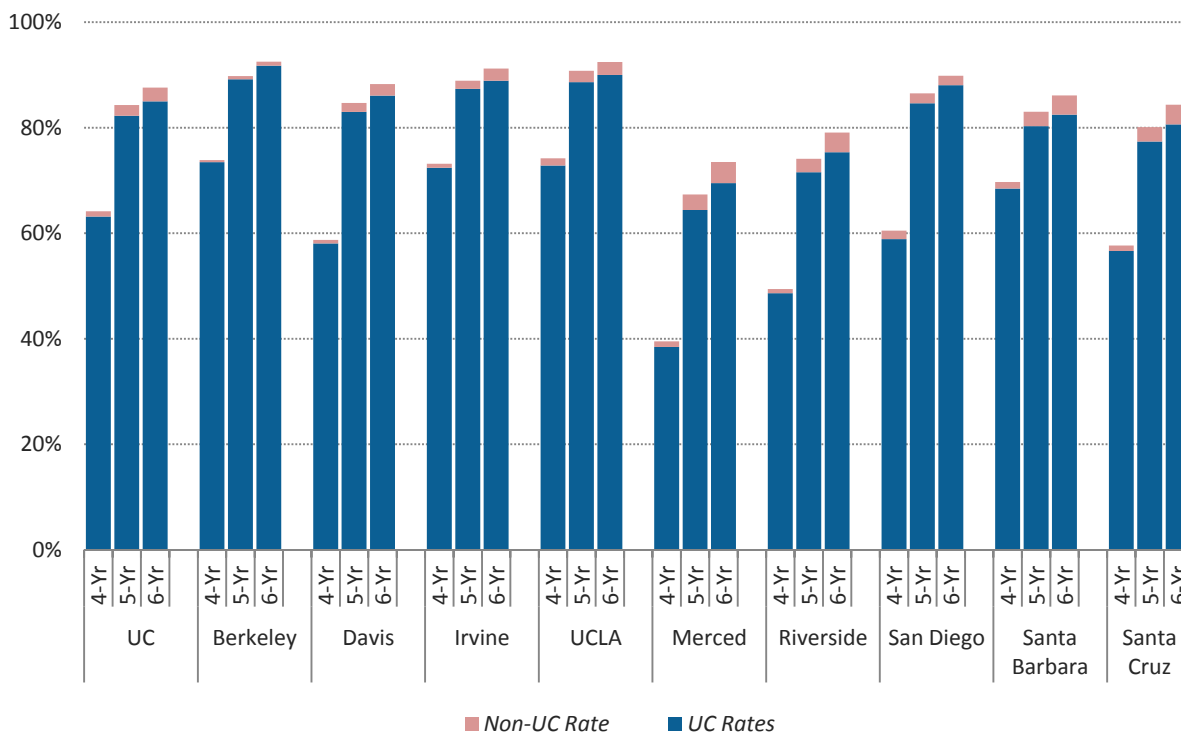
campus programs supporting four-year completion, improvements in academic preparation of incoming students and the current costs of a UC education, all of which motivate students to complete their degrees more quickly.

¹ Comparison IPEDS data are available for more limited years. The AAU comparison institutions are in the data glossary. Graduation rates are weighted by total cohort size. Institutions with missing data are excluded for that year. Freshmen are those students who entered UC directly from high school and who had not matriculated at another postsecondary institution prior to enrollment. UC statistics give credit to the originating campus for inter-UC campus transfers. *Merced opened in 2005.

3.1 GRADUATION RATES

The six-year graduation rate of UC freshmen is close to 90 percent when students who finished their degree 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 2009



Source: UCOP Corporate Student System and the National Student Clearinghouse¹

The extended graduation rate of students who begin their studies as freshmen at UC includes a small number who transferred to a non-UC institution and completed 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 very few students who transfer out and earn a degree outside of the UC system, while the six-year rates at Merced, Santa Barbara and Santa Cruz improve by as much as 4 percentage points when students who complete their degree at a non-UC school are counted.

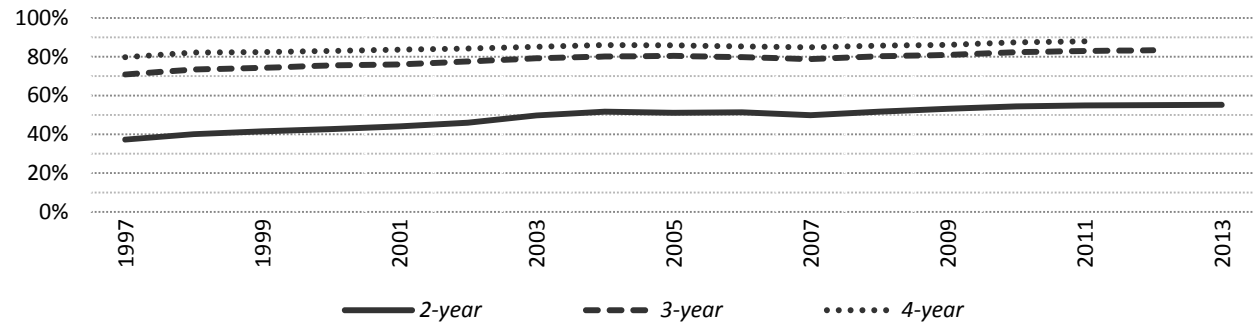
¹ Intercampus transfers within UC are counted as graduates of their originating UC campus. In this graph, non-UC rates only include those who transferred to non-UC institutions and graduated with a bachelor’s degree.

3.1 GRADUATION RATES

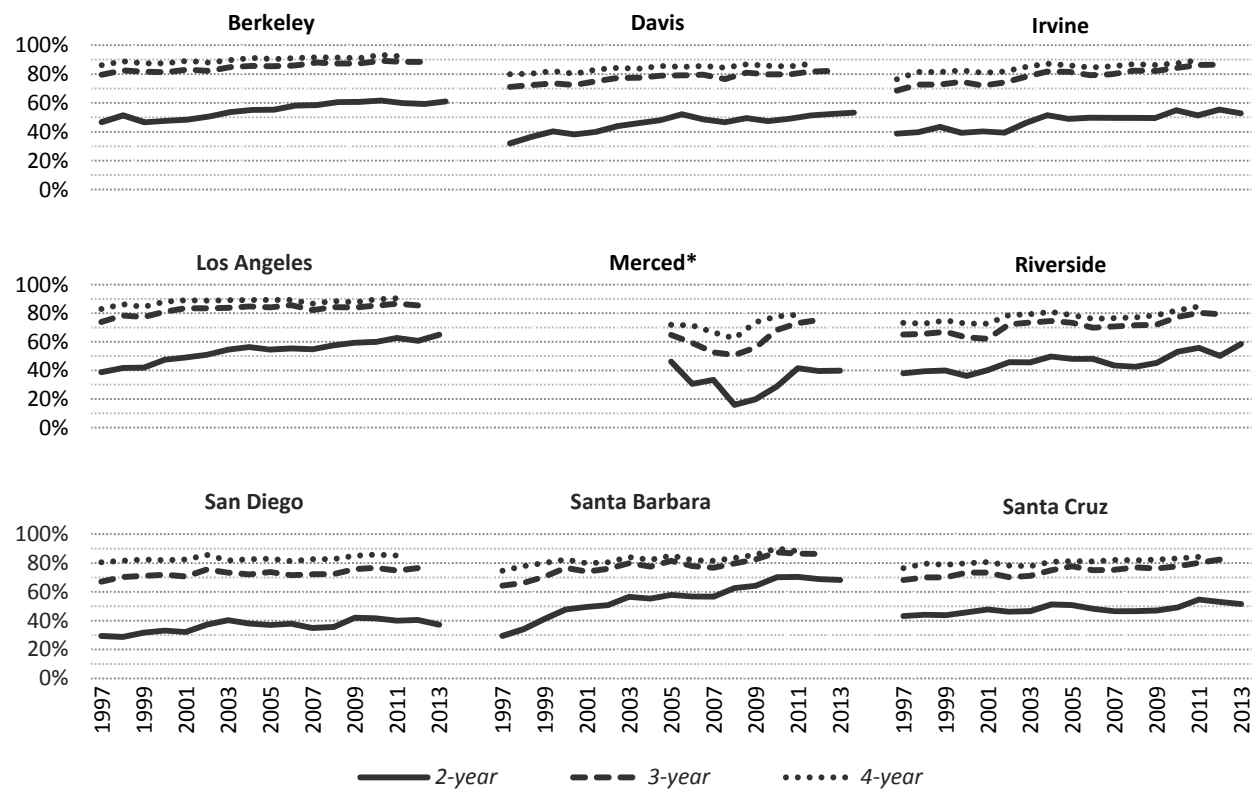
Graduation rates for students who entered as transfer students grew steadily for classes entering between 1997 and 2004 but have leveled off since then.

3.1.3 Transfer graduation rates Cohorts entering fall 1997 to 2013

Universitywide



UC campuses



Source: UC Corporate Student System¹

The two-year graduation rate for transfers is currently at 55 percent.

The four-year rate is 88 percent, compared to 85 percent for the six-year freshman graduation rate.

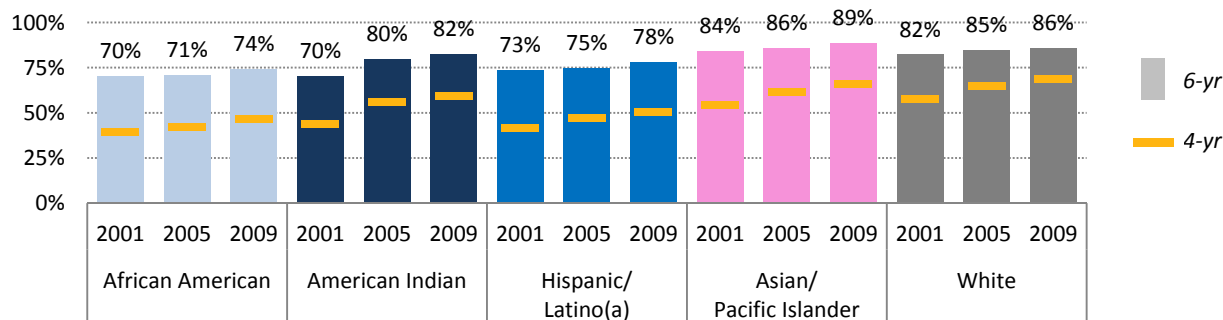
¹ Comparison data on graduation rates for transfer students are not available. UC statistics give credit to the originating campus for inter-UC campus transfers. *Merced opened in 2005.

3.1 GRADUATION RATES

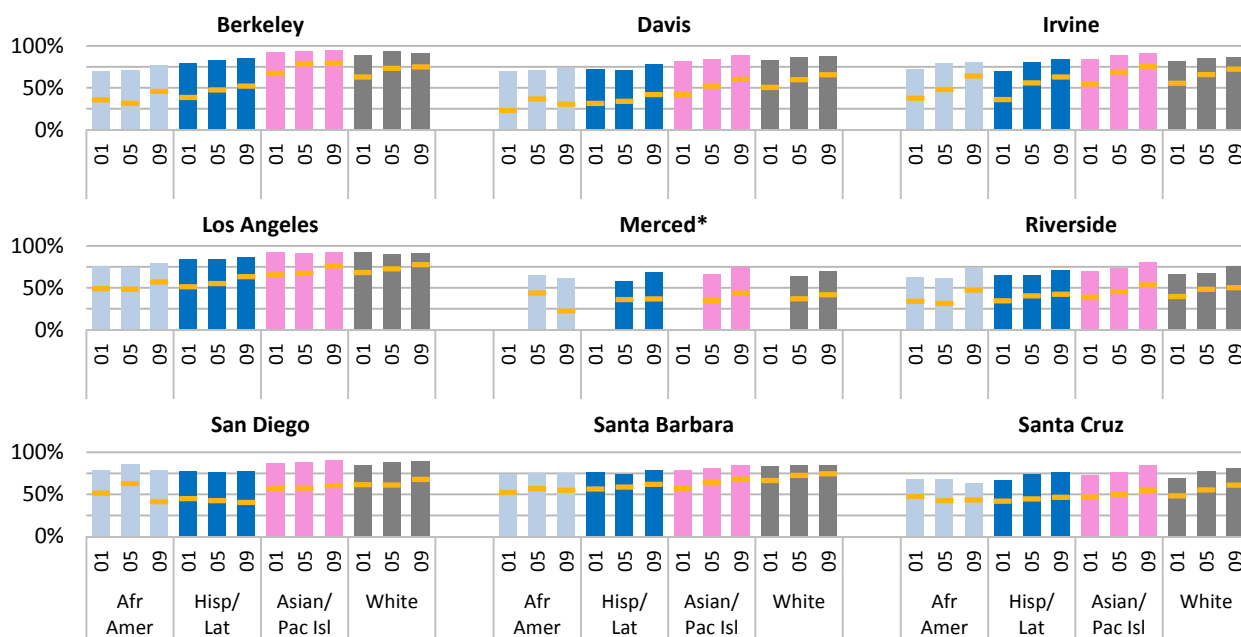
Freshman graduation rates have increased for all racial/ethnic groups, although graduation gaps remain between underrepresented (African American, American Indian and Hispanic/Latino(a)) and white and Asian undergraduates.

3.1.4 Freshman graduation rates by race/ethnicity Cohorts entering fall 2001, 2005 and 2009

Universitywide

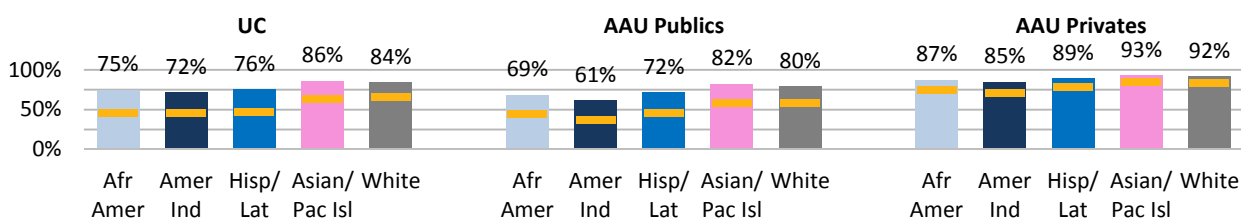


UC campuses



Source: UC Information Center Data Warehouse¹

UC and comparison institutions, cohort entering fall 2008



Source: IPEDS²

¹ Rates for American Indian students are not shown by campus due to small numbers of students. *Merced opened in 2005.

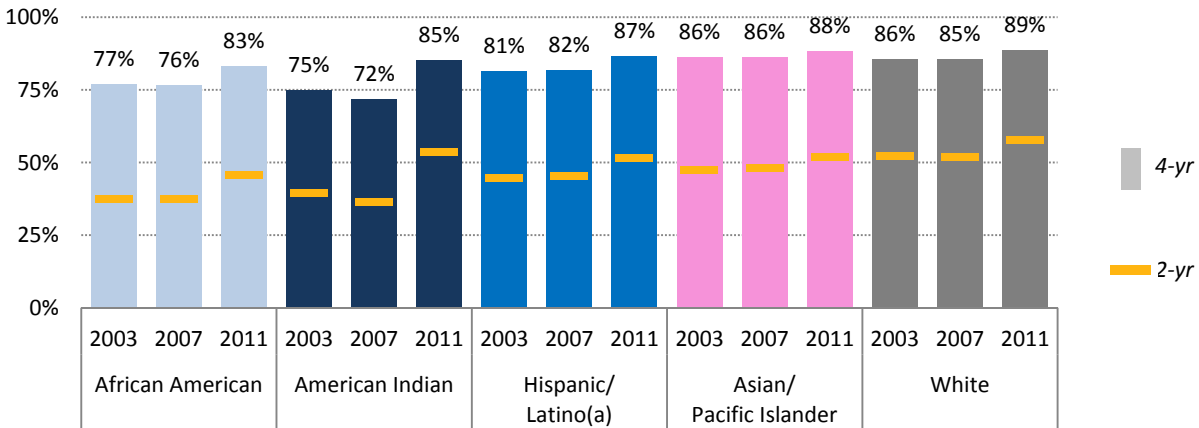
² The most recent comparison data are for the freshman cohort entering in fall 2008. IPEDS racial/ethnic group definitions differ slightly from UC's. See <https://nces.ed.gov/ipeds/Section/definitions>.

3.1 GRADUATION RATES

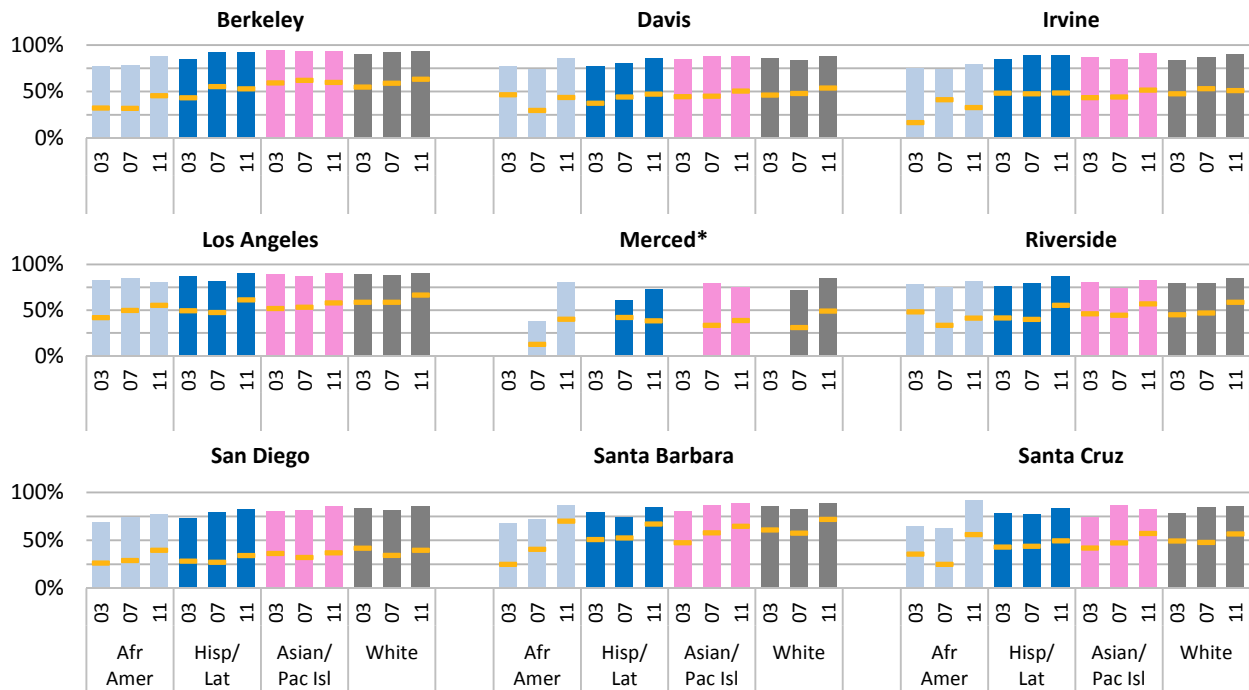
Transfer graduation rates by race/ethnicity have increased, with similar variation among groups as seen in freshmen.

3.1.5 Transfer graduation rates by race/ethnicity Cohorts entering fall 2003, 2007 and 2011

Universitywide



UC campuses



Source: UC Information Center Data Warehouse¹

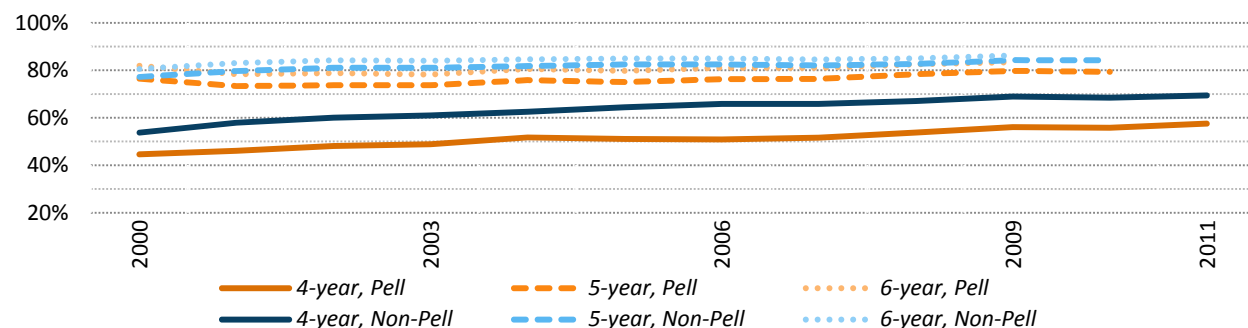
¹ Comparison data on graduation rates are not available for transfer students. *Merced opened in 2005.

3.1 GRADUATION RATES

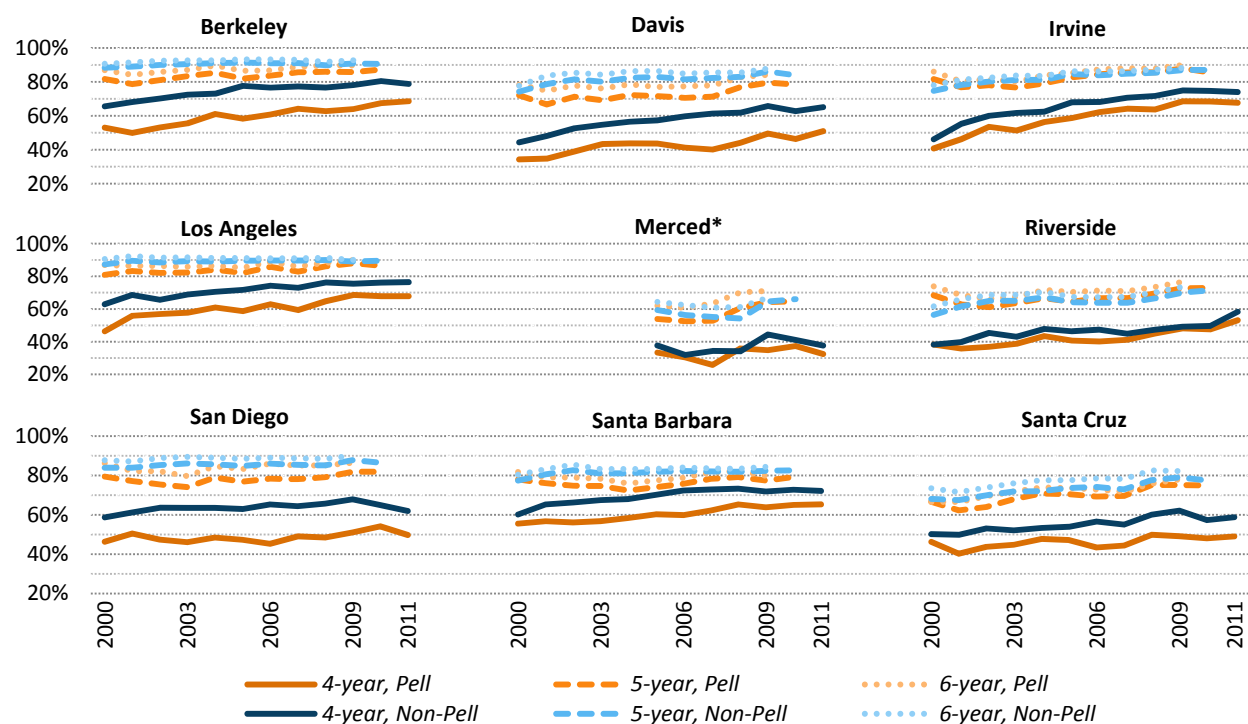
Four-year graduation rates among freshman Pell Grant recipients have increased by 13 percentage points since the entering cohort of fall 2000.

3.1.6 Freshman graduation rates by Pell Grant receipt status Cohorts entering fall 2000 to 2011

Universitywide



UC campuses



Source: UC Corporate Student System¹

Pell Grant recipients graduate at comparable rates to non-Pell recipients. Although there is an 11-percentage-point gap at the four-year mark between Pell recipients and non-Pell recipients, this gap is reduced to 3 percentage points at the six-year mark.

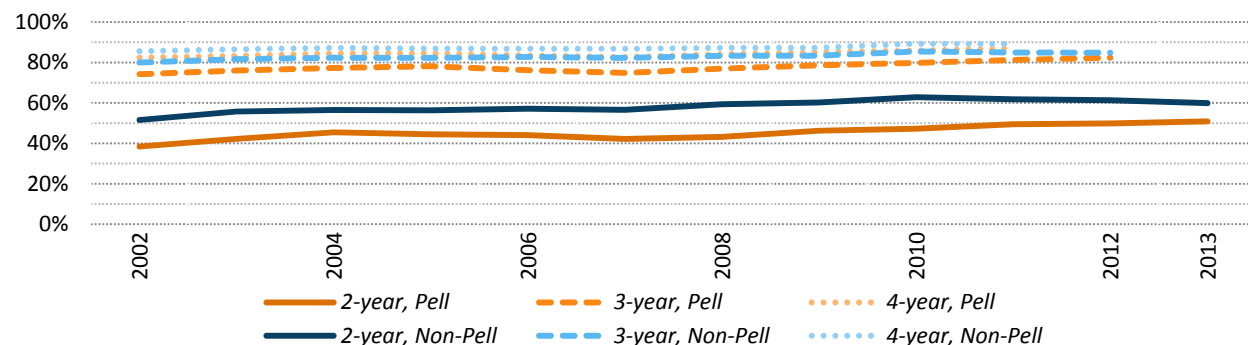
¹ Pell Grant recipients are defined as those who received a Pell Grant at any time during their time at UC. *Merced opened in 2005.

3.1 GRADUATION RATES

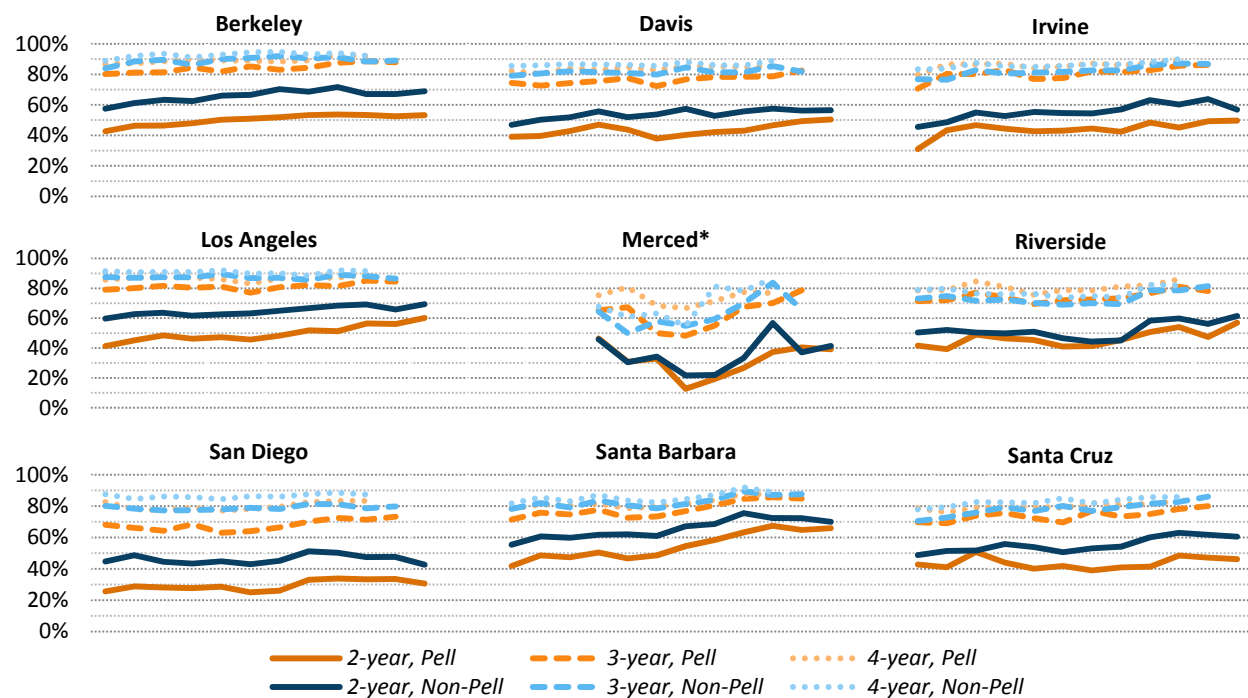
Graduation rates among transfer students who received Pell Grants are comparable to other students, especially at the three- and four-year marks.

3.1.7 Transfer graduation rates by Pell Grant receipt status Cohorts entering fall 2002 to 2013

Universitywide



UC campuses



Source: UC Corporate Student System¹

Since the entering cohort of 2002, the two-year graduation rate of transfer students who received Pell Grants has improved more dramatically than the rates of other students (12 percentage points for Pell students, compared to 8 percentage points among non-Pell Grant recipients).

Similarly to freshmen, the initial gap in graduation rates between Pell and non-Pell students (9 percentage points at the two-year mark) shrinks substantially two years later (2 percentage points at the four-year mark).

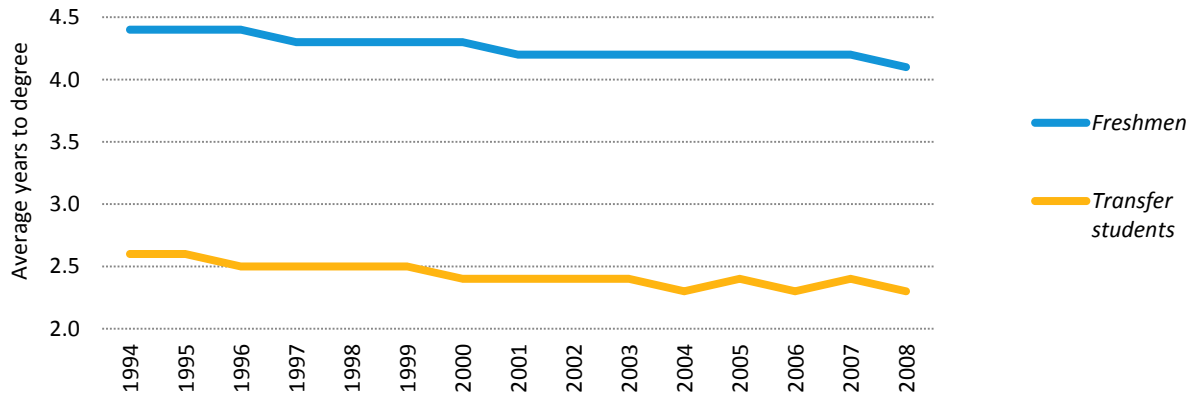
¹ Pell Grant recipients are defined as those who received a Pell Grant at any time during their time at UC. *Merced opened in 2005.

3.1 GRADUATION RATES

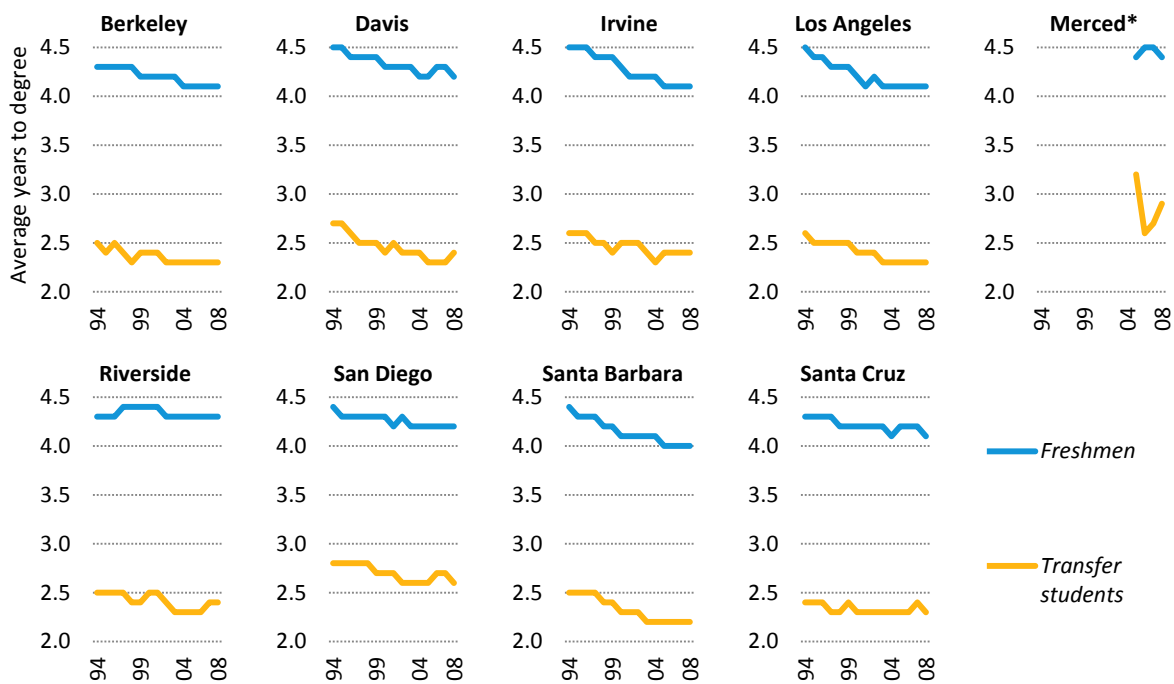
As graduation rates rise, undergraduate students at UC are also graduating more quickly.

3.1.8 Average time to degree Cohorts entering fall 1994 to 2008

Universitywide



UC campuses



Source: UC Corporate Student System¹

The average time taken to earn a bachelor's degree at UC has decreased fairly steadily since 1994. Students entering as freshmen take an average of 4.1 years, which is about 7 percent less than in 1994.

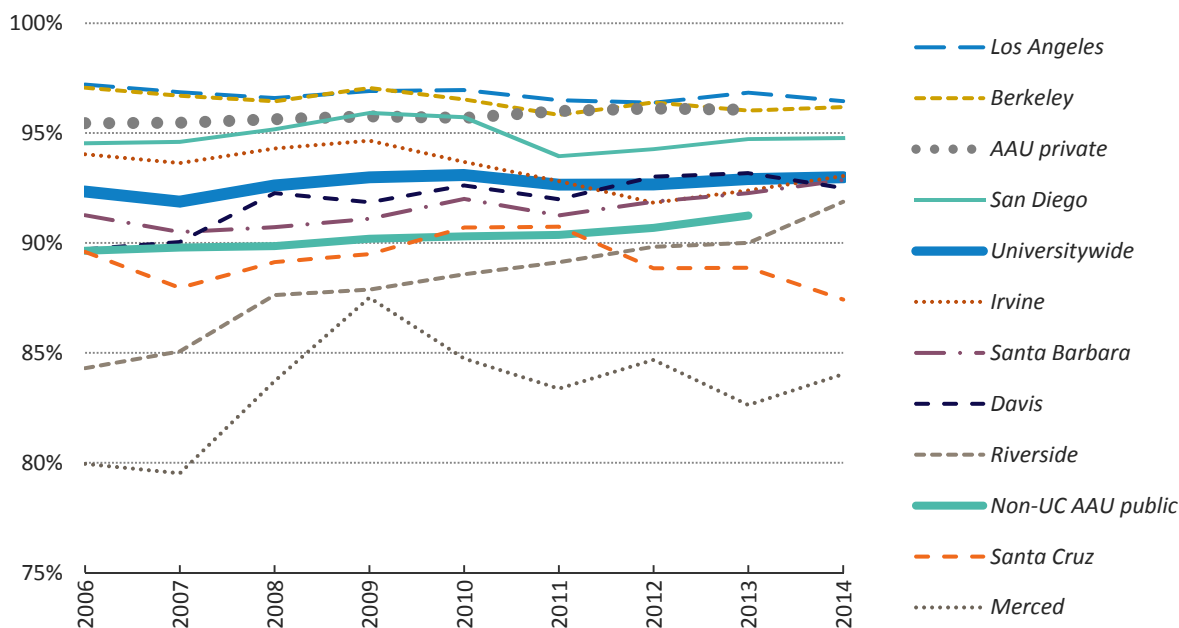
For students entering as transfers, the average time to degree is 2.3 years, about 12 percent less than in 1994.

¹ Average time to graduation includes only students who graduated from UC within seven years. *Merced opened in 2005.

3.2 RETENTION RATES AND STUDENT CREDIT HOURS

Freshman retention rates are high, but there is room for improvement.

3.2.1 Freshman first-year retention rates UC and comparison institutions Cohorts entering fall 2006 to 2014 [NOTE SCALE]



Source: UC Corporate Student System for UC data; IPEDS for comparison data¹

Improving first-year retention is key to raising graduation rates.

Studies of retention data divide students into two groups: those who leave UC in good academic standing (i.e., GPA \geq 2.0) or transfer to another UC campus, and those who leave UC in poor academic standing (i.e., $<$ 2.0).

The strategies needed to address retention vary based on this distinction. For students leaving UC in good academic standing, some campuses are considering expanding honors programs or providing opportunities for undergraduate research as early as the freshman year.

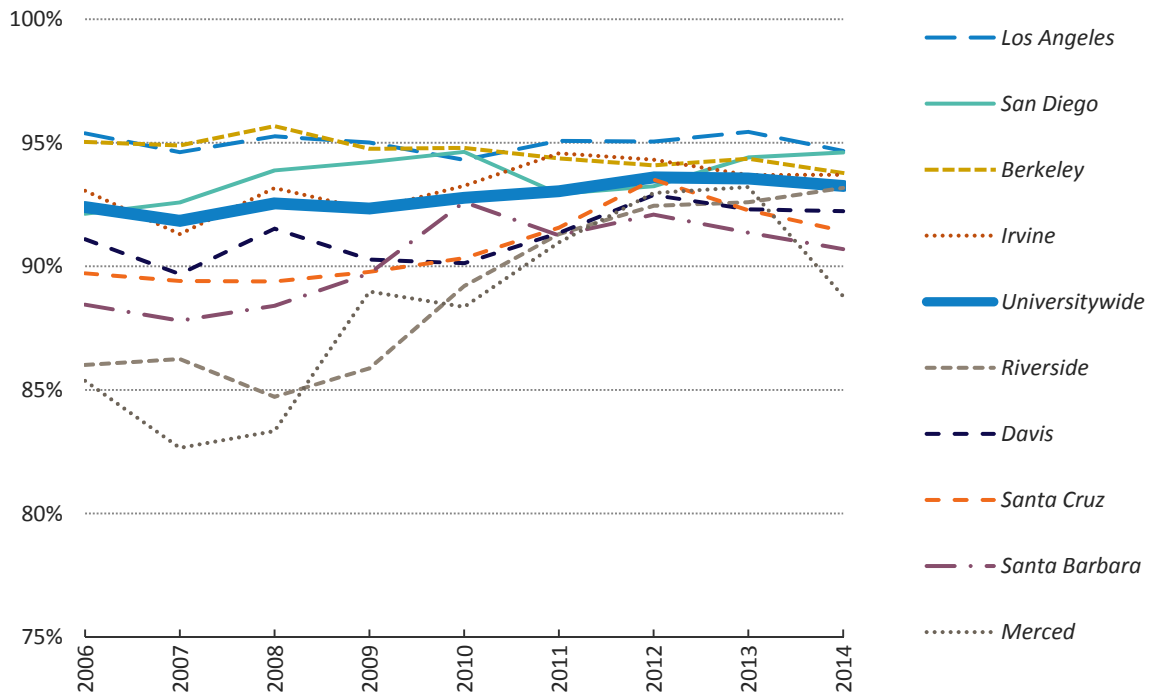
For those leaving in poor academic standing, some UC campuses are using summer bridge or early orientation programs so that students have a productive jump-start on a smooth transition to campus life. Other campuses are looking into housing and residential programs and cohort programs to integrate undergraduates into college.

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 2013.

3.2 RETENTION RATES AND STUDENT CREDIT HOURS

Transfer retention rates are fairly stable.

3.2.2 Transfer retention rates Universitywide and UC campuses Cohorts entering fall 2006 to 2014 [NOTE SCALE]



Source: UC Corporate Student System¹

For transfer students, the retention rate has been fairly steady at most campuses for the last two years. Campuses vary in terms of whether transfer students are more likely to leave in poor or good academic standing, and very few leave for another UC campus.

Like entering freshmen, transfer students benefit from a smooth transition to campus in their first year. Several UC campuses have summer programs to support transfer students.

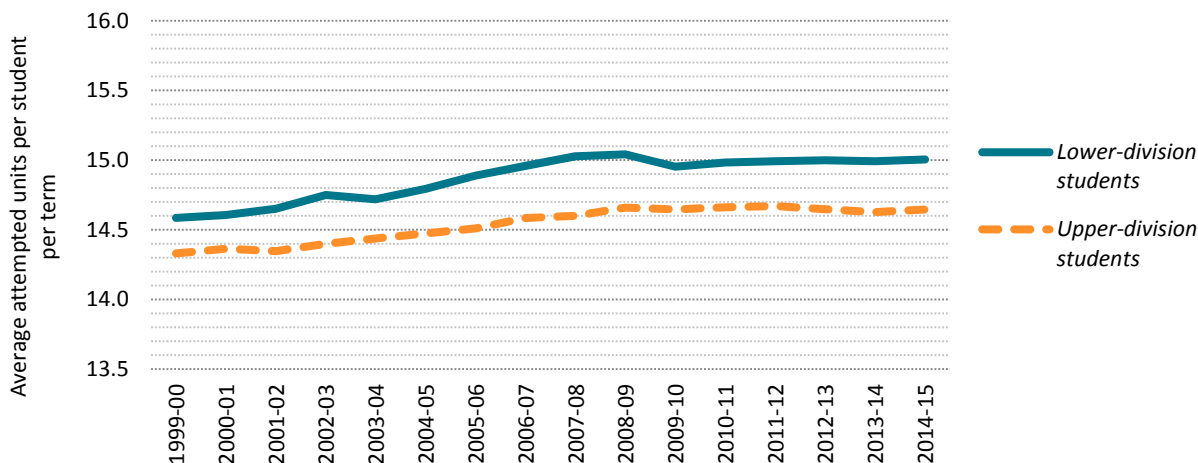
¹ Comparison data on retention rates are not available for transfer students.

3.2 RETENTION RATES AND STUDENT CREDIT HOURS

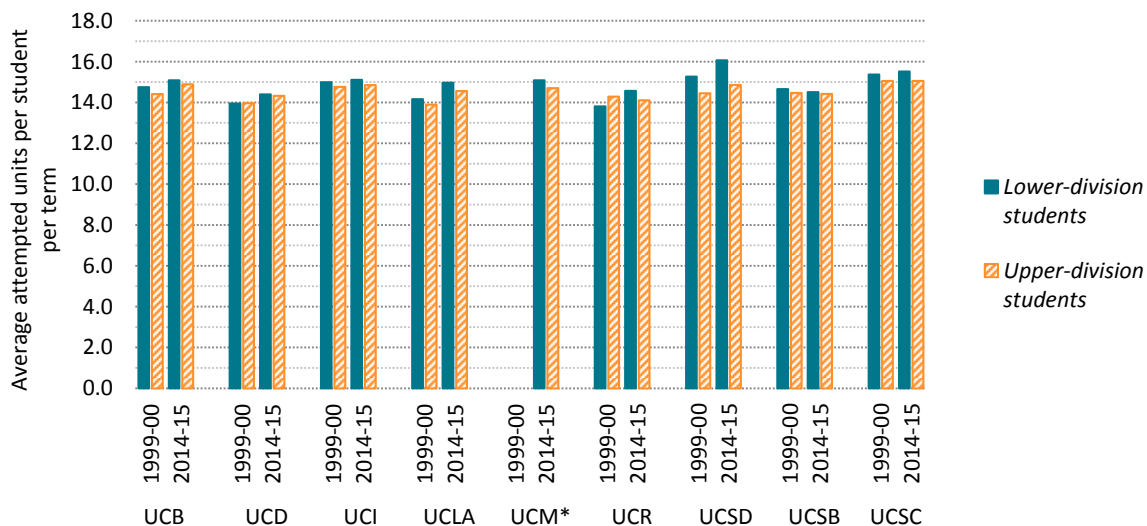
On average, both lower-division and upper-division undergraduate students take more units per term now than they did 15 years ago. There is variation in this trend among campuses, but the overall pattern may be a contributing factor in the shorter time to degree observed among undergraduates.

3.2.3 Average number of attempted units per student per term Academic years 1999–2000 to 2014–15 [NOTE SCALES]

Universitywide



UC campuses



Source: UC Corporate Student System¹

Not only are students attempting more units, they are successfully completing more units each year. The average percent of attempted units per year

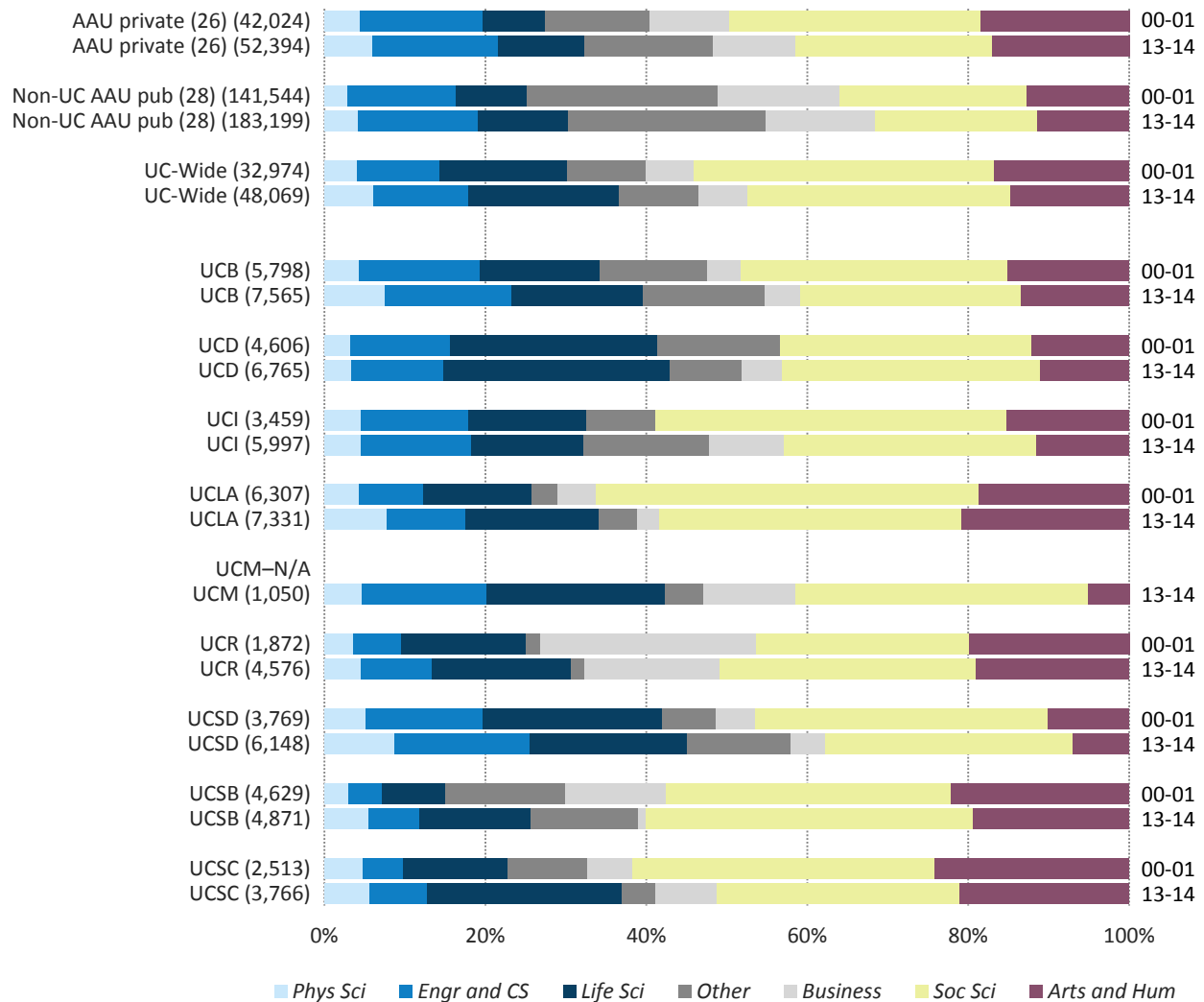
that both lower- and upper-division students complete has increased from 91 to 93 percent over the last 15 years.

¹ Excludes self-supporting programs, education abroad enrollments and summer enrollments. Average is the three-term average (number of student credit hours divided by the headcount), except for Berkeley and Merced, which are on the semester system. *Merced opened in 2005.

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 2000–01 and 2013–14



Source: IPEDS

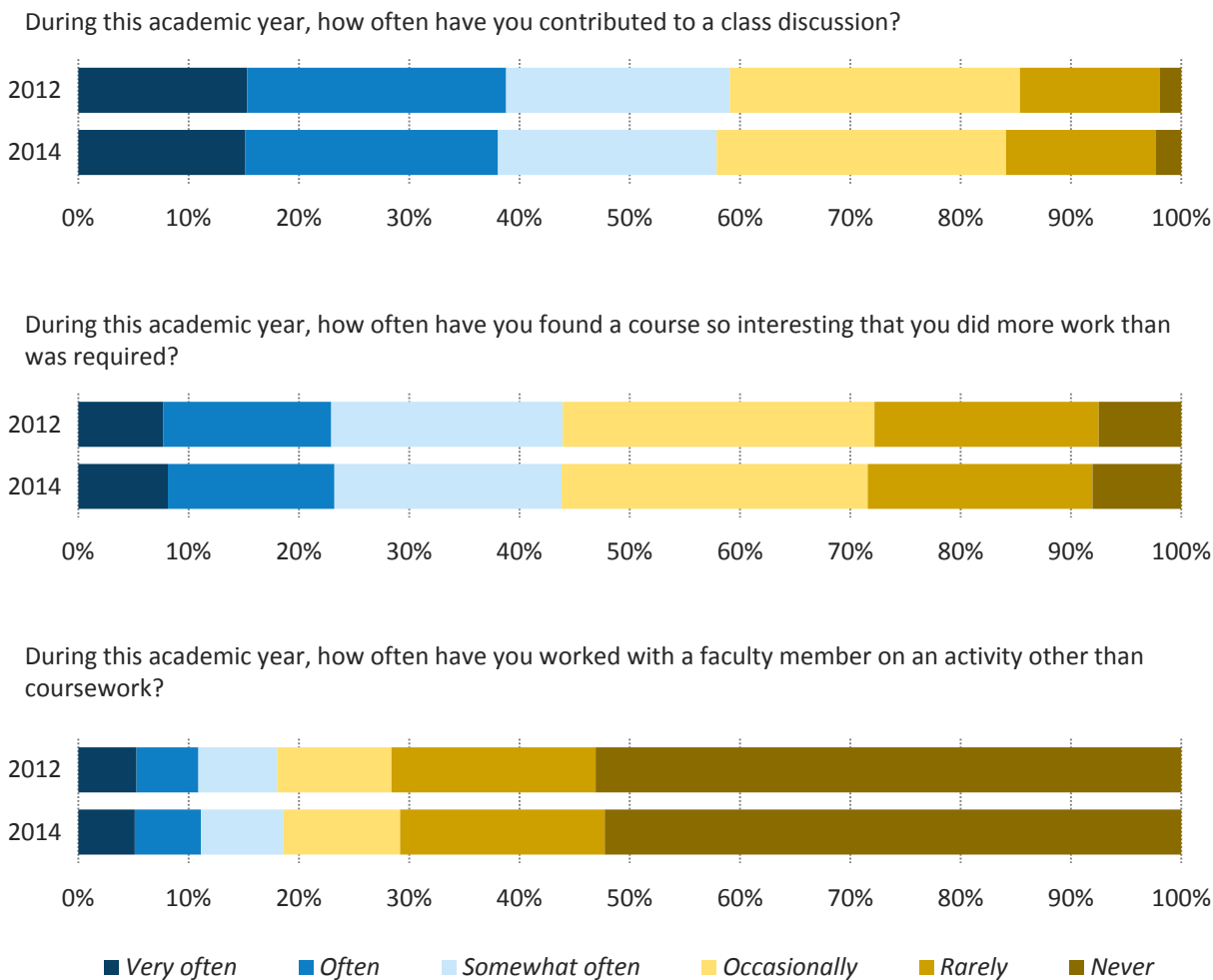
About 37 percent of all undergraduate degrees awarded by UC in 2013–14 were in science, technology, engineering and mathematics (STEM) fields. This is higher than the proportion at AAU public and private comparison institutions (30 and 32 percent, respectively).

Indicator 10.3.1 shows UC's share of the degrees awarded in the state of California.

3.3 OUTCOMES

Students report increasing levels of engagement in class and with faculty members. The predominant area of engagement is class discussion, with about 98 percent of students reporting some level of participation. Almost 50 percent of students have worked with a faculty member on an activity other than coursework.

3.3.2 Student responses to questions about areas of engagement Universitywide Spring 2012 and spring 2014



Source: UCUES

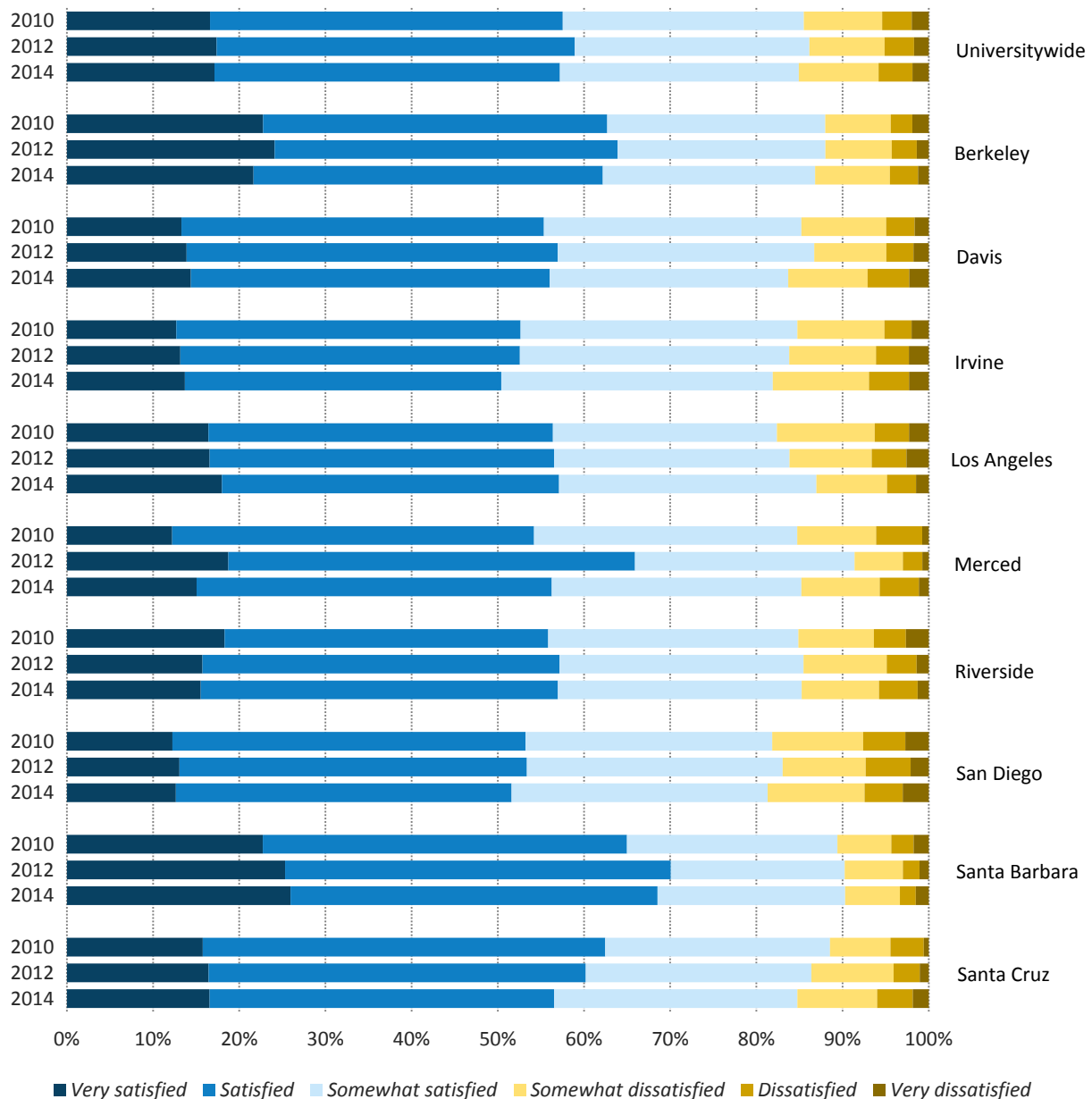
Levels of student engagement have been relatively stable over the last two surveys, which were administered in 2012 and 2014. About 84 percent of students report that they contribute to class discussions at least occasionally, and about 71

percent have either occasionally or often gone beyond required coursework in a class they found interesting. Twenty-nine percent have worked with faculty on a research or creative project beyond coursework, at least occasionally.

3.3 OUTCOMES

Survey data suggest that graduating seniors' satisfaction with their overall academic experience has remained high over the last three UCUES survey administrations.

3.3.3 Student satisfaction with overall academic experience Bachelor's degree recipients who entered as freshmen Universitywide and UC campuses Spring 2010 to 2014



Source: UCUES

For the UC system overall and for most campuses, the percent of seniors who are satisfied (somewhat through very satisfied) has remained relatively stable.

3.3 OUTCOMES

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

3.3.4 Inflation-adjusted average alumni wages by selected majors, two, five and ten years after graduation Universitywide 2000 to 2012 exit cohorts

		After two years	After five years	After ten years
Arts & Humanities	Philosophy	\$34,456	\$52,212	\$78,559
	History	\$34,974	\$52,037	\$72,454
	Foreign language	\$33,661	\$48,088	\$67,564
	English/literature	\$33,954	\$49,152	\$65,951
Professional/Interdisciplinary	Cognitive science	\$50,282	\$74,496	\$109,257
	Business	\$52,776	\$70,986	\$103,068
	Legal studies	\$45,026	\$65,327	\$97,958
	Ag. business	\$50,976	\$69,511	\$97,096
	Communications	\$40,122	\$58,283	\$81,077
	International studies	\$37,352	\$53,589	\$74,536
	Architecture	\$44,164	\$57,634	\$71,845
	Social work	\$32,908	\$47,694	\$68,247
Life Sci, Phys Sci, Engr & CS	Computer science	\$71,433	\$92,507	\$128,965
	Engineering	\$66,093	\$86,317	\$118,894
	Physics	\$49,247	\$67,270	\$102,494
	Chemistry	\$42,404	\$57,968	\$98,260
	Biology	\$36,937	\$59,544	\$97,346
	Mathematics	\$50,053	\$65,328	\$88,223
Social Sciences	Economics	\$50,071	\$69,274	\$101,132
	Political science	\$39,598	\$62,423	\$94,529
	Geography	\$39,306	\$58,042	\$85,164
	Psychology	\$34,467	\$51,696	\$72,639
	Sociology	\$36,898	\$52,816	\$70,630
	Anthropology	\$32,854	\$46,730	\$66,702
All Majors		\$42,700	\$61,100	\$88,000

Source: California Employment Development Department and UC Corporate Student System.
Amounts are inflation-adjusted to 2014 dollars.

Alumni wage data provide compelling evidence of UC's role as an engine of social mobility in the state. From 2000 to 2014, UC graduated more than 230,000 Pell Grant recipients, whose family incomes are generally below \$50,000. More than 50 percent of Pell Grant recipients who graduate from UC and work in California go on to earn more than their pre-UC total family incomes within five years.





Chapter 4. Graduate Academic and Graduate Professional Students

Goals

The California Master Plan for Higher Education charges the University of California with the responsibility for preparing graduate academic and graduate professional students to help meet the workforce needs of California and the nation.

UC's goals with respect to graduate education are to offer outstanding degree programs, to support research and undergraduate instruction, and to prepare a professional workforce across all disciplines. UC produces the teachers, artists, thinkers, innovators, scientists, inventors, professionals and leaders of the future; it creates an environment of exploration and discovery that stimulates innovation and invention; and it maintains the University of California's tradition of world-class graduate instruction. In this way, UC 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, academic master's and professional doctoral degrees in the physical sciences, social sciences, arts, humanities and engineering/computer science. The largest proportion of graduate academic degrees awarded at UC is in the STEM fields — science, technology, engineering and mathematics. In 2014–15, about half of UC graduate academic degrees awarded were in STEM.

Graduate professional degrees — UC's professional degrees include professional master's and professional practice degrees in fields such as law, medicine, 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 healthcare and health sciences.

Before 1994, graduate professional degree programs were supported in the same manner as were other graduate programs. The year 1994 saw the beginning of a marked decrease in state support and the University began charging professional degree supplemental tuition. Professional degree supplemental tuition is in addition to the base tuition paid by all students and allows professional schools to recruit and retain UC-quality faculty, provide an outstanding curriculum and attract high-caliber students. Since instituting professional degree supplemental tuition, both the number of professional degree programs that charge professional degree supplemental tuition and the amount of supplemental tuition charged have increased steadily.

Recruitment and support of graduate students

Graduate education at UC is ranked at the highest levels among the country's leading universities. One of the keys to a successful graduate program is recruitment of outstanding students. Such recruitment is challenged by competition with peer institutions for qualified individuals and in the amount of financial support that UC can offer.

Academic graduate student financial support comes from a combination of fund sources, including fellowships (external to UC and UC-funded), on-campus appointments as a graduate student researcher (GSR) or teaching assistant (TA), other opportunities for earnings on or off campus, savings, family contributions and/or loans.

Full financial support throughout a doctoral program is the goal for both UC and its competitors. Increases in tuition and fees have challenged the University's ability to offer competitive support packages to its graduate students and have placed additional strain

on the dwindling fund sources that cover those costs.

UC's financial support for its academic graduate students has lagged behind its competitors' offers for the last several years, though the gap narrowed between 2010 and 2013 (see indicator 4.2.3.)

The competitiveness gap in financial support is of particular concern for international graduate students. Indicator 4.1.1 suggests that it has been difficult for departments to admit and enroll international students in numbers proportionate to their rising demand. Currently, domestic non-California-resident graduate students can establish state residency after one year of enrollment at UC. This provides the departments supporting these graduate students with an exemption from the annual \$15,000 nonresident supplemental tuition charge. International graduate students, however, cannot establish California residency and remain subject to the nonresident supplemental tuition charges.

Since 2006, UC has implemented a number of policies designed to mitigate the additional financial burden of supporting nonresident graduate students. Doctoral students qualify for a nonresident tuition exemption for up to three years after they advance to candidacy, which typically occurs after two to three years of enrollment. Individual campuses have also implemented varying funding programs and strategies to address the cost of supporting international and nonresident graduate students.

Whereas nearly all financial support received by graduate academic students is in the form of fellowships, research positions and teaching assistantships, students in professional degree programs rely primarily on loans for financing their education. Although fellowship support for professional degree students has increased — due in part to the one-third of tuition, fees and professional degree fees that are set aside for institutional aid — it has been outpaced by increases in student borrowing.

To support the work of master's and doctoral students across UC campuses, UC now holds an annual competition called the Grad Slam. The event

highlights some of UC's most innovative and engaging research being conducted by graduate students by challenging each of its ten participants — the winners of each campus's own Grad Slam — to take years of academic research and present it to an audience in just three minutes, free of technical lingo. Held at LinkedIn in San Francisco, the contest encourages students to make their critically important research accessible to the public and to network with professionals in related fields. The winner of Grad Slam 2016 was UC Riverside student Peter Byrley, whose work on renewable nanopower has significant implications for technology in developing countries, health care and renewable energy.

Looking ahead

In addition to providing competitive graduate financial support, the University continues to develop programs and benefits designed 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 is based on a number of factors, including assessment of state and national needs, faculty expertise, program quality (which includes international competitiveness) and available financial support. Over the last 50 years, as the University accommodated California's burgeoning number of high school graduates, undergraduate enrollment growth has far outpaced graduate enrollment growth. As a result, the proportion of graduate students to undergraduates on the general campuses has decreased from about 30 percent in the 1960s to less than 20 percent today. Given the critical contributions of graduate students to the University's teaching and research mission, this places UC well below its peer institutions.

For more information

UCOP Office of Research and Graduate Studies:
www.ucop.edu/graduate-studies/

Time to doctorate at UC:
www.ucop.edu/institutional-research/_files/2011-uc-time-doctorate.pdf

Doctoral completion rates:
www.ucop.edu/institutional-research/_files/uc-doctoral-completions.pdf

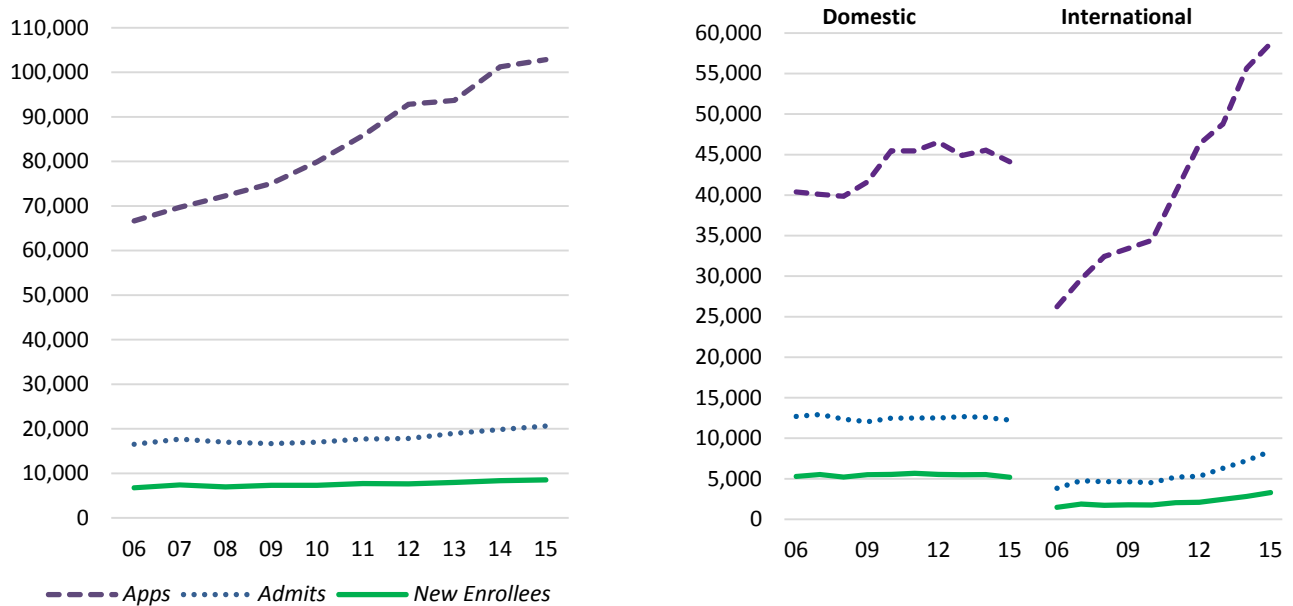
UC's annual Grad Slam event:
<https://gradslam.universityofcalifornia.edu/>

Data storyboard on doctoral alumni outcomes:
www.universityofcalifornia.edu/infocenter/uc-doctoral-alumni-survey

4.1 GRADUATE ACADEMIC ADMISSIONS

Universitywide graduate academic applications have increased substantially over the last ten years, while admits and new enrollments have remained relatively flat.

4.1.1 Graduate academic applications, admits, and new enrollees combined, and by citizenship Universitywide Fall 2006–2015



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 masters and doctoral programs has increased steadily over the past ten years. Applications for admission grew from 66,632 in 2006 to 102,845 in 2015 — a rate of 5 percent per year. Nearly all of this increased demand has come from prospective international students, with international applications growing from 26,230 to 58,714 — a rate of 12 percent per year. Engineering and computer science programs have significantly higher demand from international students than other disciplines.

Recent survey data compiled by the Council of Graduate Schools (CGS) shows a similar nationwide trend of growth in applications from prospective

international students. These data also show a similarity in that engineering is the most popular broad field of study for international applicants.¹

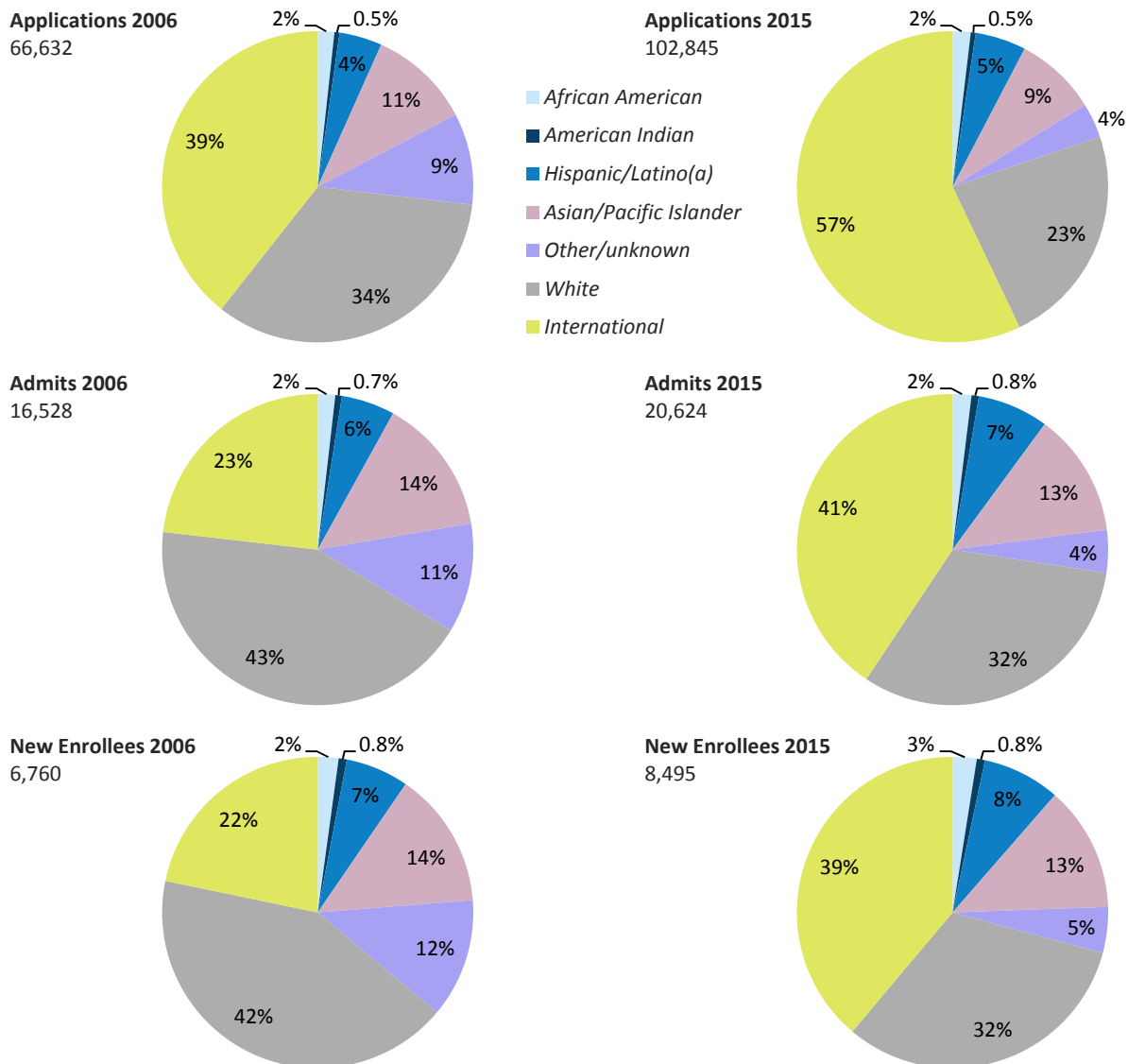
Despite this more robust demand, new admits and enrollments to UC academic masters and doctoral programs have remained relatively flat since 2006, growing by only about 2 percent per year — admits at just below 20,000 per year and new enrollments at about 8,000 per year. Though applications are now predominantly (57 percent) from international students, both admits and new enrollments of domestic students are 20 percent more numerous than those of international students.

¹ http://cgsnet.org/ckfinder/userfiles/files/2015_International_Graduate_Admissions%20Survey_FINAL.pdf

4.1 GRADUATE ACADEMIC AND GRADUATE PROFESSIONAL STUDENTS

Over the past decade, the number and share of graduate academic admissions have modestly increased for underrepresented groups while growing more significantly for international students.

4.1.2 Graduate academic applications, admits, and new enrollees by race/ethnicity and citizenship Universitywide Fall 2006 and 2015



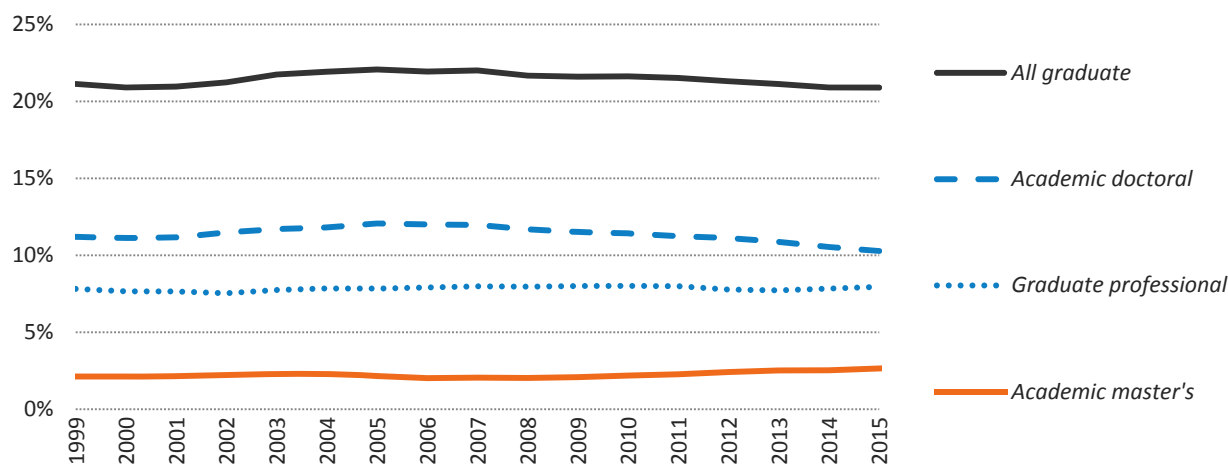
Source: UC Corporate Student System

The largest increase in the number and share of graduate academic admissions is among international students. Underrepresented ethnicities (African American, American Indian and Hispanic/Latino(a)) also achieved gains.

4.2 GRADUATE ACADEMIC AND GRADUATE PROFESSIONAL STUDENTS

Graduate enrollment, as a share of UC's total undergraduate and graduate enrollment, has remained relatively steady over the past 16 years.

4.2.1 Graduate enrollment share of total Universitywide Fall 1999 to fall 2015



Source: UC Corporate Student System

Academic master's students include a small number of post-baccalaureate teaching credential students. The graduate professional category includes professional master's (e.g., M.B.A., M.Ed.) and professional practice (e.g., J.D., M.D.) degrees. Growth at UC has been distributed fairly evenly across academic master's, academic doctoral and graduate professional programs.

growth in the undergraduate, master's and professional population.

As shown in indicator 10.3.1, UC awards 20 percent of California's graduate academic master's degrees, 63 percent of its academic doctoral degrees and 23 percent of its graduate professional practice degrees.

With 20 percent graduate enrollment in 2014 including health science students, UC was lower than the average for non-UC AAU¹ public institutions, at 23 percent, and the average for AAU private institutions, at 48 percent.

In fall 2015, the proportion of academic doctoral students varied across UC's general campuses, from 6 percent at Merced to 14 percent at Berkeley. At San Francisco, an exclusively graduate health sciences campus, academic doctoral students made up 30 percent of fall 2015 enrollments. Since 2005, the share of academic doctoral students has declined at most campuses due to more rapid

Percent of students who are academic doctoral

	Fall 2005	Fall 2015
San Francisco	30%	30%
Berkeley	18%	14%
Los Angeles	13%	11%
Davis	11%	10%
Santa Barbara	11%	10%
San Diego	11%	10%
Riverside	9%	9%
Irvine	10%	9%
Santa Cruz	7%	7%
Merced		6%
Universitywide	11%	10%
	(24,750)	(25,868)

Source: UC Information Center Data Warehouse

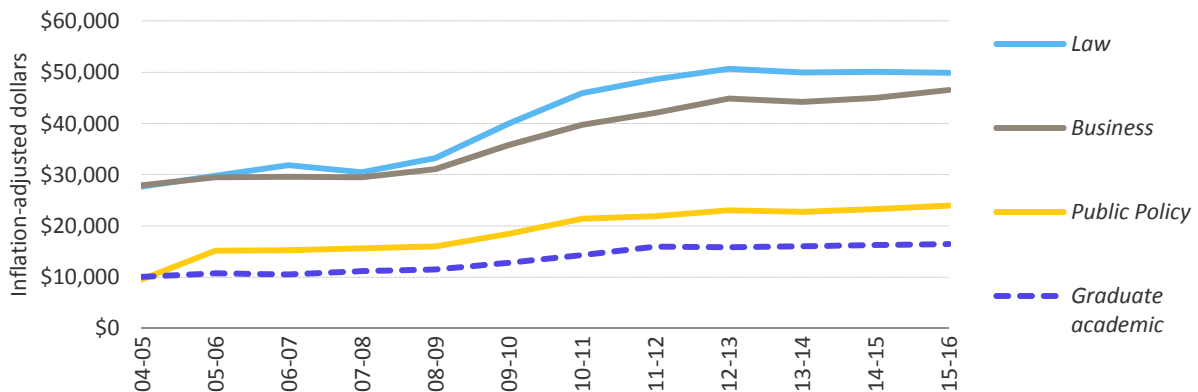
¹ A list of the institutions in the AAU comparison groups can be found in the appendix.

4.2 GRADUATE ACADEMIC AND GRADUATE PROFESSIONAL STUDENTS

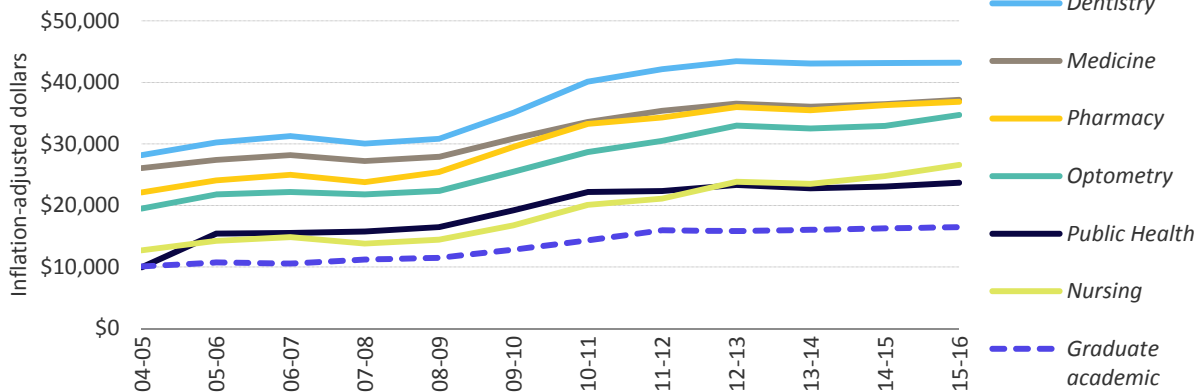
Fee amounts have grown considerably since 2004 for students in professional degree programs, but have remained steady in the last four years.

4.2.2 Graduate academic and graduate professional average student charges Universitywide 2004–05 to 2015–16

General Campus Programs



Health Science Programs



Source: UC Budget Office and UC campuses

The Board of Regents approves professional degree supplemental tuition levels. Considerations in setting these rates include the articulated program need and proposed use of the additional fees, availability of financial aid, tuition level of peer programs and other factors. The full Regents' policy on professional degree supplemental tuition is available at www.universityofcalifornia.edu/regents/policies/3103.html.

The graphs show the average total charges¹ for selected professional degree programs. They also show the average charge, including health insurance, for a graduate academic student who does not pay professional degree supplemental tuition. Nonresident tuition is excluded.

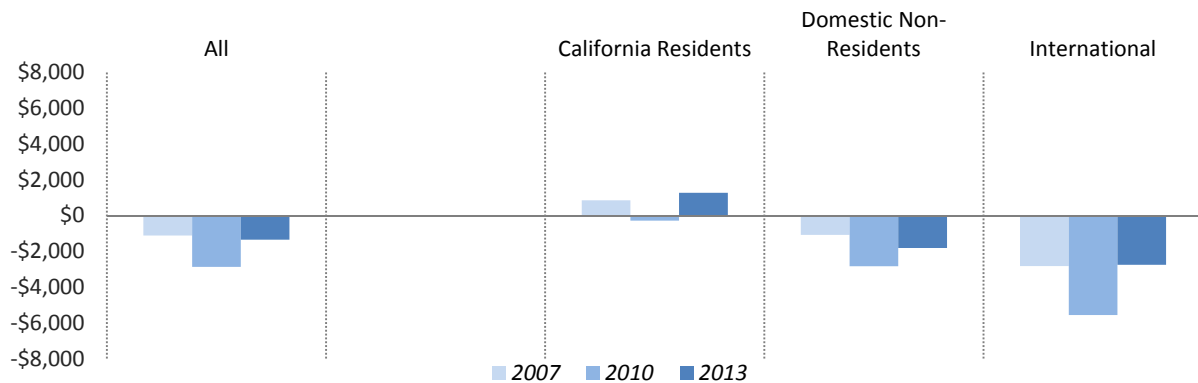
¹ Includes mandatory systemwide tuition, health insurance, campus-based fees, and professional degree and supplemental tuition charges. Not all programs are shown. Averages are simple averages based on campus amounts; the number of students in each program is not taken into account.

4.2 GRADUATE ACADEMIC AND GRADUATE PROFESSIONAL STUDENTS

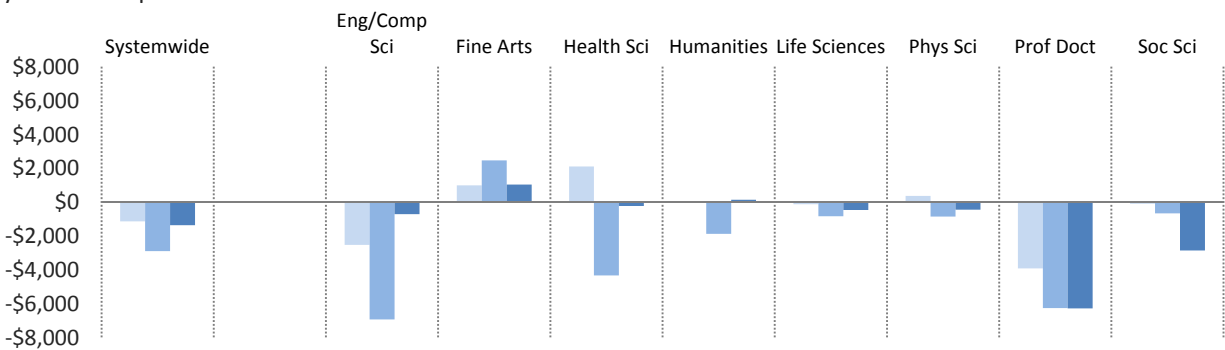
UC net stipends remain below competitive offers, but the gap decreased between 2010 and 2013.

4.2.3 Average net stipend offered to graduate academic doctoral students admitted to UC compared with their first-choice non-UC schools Universitywide 2007, 2010 and 2013

By residency



By broad discipline



Source: UC Graduate Student Support Survey: www.ucop.edu/student-affairs/_files/regents_1213.pdf.
Graduate academic professional doctoral programs include Ed.D., D.Env., D.Ph., D.P.T. and D.N.S.

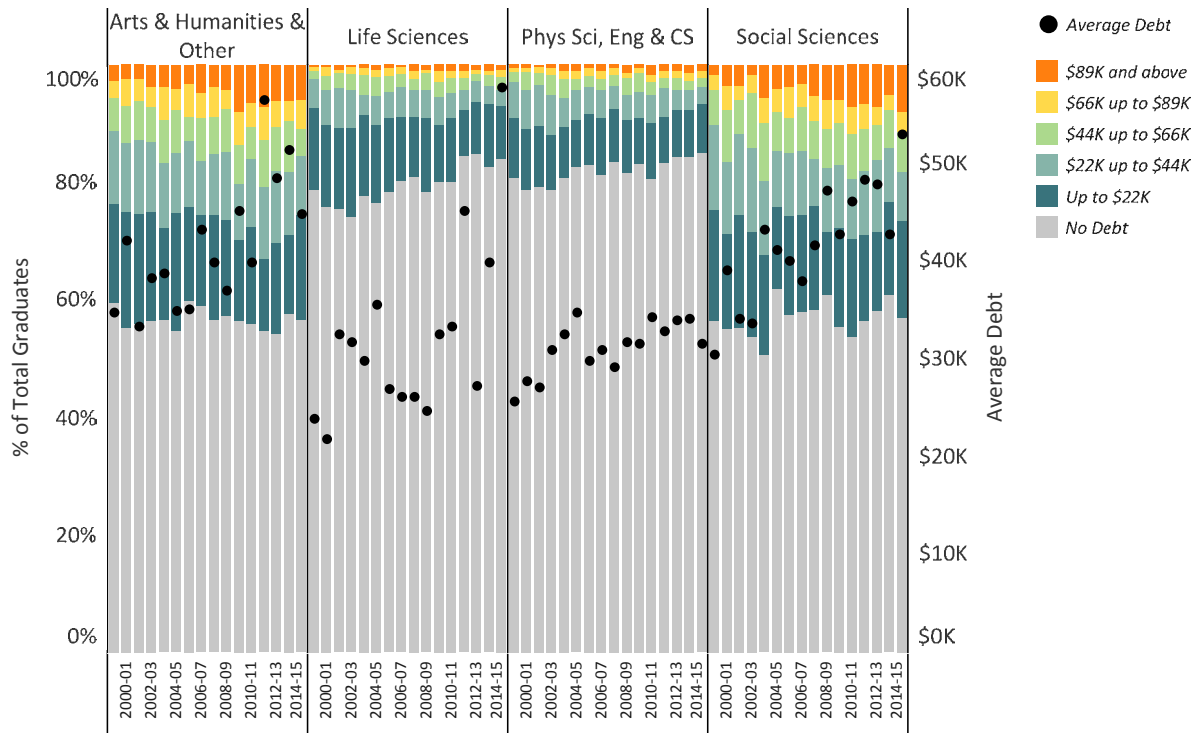
Doctoral students are crucial to a university's research enterprise and instructional programs. To attract the most highly qualified applicants, universities offer an aid package that includes the cost of tuition and stipends. Net stipend is the amount of aid that students have for living expenses after tuition and fees are paid. It is calculated by

subtracting total tuition and fees from a student's support package (which includes gift aid and teaching or research assistantships). It does not include loans that the student may be offered. The "stipend gap" varies by discipline as shown in the chart above.

4.2 GRADUATE ACADEMIC AND GRADUATE PROFESSIONAL STUDENTS

More than half of UC doctoral students graduate without debt. Doctoral students in the physical and life sciences have seen smaller increases in debt over the past 15 years, and graduate with less average loan debt than those in the social sciences and arts and humanities.

4.2.4 Academic doctoral students' graduate debt at graduation, by discipline, domestic students Universitywide Graduating classes of 1999–2000 to 2014–15



Source: Corporate Student System¹

Depending on the field of study, between 57 percent (social sciences) and 85 percent (life sciences) of UC doctoral students take on no additional debt during graduate school.

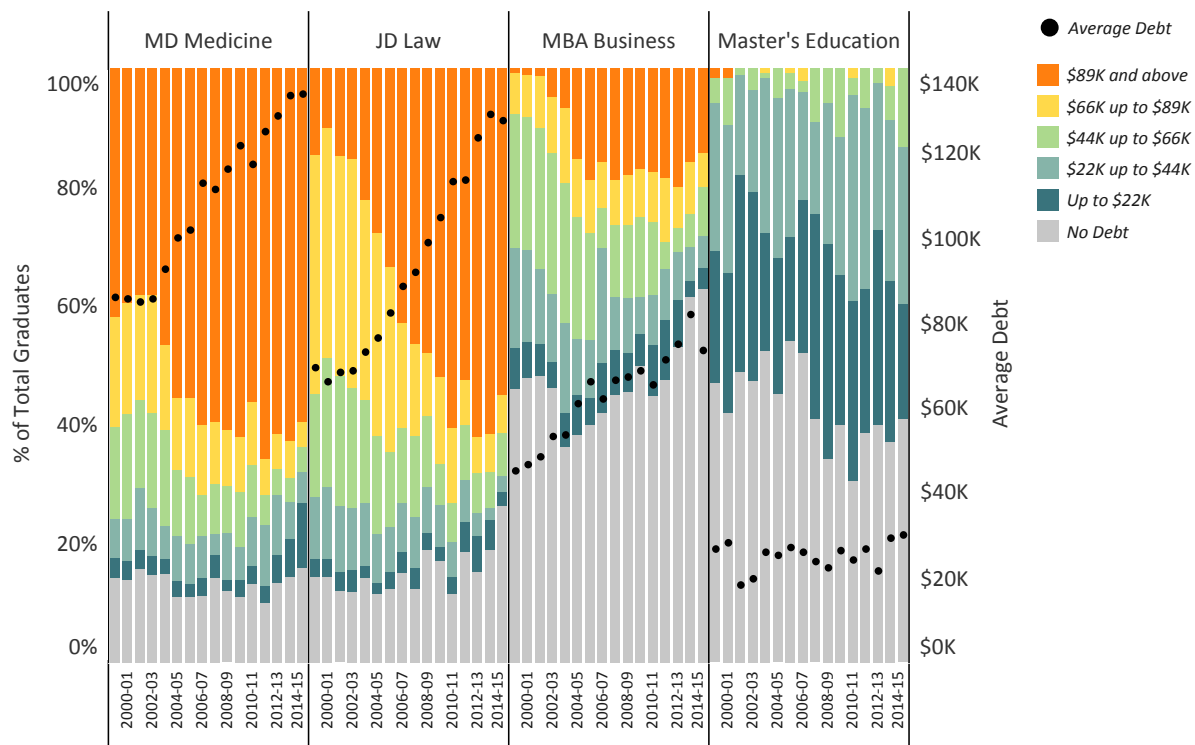
Several factors account for the difference in debt burden between doctoral students in the physical and life sciences and those in other disciplines. Physical and life science students are more likely to be supported by research grants. Their programs take less time on average to complete than do programs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

¹ Debt categories are inflation-adjusted in 2014 dollars using CA CPI-W. "Other" includes interdisciplinary and professional fields. Life sciences include health sciences.

4.2 GRADUATE ACADEMIC AND GRADUATE PROFESSIONAL STUDENTS

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

4.2.5 Graduate professional degree student debt at graduation, by discipline, domestic students Universitywide Graduating classes of 1999–2000 to 2014–15



Source: UC Corporate Student System¹

On average, about 39 percent of the aid awarded to graduate professional degree students comes in the form of loans rather than as fellowships or grants. By comparison, loans constitute only 4 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 potential for higher incomes after graduation.

Most graduate professional degree students finance part of their education by borrowing. The increases since 1999–2000 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 and greater student reliance on federal student loan programs.

¹ Average debt is among graduates with debt. Debt categories are inflation-adjusted in 2014 dollars using CA CPI-W.

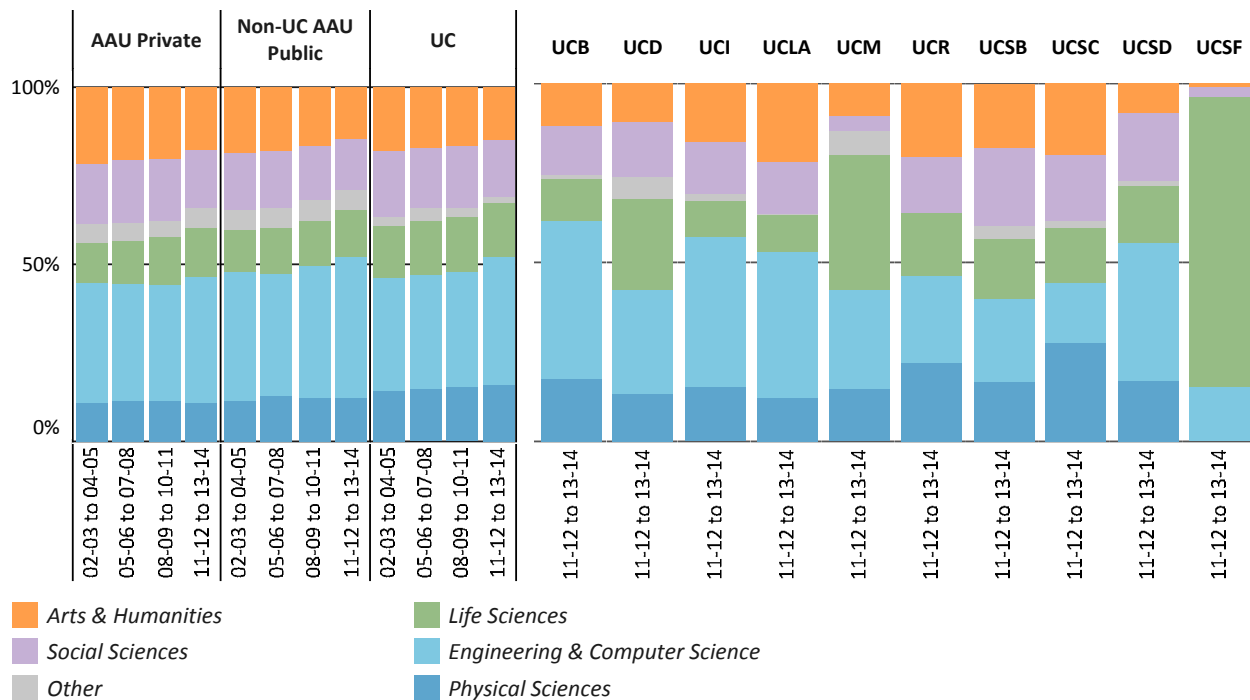
4.3 OUTCOMES — GRADUATE ACADEMIC STUDENTS

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 comparison institutions

Number of degrees grouped in 3-year intervals: 2002–03 to 2004–05, 2005–06 to 2007–08, 2008–09 to 2010–11 and 2011–12 to 2013–14



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 emerging biotechnology sector.

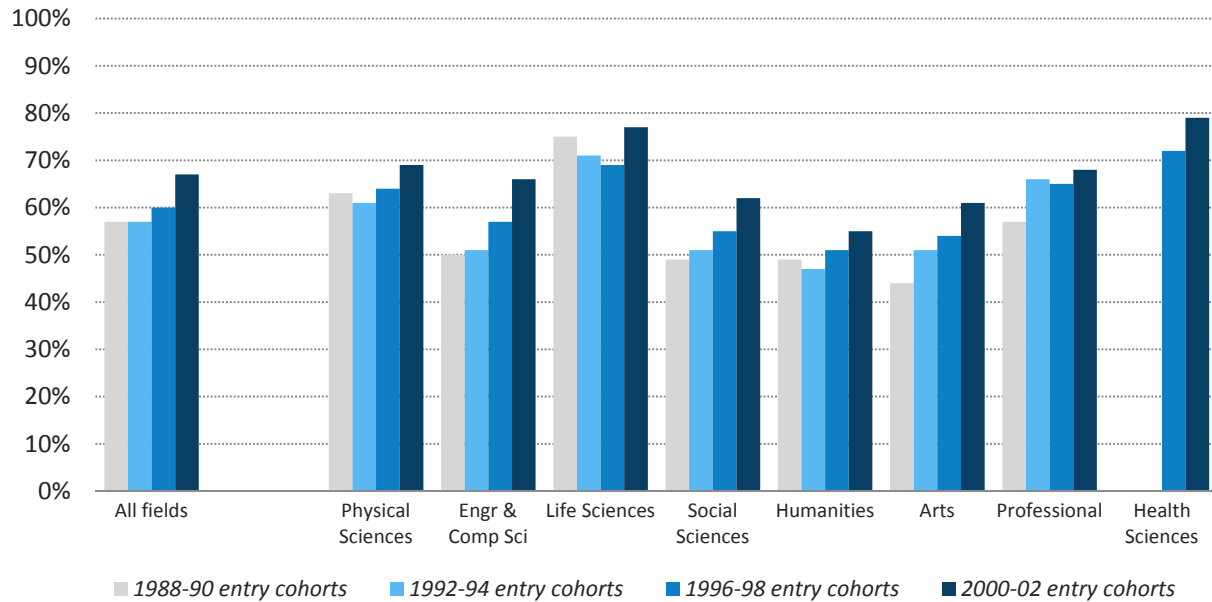
More than 20 UC Ph.D. recipients have been awarded Nobel Prizes.

Over the past 12 years, the number of graduate academic degrees awarded at UC grew by 55 percent, compared to 46 percent at the group of AAU private institutions and 31 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.

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

4.3.2 Doctoral completion rates after ten years, by broad field
Universitywide
Fall 1988–90, 1992–94, 1996–98 and 2000–02 entry cohorts



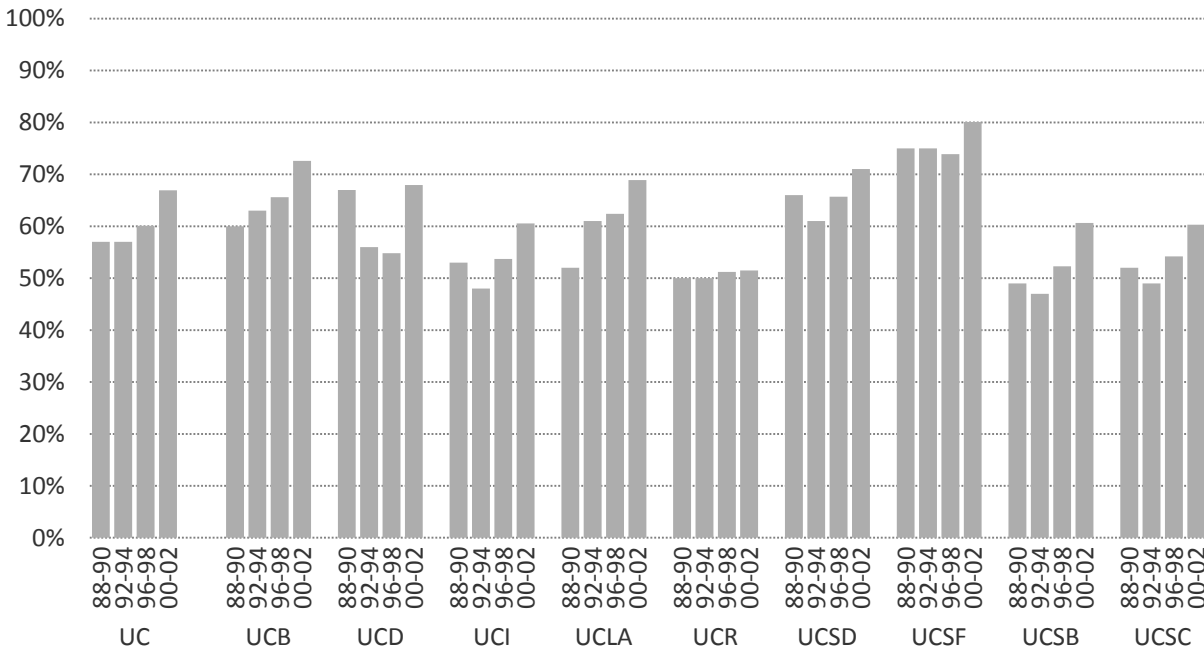
Source: UCOP Corporate Student System

The universitywide ten-year doctoral completion rate across all fields for the fall 2000–02 entering cohorts was 67 percent. This is an increase from the 60 percent completion rate reported for the cohort that entered four years previously. Among broad disciplines, life sciences and health sciences continue to have the highest completion rates. Humanities and arts 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, there has been a shift in the student demographics to a larger percentage of international students, who, as a group, have a higher ten-year completion rate than the overall cohort’s rate. Second, the proportion of students pursuing doctoral degrees in life sciences, physical sciences and mathematics, and engineering and computer science fields increased 5 percentage points between the 1996–98 and 2000–02 cohorts; students in these fields have a higher completion rate than do students in other fields.

Doctoral completion rates have improved on all UC campuses.

4.3.3 Doctoral completion rates after ten years, by campus
 UC campuses
 Fall 1988–90, 1992–94, 1996–98 and 2000–02 entry cohorts



Source: UCOP Institutional Research and Academic Planning

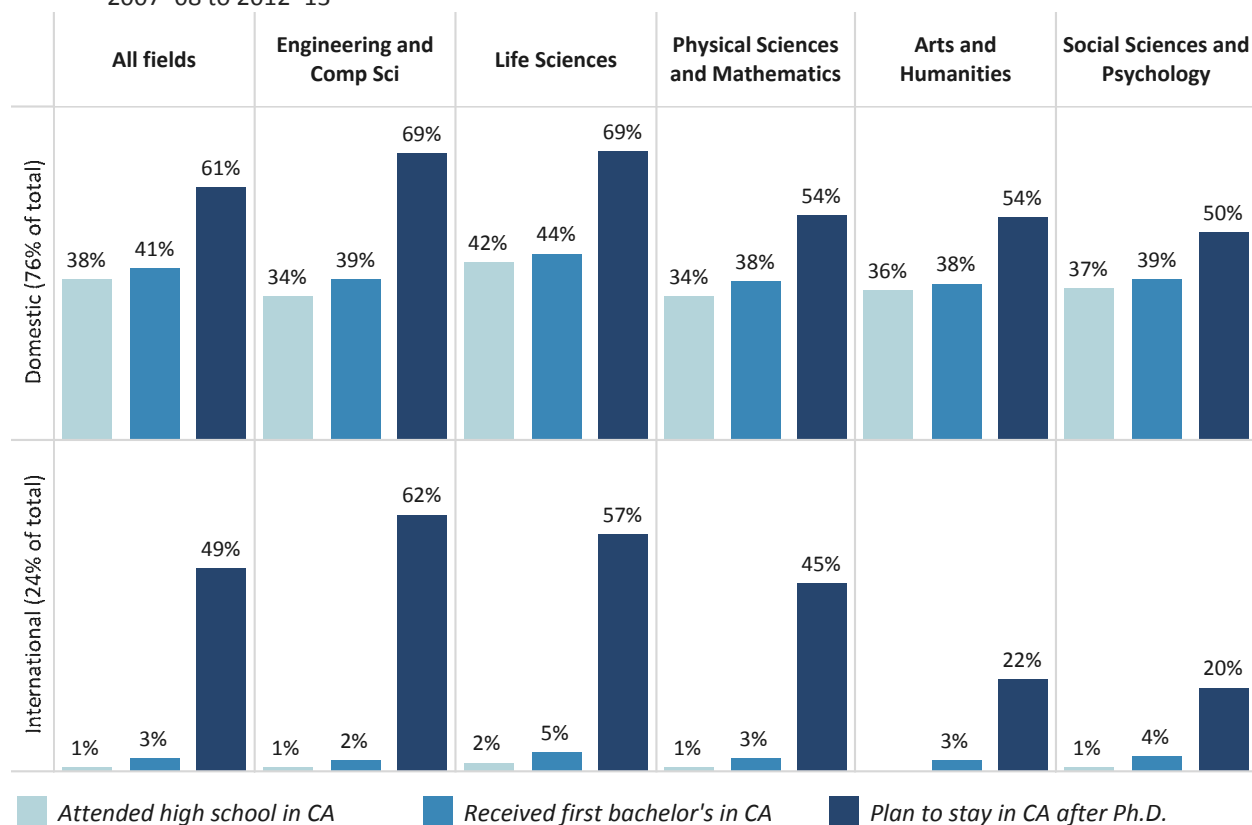
The proportion of students in STEM (science, technology, engineering and mathematics) disciplines on a campus may play a role in its doctoral completion rates. The time spent in these degree programs is shorter than in arts and humanities; therefore, the ten-year completion rates of students in STEM fields tend to be higher than most other fields. In general, the UC campuses with larger proportions of STEM students also tend to have higher overall completion rates. Davis, San Diego and San Francisco have the highest percentage of students in STEM fields and have shown some of the highest completion rates over the last four cohorts. Similarly, a larger percentage of students at Riverside, Santa Barbara and Santa Cruz were enrolled in programs outside of STEM fields, and ten-year completion rates at those campuses are lower.

The elapsed time to doctorate (ETD) at UC is roughly the same as at other academic research universities. There was no change in ETD for UC and the comparison institution groups in the 2004–06 and 2007–09 cohorts in the Survey of Earned Doctorates. UC’s individual campuses compare favorably to the Association of American Universities (AAU) members and the traditional public and private comparison institutions. For the 2007–09 cohorts, most UC campuses had the same ETD measure as the broad comparison institution groups. The 2011 Time to Doctorate Report is available at www.ucop.edu/institutional-research-academic-planning/_files/2011-uc-time-doctorate.pdf

4.3 OUTCOMES — GRADUATE ACADEMIC STUDENTS

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.

4.3.4 Origin and planned destination of UC academic doctoral degree recipients Universitywide 2007–08 to 2012–13



Source: NSF, NIH, USED, USDA, NEH, NASA, Survey of Earned Doctorates. Excludes UC Merced.

The most recent data for UC’s doctoral degree recipients, based on those graduating between 2007–08 and 2012–13, show that over half plan to stay in California. Sixty-one 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 38 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.

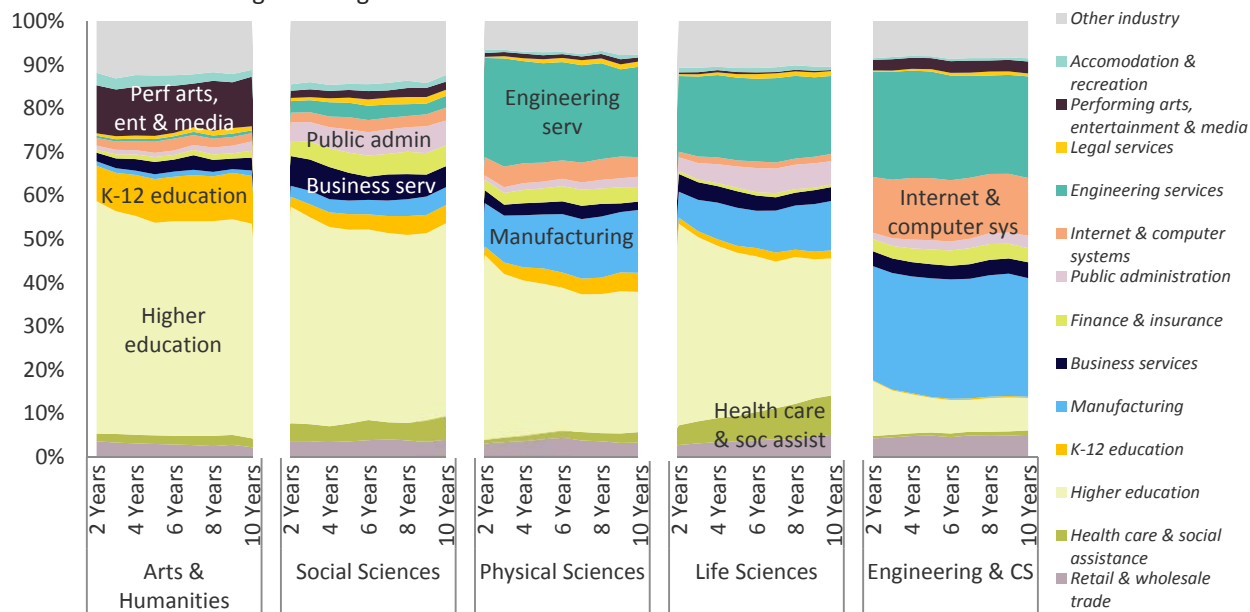
Though a negligible share of UC’s international (not a U.S. citizen nor permanent resident) doctoral recipients attended high school or college in California, half intend to stay after graduation.

The Survey of Earned Doctorates (SED) is conducted of 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 OUTCOMES — GRADUATE ACADEMIC STUDENTS

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

4.3.5 Industry of employment of UC graduate academic students in CA, by year after graduation
Universitywide
2000 to 2012 graduating cohorts



Source: California Employment Development Department and UC Corporate Student System¹

The job market for doctoral and master’s degree recipients is nationwide, and those who leave California are not tracked here.

More than 25,000 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 (53 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 25 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.

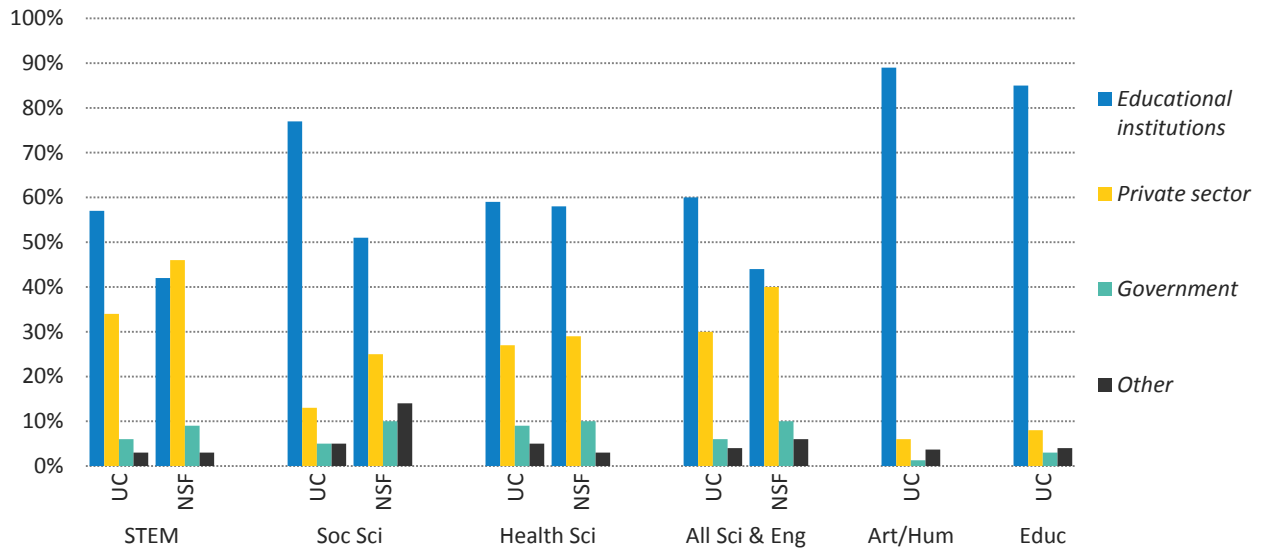
UC graduate academic programs in engineering and computer science supply workers to the state’s high-skilled and high-tech industries. Since 2000, over 14,500 graduates of these programs have entered the California workforce, with 31 percent working in the manufacturing sector and 30 percent working in engineering services. Another 18 percent go on to work in the state’s fast-growing internet and computer services industry. About 16 percent of engineering and computer science graduates go on to teaching and research positions in the state’s college and university systems.

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

4.3 OUTCOMES — GRADUATE ACADEMIC STUDENTS

Compared with the national average, a greater proportion of UC doctoral graduates find employment in educational institutions.

4.3.6 Academic doctoral degree recipient employment sectors, all graduates since 1969 UC and national comparison 2013 (UC) and 2008 (NSF)



Source: UC Graduate Alumni Survey and NSF Survey of (Science and Engineering) Doctoral Recipients¹

The proportion of UC doctoral degree recipients who find employment in educational institutions is higher than the national average for the broad disciplinary groups tracked by the National Science Foundation (NSF).

California’s colleges and universities depend on UC doctoral degree recipients to teach their students: One out of five UC and CSU faculty members has a UC doctoral degree.

¹ NSF comparisons are only available for certain disciplines and not available for arts/humanities and education.

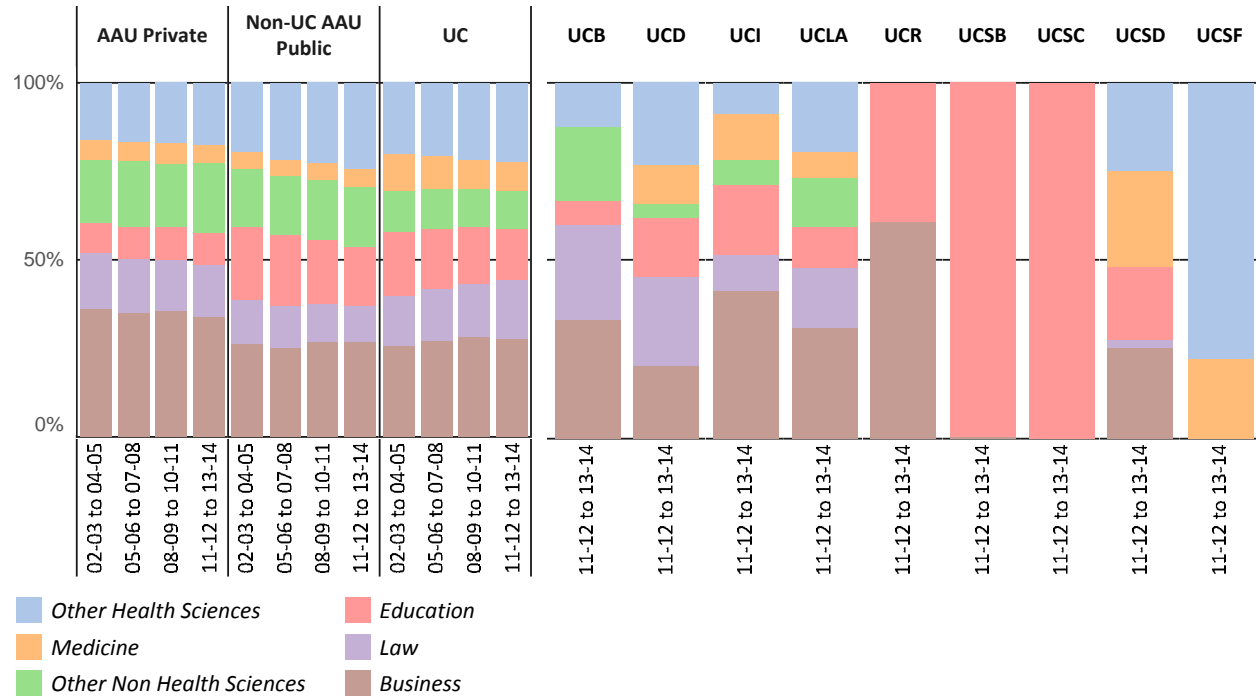
4.4 OUTCOMES — GRADUATE PROFESSIONAL STUDENTS

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 comparison institutions

Number of degrees grouped in 3-year intervals: 2002–03 to 2004–05, 2005–06 to 2007–08, 2008–09 to 2010–11 and 2011–12 to 2013–14



Source: IPEDS¹

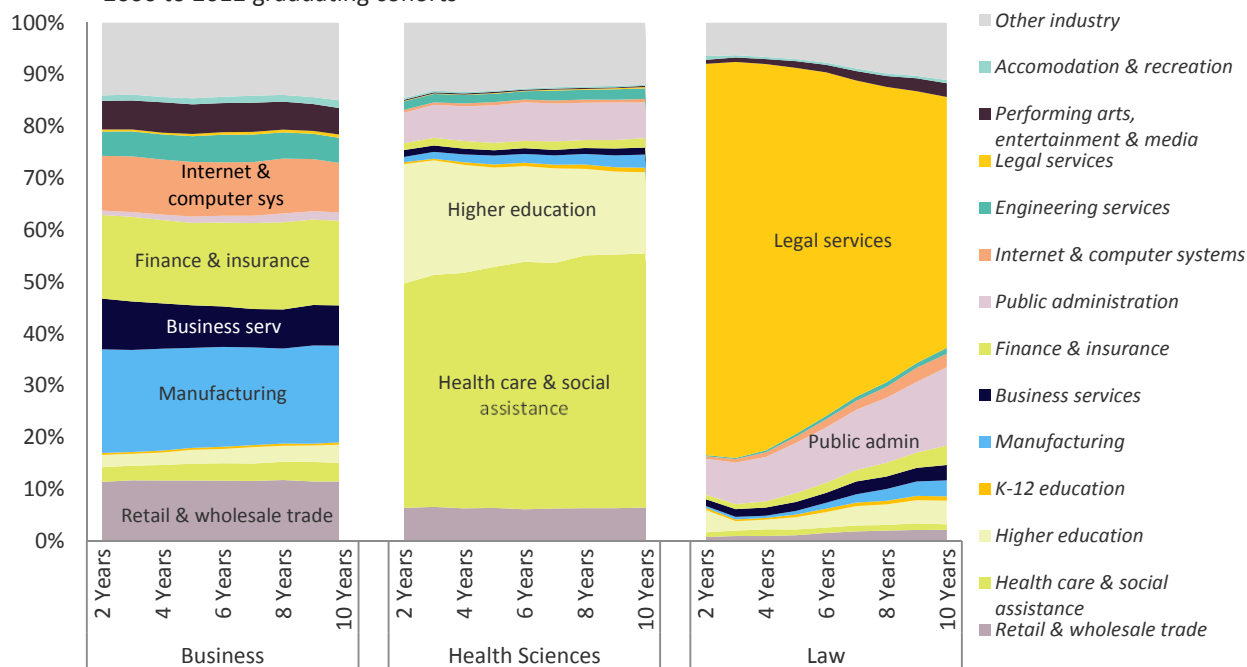
The proportion of professional degrees awarded by UC is comparable to AAU private and public institutions, with the greatest proportion of degrees awarded in business. The number and size of graduate professional degree programs varies by campus, with UCLA awarding the greatest number of professional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

Over the past decade and a half, UC has opened new professional schools in several areas, including the Rady School of Management at UC San Diego in 2003, the School of Law at UC Irvine in 2006 and the School of Medicine at UC Riverside in 2013.

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

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 2012 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 14,500 UC MBA graduates who have entered the California workforce since 2000 have worked in a wide array of industries, including manufacturing (25 percent), finance and insurance (20 percent), retail and wholesale trade (17 percent), and internet and computer systems (17 percent).

Over 9,000 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 (62 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 12 percent who work in state government.

UC law school graduates go on to work in two main areas — legal services and government. Of the 7,300 UC law school graduates who have worked in California since 2000, about 80 percent eventually find positions in the legal services industry. Another 10 to 15 percent go on to work in the public sector, including as government prosecutors, as 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 7 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.

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Chapter 5. Faculty and Other Academic Employees

The quality and stature of the University of California are due to its distinguished faculty. President Napolitano has said, “We teach for California ... [and] we research for the world.” UC faculty serve as a rich source of innovation, discovery and mentorship; they provide top-quality education to students, and groundbreaking research and service to California communities as well as national and international disciplinary societies. No other public institution can claim as distinguished a group of individuals: UC faculty have won 62 Nobel prizes and 67 National Medals of Science. As of 2015, UC academics included over 580 members of the National Academy of Sciences and over 500 members of the American Academy of Arts and Sciences.

Describing the academic workforce

Faculty are dedicated to a range of teaching, research and creative work, to clinical service and to public service functions in a vast array of disciplinary areas, including the health sciences. The descriptive data in this chapter provide an outline of the composition of the UC faculty that only hints at the full scope of faculty specialties and expertise.

The faculty renewal pipeline

Over the last few years, new hires have increased as UC recovers from the severe budget cuts of prior years. Faculty diversity has increased and departure rates have declined.

Competitiveness of faculty salaries — Faculty salaries at UC still trail those at comparison institutions by about 10 percent. UC compares its faculty salaries to the average of salaries at the “Comparison 8,” a comparator group composed of four public and four private institutions. UC and the state set a goal for UC salaries to be at the midpoint between these two averages, but UC salaries have lagged behind this benchmark for the last 14 years. According to the 2014 update of UC’s Total Remuneration Study for General Campus Ladder-Rank Faculty, UC’s 6 percent above-market positioning for retirement is offset by 7 percent below-market positioning for health and welfare

benefits. When combined with UC’s below-market cash compensation, this leads to total remuneration 10 percent below market in comparison to UC’s peers.

Diversity — The University of California is committed to diversifying its faculty, taking full advantage of the availability of qualified candidates. The Office of the President is working with campuses by tracking faculty recruitment data to identify opportunities to diversify the faculty; by sharing best practices in faculty mentoring and professional development; and by enhancing programs to foster work-life balance. The proportion of women and underrepresented racial/ethnic groups (URMs) in the faculty continues to grow at a modest pace. When these diversity figures are displayed in the context of eight peer research institutions that make up UC’s standard comparator group, UC compares favorably. According to 2014 data, UC is tied for second place, at 32 percent, for the percentage of female faculty. UC also places second for the percentage of URM faculty and female URM faculty. However, there is still work to be done. Data comparing U.S. doctoral degree recipients and UC’s new faculty hires show that in many disciplines, the share of faculty from underrepresented groups among new UC assistant professors remains below the share in the national pool of available candidates.

Diversity initiatives

A wide variety of programs to strengthen faculty diversity are in place throughout the UC system. Notable among these programs are the President’s Postdoctoral Fellowship Program Special Presidential Initiative, grant-funded research, a faculty exit survey and campus-based ADVANCE programs.

President’s Postdoctoral Fellowship Program Special Presidential Initiative — Established in 1984, the President’s Postdoctoral Fellowship Program (PPFP) recruits top scholars with proven commitments to underserved and minority communities to pursue faculty careers at UC. As part of a special initiative to enhance the work of PPFP,

the president has committed additional one-time funds to the program, with \$2.4M targeted to support startup costs for fellows hired into STEM faculty positions, including the health sciences. The president also committed \$2.1M as additional support for the hiring incentive offered to departments that hire fellows into the faculty. She also committed \$475K to training seminars for chairs and deans in which they studied best practices in creating welcoming department climates. The National Institutes of Health (NIH) is using PFP as a model for postdoctoral recruiting, and PFP was featured at a recent panel presentation during the National Postdoctoral Association convention.

Grant-funded research — In 2015, UC was awarded a National Science Foundation (NSF) grant to study the faculty hiring process over a three-year period. The study will identify the steps in UC’s hiring process that are most susceptible to bias and the characteristics of the hiring process that amplify or mitigate disparities, and will identify the most important targets for policies designed to promote equity, inclusion, and diversity among faculty. UC was also awarded a five-year grant to establish the Center for Research, Excellence and Diversity in Team Science (CREDITS), an integrated research and training program aimed at increasing and enhancing the capacity, effectiveness and excellence of team science efforts at both UC and CSU. CREDITS will also conduct research about gender and racial/ethnic diversity in team science. In particular, the PI group is looking to answer questions about barriers to diverse participation on science teams, how diversity shapes the formation of science teams and how diversity and team science are implicated in promotion and tenure practices and policies at a variety of institutional types. A third program, MAGIC, is affiliated with the National Research Mentoring Network (NRMN) (<https://nrmnet.net>), and is a program through which UC will develop a “train the trainer” event on mentoring a diverse population in the biomedical fields at all levels in higher education: undergraduate, graduate, postdoc and faculty. The event will be modelled after the UC ADVANCE PAID Roundtables.

Faculty Exit Survey — In an effort to better understand and improve the experience of faculty members at UC, UC has partnered with Harvard’s Collaborative on Academic Careers in Higher Education (COACHE) on a research project to survey faculty who leave UC for employment at other universities. The survey will collect information on URM and non-URM faculty who leave UC.

ADVANCE Programs across UC — Throughout the United States, the National Science Foundation (NSF) has sponsored the ADVANCE Programs with the goal of developing “systematic approaches to increase the representation and advancement of women in academic science and engineering careers, thereby contributing to the development of a more diverse science and engineering workforce.” There have been active ADVANCE programs at UC Office of the President, UC Berkeley, UC Davis, UC Irvine, UC Merced, UC Riverside, UC San Diego, UC Santa Barbara and Hastings College of Law.

To incentivize the hiring of STEM-focused faculty members who have demonstrated a deep commitment to doing outreach, mentoring or research in engagement with underserved communities, UC Davis established the Center for Multicultural Perspectives on Science (CAMPOS) in 2013, and the provost has provided incentive funding comparable to that for the President’s Postdoctoral Fellowship Program. The CAMPOS Scholars are new ladder-rank faculty who are selected for the program based on their transformative thinking, unique perspectives, interdisciplinary approaches and leadership potential to affect their STEM discipline in profound and enduring ways. The program has hired 13 faculty as CAMPOS Scholars, and three additional Scholars are being actively recruited.

Faculty emeriti

Even in retirement, UC faculty remain active in academia and are frequently recognized for their continued contributions. The Council of University of California Emeriti Associations (CUCEA) recently conducted a survey of over 1,600 UC emeriti to inventory the work and achievements of the University’s retired faculty. The survey shows that

University's retired faculty. The survey shows that during the period of 2012 to 2015, this group of UC retirees taught more than 2,000 classes, wrote more than 500 books and over 3,000 articles, and were involved in hundreds of campus and community service efforts. In fact, 77 percent of faculty who retired in the last five years reported having research or publication work in the pipeline. This shows that in early retirement, many faculty still work with graduate students who are finishing their research, run labs with ongoing projects or have grants with time remaining.

For more information

The UC Academic Senate:
www.universityofcalifornia.edu/senate

UCOP's Academic Personnel and Programs
Department:
www.ucop.edu/academic-personnel-programs

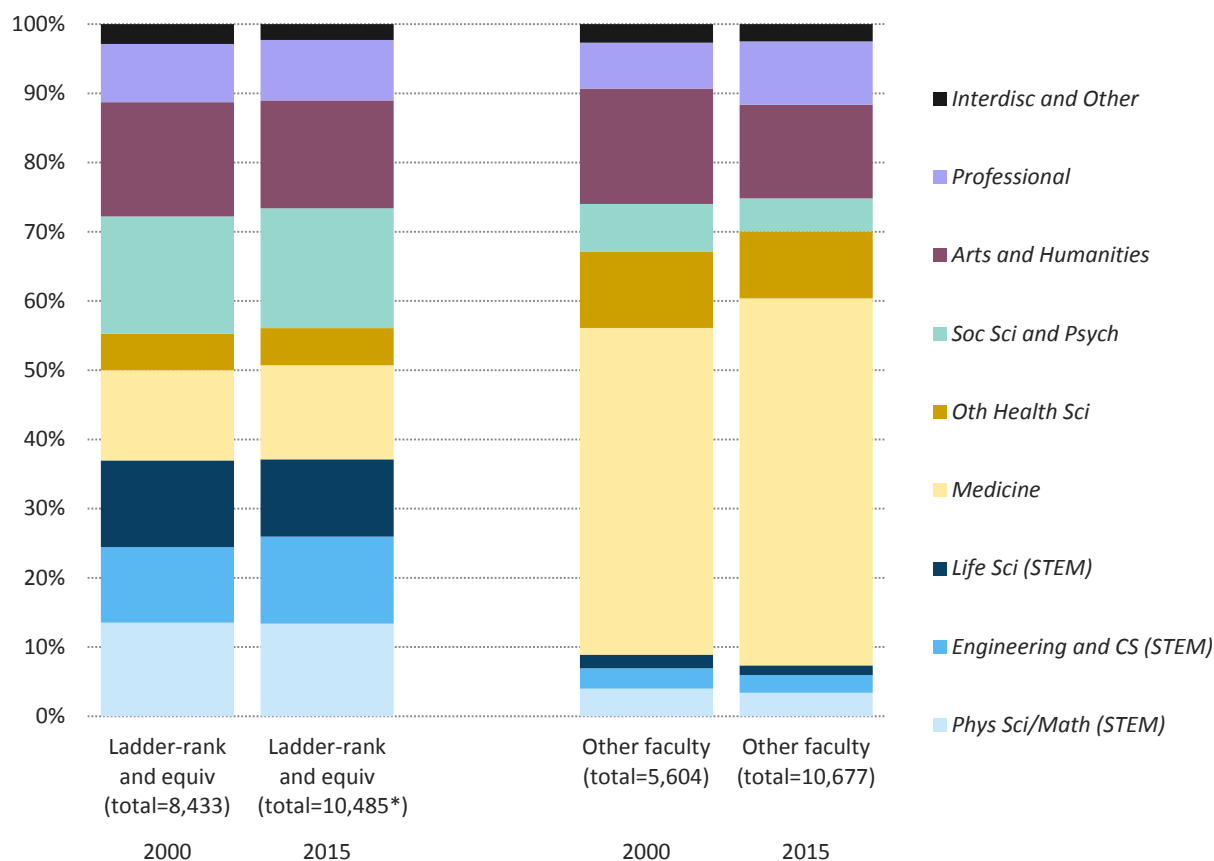
Dashboard on diversity of UC's faculty and academic appointees:
<http://universityofcalifornia.edu/infocenter/diversity-ucs-faculty-and-academic-appointees>

CUCEA's report on emeriti activity:
<http://cucea.ucsd.edu/documents/AVirtualEleventhCampus.pdf>

5.1 ACADEMIC WORKFORCE

More than half of ladder-rank and equivalent faculty are in STEM (science, technology, engineering and mathematics) and health sciences disciplines. The largest (and growing) percentage of non-ladder-rank faculty is employed in the health sciences.

5.1.1 Faculty by discipline, headcount Universitywide Fall 2000 and 2015



Source: UC Corporate Personnel System¹

The growth in faculty over the last 15 years has not been evenly distributed across academic disciplines. Among ladder-rank and equivalent faculty, the most significant change over the past 15 years has been a shifting emphasis in the STEM disciplines. The largest growth has been in engineering and computer science (from 11% to 13%) — not a surprising development given the dramatically increased demand among students for training in this fast-growing sector of the economy.

Headcount in other faculty series has grown by more than 5,000 (about a 90 percent increase) since 2000 — a much greater increase than in the headcount of ladder-rank and equivalent faculty (about 1,800 or 20 percent). The most significant increase in non-ladder-rank faculty has been in medicine.

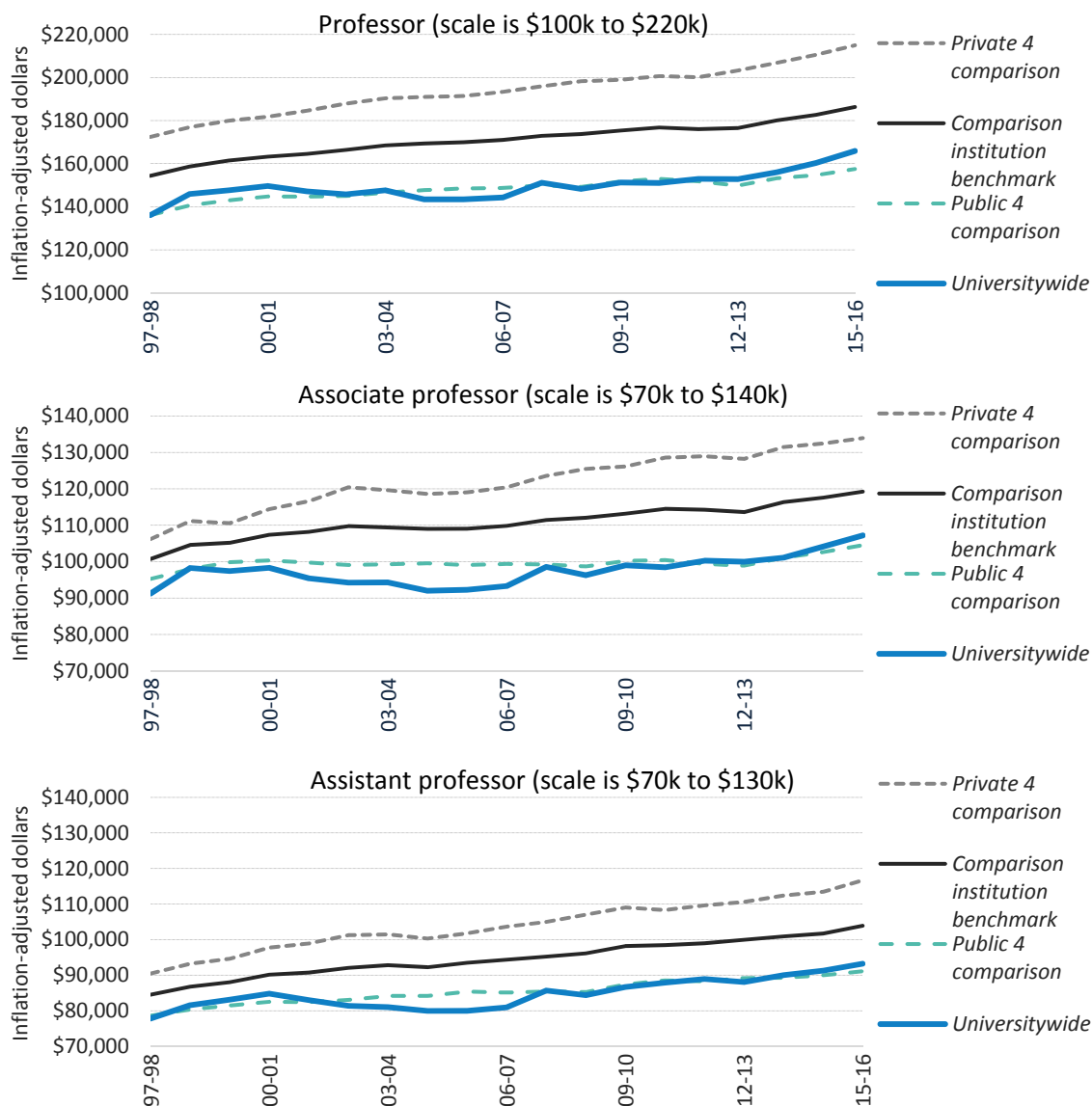
¹ Data shown are headcount numbers for all faculty. Ladder-rank and equivalent faculty are appointees who are tenured or who are eligible for tenure or security of employment. "Other faculty" are appointees who are ineligible for tenure or security of employment, including professors of clinical medicine, professors in residence, health sciences clinical and adjunct professors, lecturers and others.

* Data updated 9/5/2016

5.2 ACADEMIC WORKFORCE COMPETITIVENESS

UC faculty salaries are currently below the benchmark that UC has historically employed to assess competitiveness. This affects the University’s efforts to recruit and retain high-quality faculty.

5.2.1 Average ladder-rank general campus faculty salaries, by rank UC and comparison institutions 1997–98 to 2015–16



Source: UC Corporate Personnel System, AAUP faculty salary survey

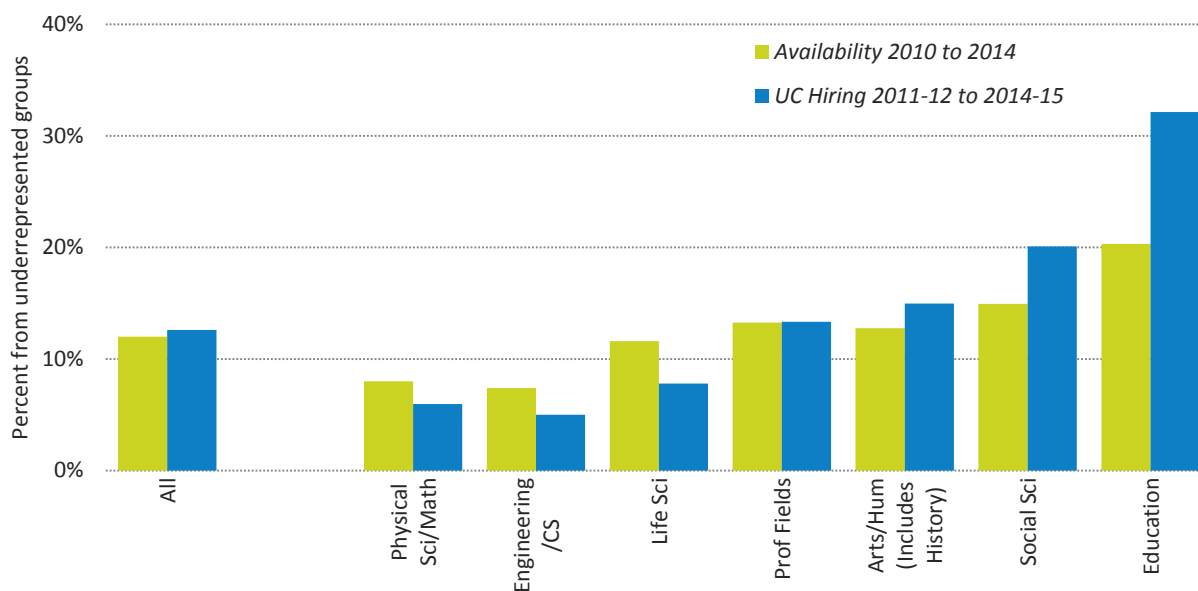
UC historically has used the “Comparison 8” universities against which to benchmark its faculty salaries. The benchmark is the midpoint between the averages of the four public and four private institutions. The four public institutions are Illinois,

Michigan, University at Buffalo and Virginia; the four private institutions are Harvard, MIT, Stanford and Yale. UC’s faculty salaries fall significantly below those of the comparison private institutions and are just keeping pace with the four public institutions.

5.3 ACADEMIC WORKFORCE DIVERSITY

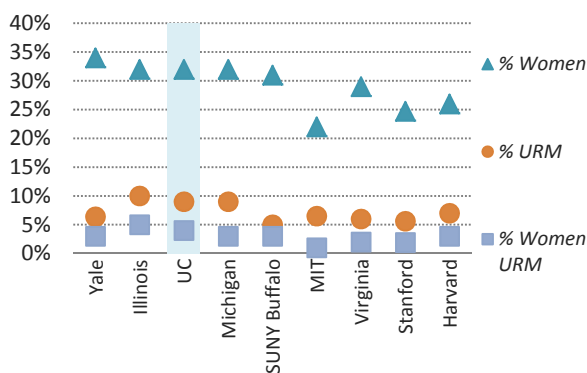
The proportion of underrepresented minority scholars among UC assistant professor hires continues to lag in some fields behind their proportion among Ph.D. recipients.

5.3.1 New assistant professors compared with national availability for underrepresented minorities, by discipline Universitywide 2011–12 to 2014–15



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

5.3.2 Percent of tenure and tenure-track faculty who are female and/or from underrepresented racial/ethnic groups UC and comparison institutions Fall 2014



Source: IPEDS¹

The University of California remains deeply committed to diversifying its faculty and taking full advantage of the available pools of qualified candidates. Between 2010 and 2014, underrepresented minorities (URMs) accounted for 12 percent of the pool of nationwide doctoral degree recipients and 13 percent of UC’s new assistant professor hires.

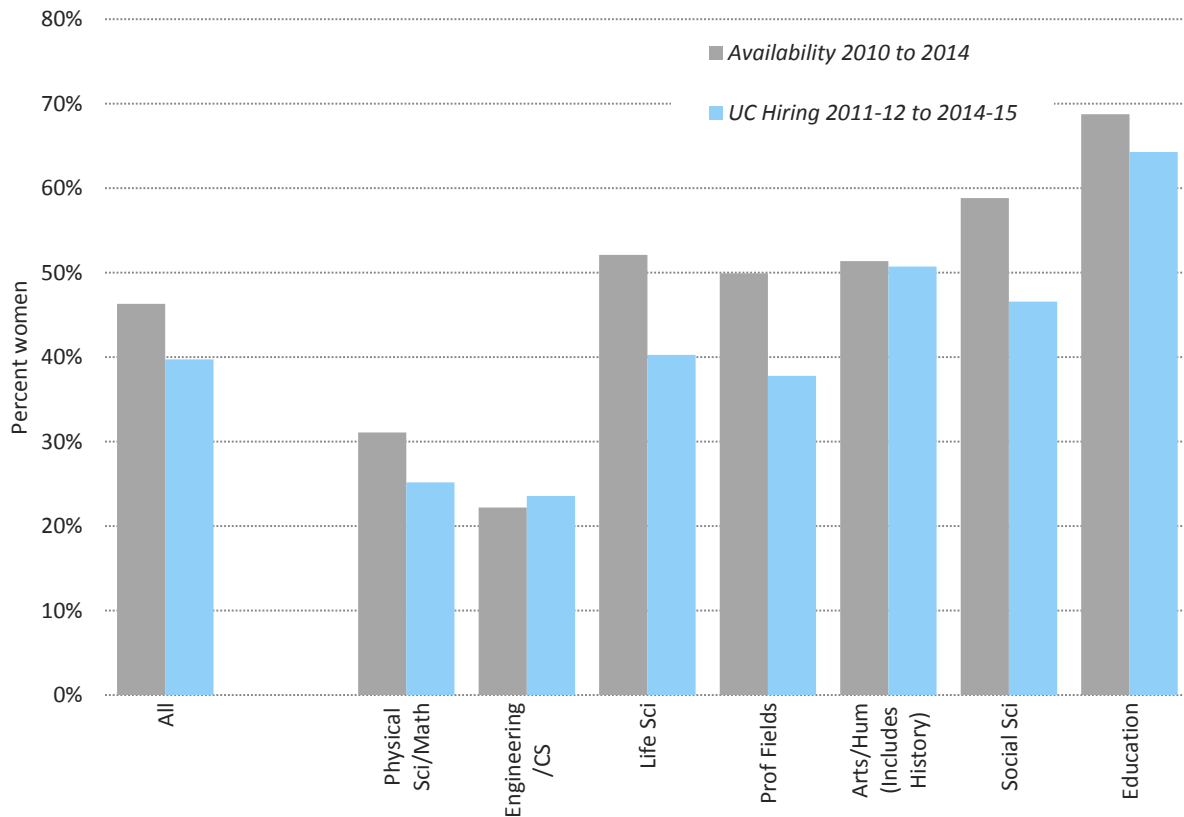
The proportion of women and underrepresented minorities continues to grow at a modest pace. When these diversity figures are displayed in the context of other peer research institutions in the U.S., namely the “Comparison 8,” UC compares favorably. According to 2014 data, UC is tied for second for the percentage of women faculty, at 32 percent. Additionally, UC places second for the percentage of URM faculty and women URM faculty, at 9 percent and 4 percent respectively.

¹All institutions reported for 2014, except for Stanford, which last reported in 2013. UC includes UC Hastings.

5.3 ACADEMIC WORKFORCE DIVERSITY

UC's hiring of women faculty lags behind the national availability in every broad discipline group except engineering.

5.3.3 New assistant professors compared with national availability for women by discipline Universitywide 2011–12 to 2014–15



Source: UC Academic Personnel and Program Administration and Survey of Earned Doctorates¹

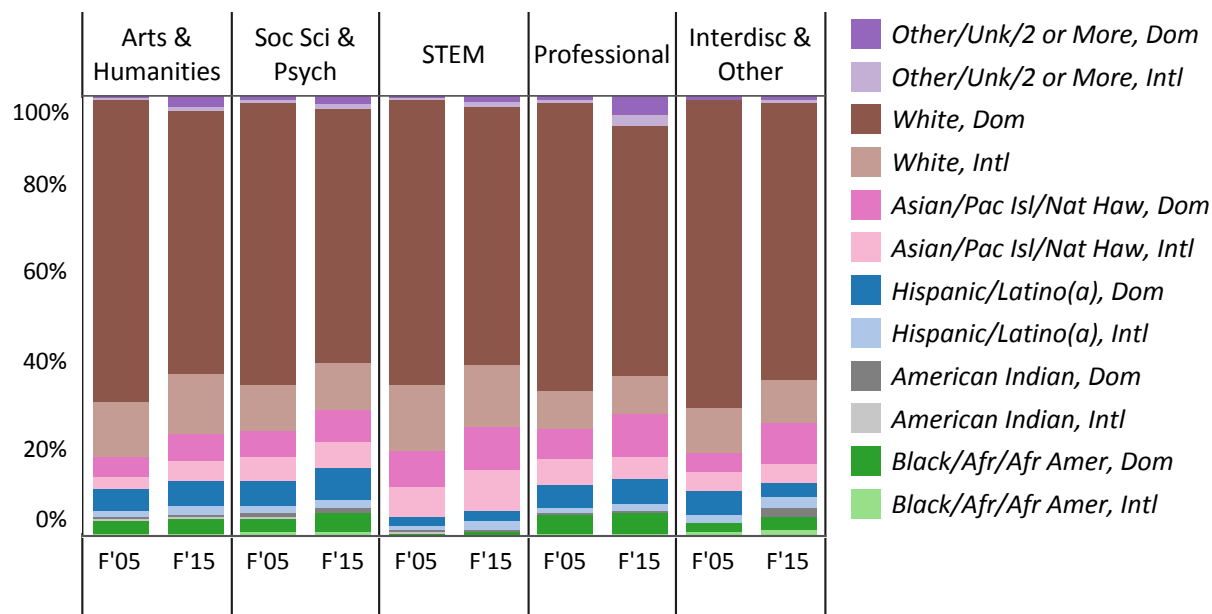
Between 2010 and 2014, women constituted 46% of the nationwide pool of new doctoral degree recipients and 40 percent of UC's new hires. At a time when the nation's pool of doctoral degree recipients is showing increasing numbers and percentages of women, outreach and recruitment efforts at UC are not generating faculty hire rates that are fully reflective of changes in national availability pools, although the differential varies by field.

¹ This analysis follows the campus practice required for federally mandated affirmative action plans; UC is required by Proposition 209 to satisfy federal reporting requirements in this area. See the appendix for additional details.

5.3 ACADEMIC WORKFORCE DIVERSITY

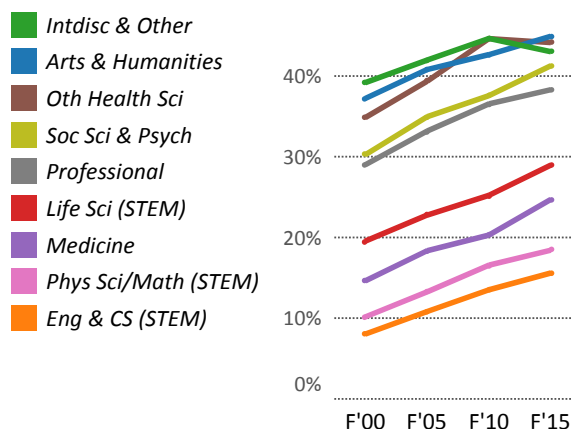
UC's faculty have grown in racial/ethnic and gender diversity.

5.3.4 Ladder-rank and equivalent faculty by race/ethnicity and gender, headcount Universitywide Fall 2005 and 2015



The increase in the share of ladder-rank and equivalent (LRE) faculty who are underrepresented minorities has largely been due to an increase in the Hispanic/Latino(a) group. Representation by American Indian and African American faculty remains a challenge.

Female LRE faculty have grown in share over time, fueled by increased diversity in hiring. Their proportion differs significantly depending on discipline.



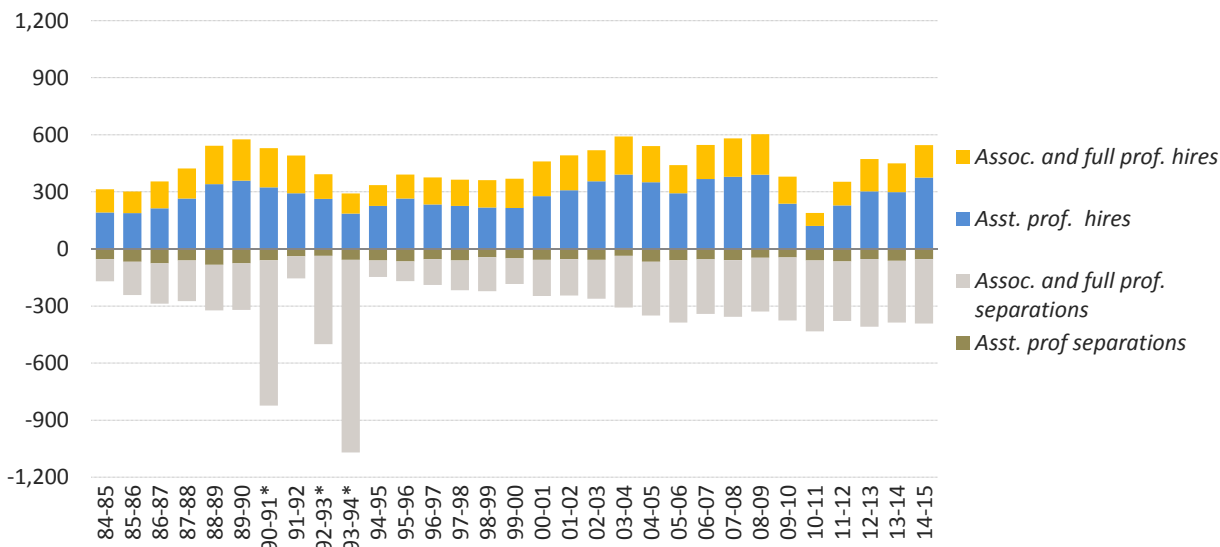
Source: UC Corporate Personnel System¹

¹ STEM includes engineering and computer science, life sciences, math, medicine, other health sciences and physical sciences.

5.4 ACADEMIC WORKFORCE RENEWAL

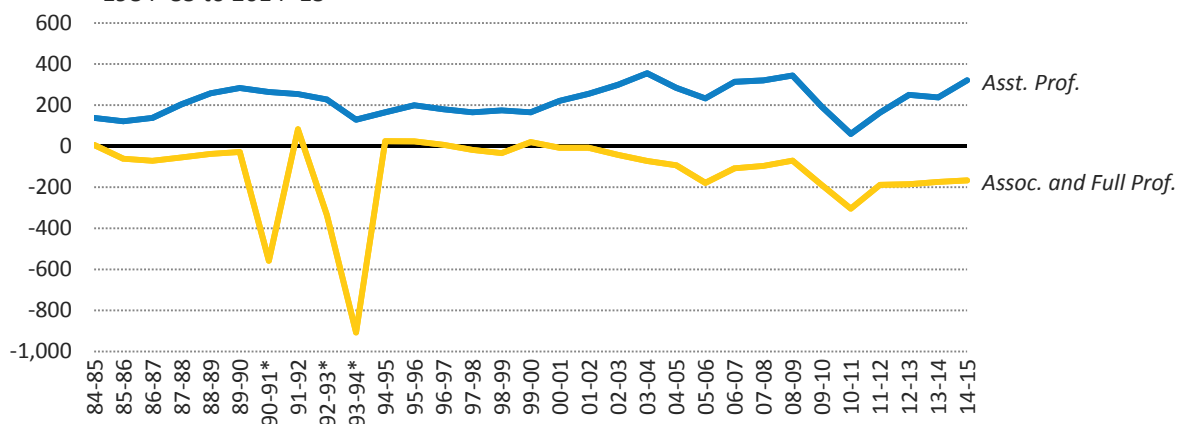
In the past few years, hiring of new faculty has started to rebound from a drop due to state budget cuts.

5.4.1 New hires and separations of ladder-rank and equivalent faculty Universitywide 1984–85 to 2014–15



Source: UCOP Office of Academic Personnel and Program Administration¹

5.4.2 Net change in ladder-rank and equivalent faculty Universitywide 1984–85 to 2014–15



Faculty hiring decreased significantly from 2009 to 2011 in response to fiscal constraints. However, there was an uptick in new hires during 2011–12 to 2014–15.

Since 2003–04, faculty separations have exceeded 300 per year. At the same time, undergraduate enrollment has seen marked increases.

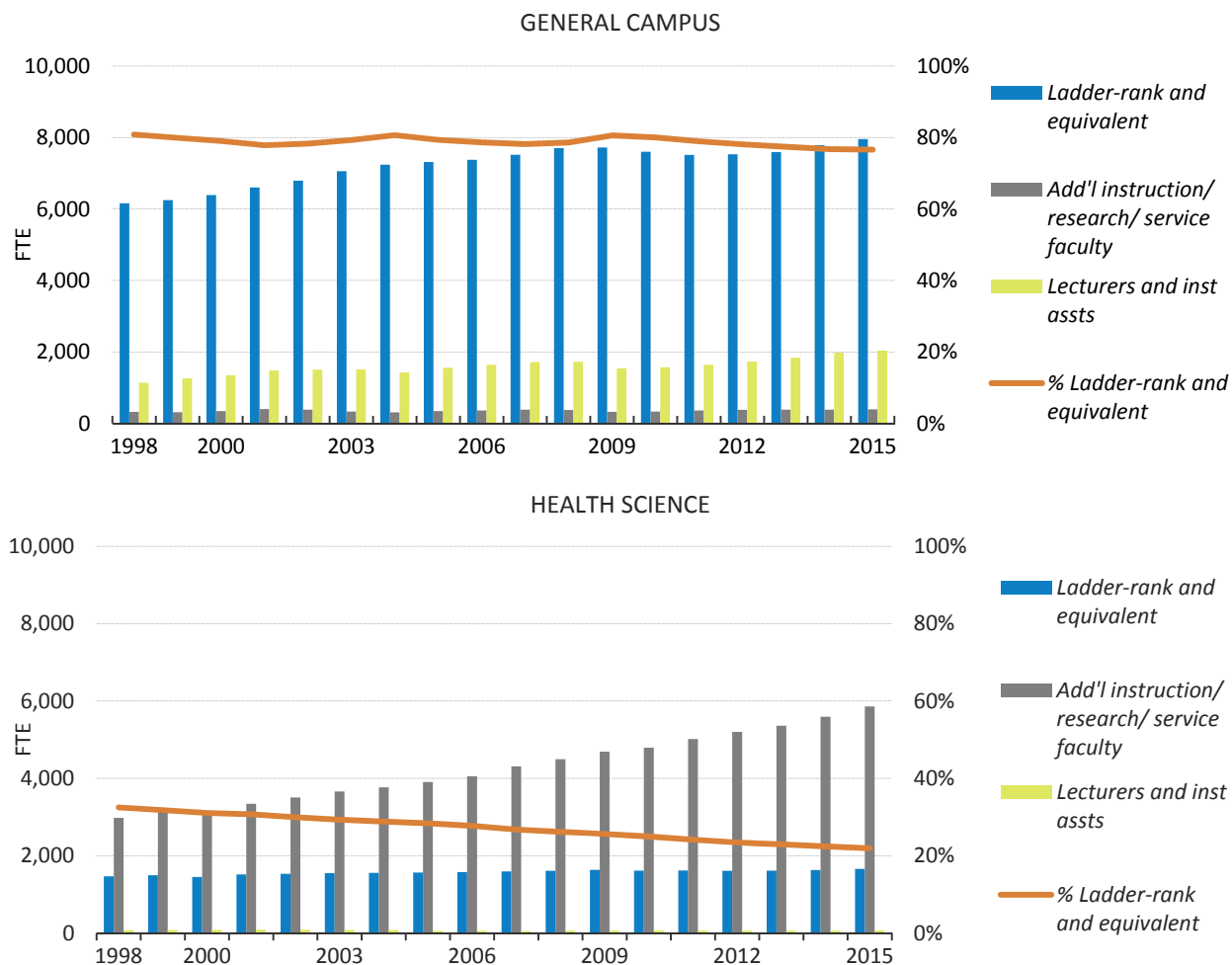
¹ Associate and full professors shown here are tenured faculty; assistant professors are nontenured, tenure-track faculty. A very small number of lecturers with security of employment are included in the assistant category. Ladder-rank associate and full professors are tenured; assistant professors are eligible for tenure.

*Years with Voluntary Early Retirement Incentive Program (VERIP).

5.4 ACADEMIC WORKFORCE RENEWAL

Ladder-rank and equivalent faculty constituted 77 percent of UC general campus faculty FTE in fall 2015 and only 22 percent in the health sciences.

5.4.3 Faculty workforce FTE Universitywide Fall 1998 to fall 2015



Source: Corporate Personnel System October snapshots and UC DSS — earned in October, paid through November¹

Ladder-rank and equivalent faculty numbers declined starting in 2009 as campuses reduced hiring to address budget shortfalls, but have since rebounded.

Lecturers and instructional assistants² tend to be more common in general campus departments and represent about 20 percent of the general campus

faculty. The “Additional instruction/research/service Faculty” category³ has grown substantially. These faculty include clinical faculty and professors in residence who are integral to UC’s health sciences clinical and research activities. They are paid primarily from clinical and research revenues, rather than from state sources.

¹ Health Sciences includes FTE in schools of medicine, dentistry, nursing, optometry, pharmacy, public health and veterinary medicine. General campus includes FTE in all other schools and colleges.

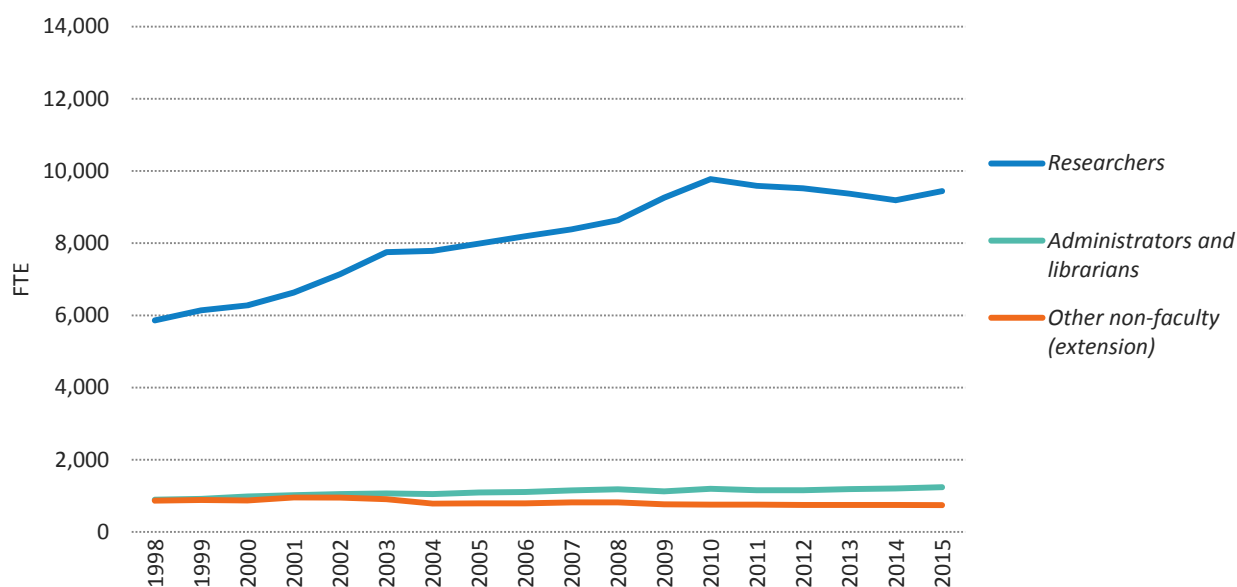
² Includes union-represented non-Senate teaching faculty, including “Unit 18 Lecturers” and non-student instructional assistants.

³ Although there are exceptions, these faculty are generally employed at campuses with health science schools.

5.4 ACADEMIC WORKFORCE RENEWAL

FTE of academic researchers has increased, peaking in 2010–11 due to stimulus funds from the federal Recovery Act (ARRA).

5.4.4 Nonfaculty academic workforce FTE Universitywide Fall 1998 to fall 2015



Source: UC Corporate Personnel System. Includes all academic nonfaculty titles except graduate student instructors and researchers.

Aside from faculty, most of the nonstudent academic workforce is composed of appointees in professional research titles. The great majority of researchers in the academic workforce are supported by contracts and grants from external sponsors, with the federal government providing about 60 percent of the funding for research. The number of researchers in the academic workforce peaked in 2010–11, largely due to augmentations to federally sponsored research funding provided through the American Recovery and Reinvestment Act (ARRA). In the following years, federal agency appropriations for research declined, and other sources of funding did not increase sufficiently to offset the drop in federal research support. This resulted in a four-year decline in the overall research workforce until 2015, when the research FTE grew by almost 3 percent from the previous year.

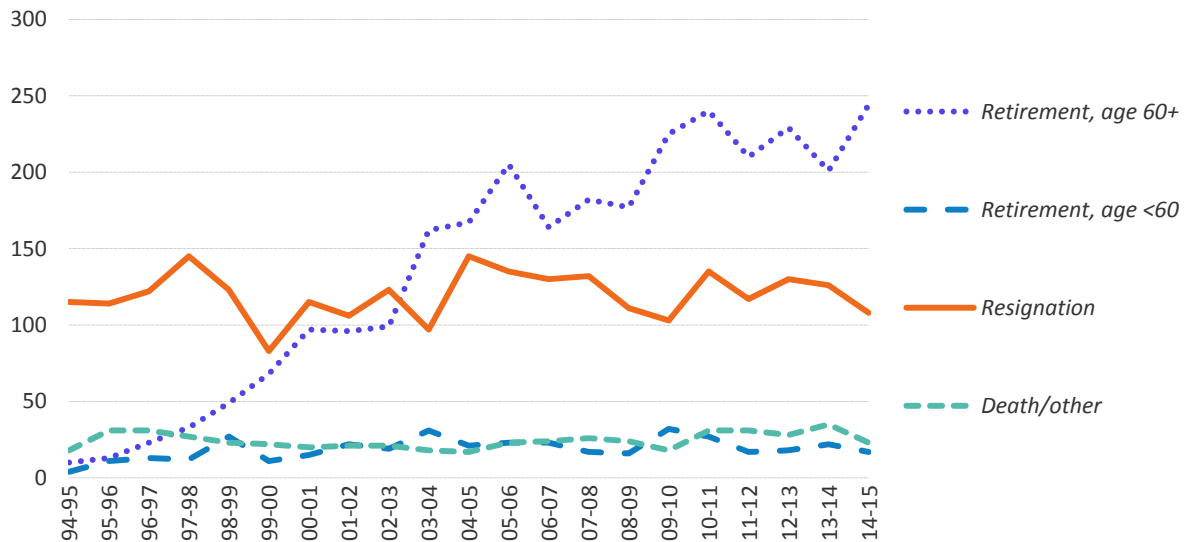
During FY 2014–15, research awards to UC from federal and other sources, which have a lag before they are spent, showed a significant increase. If this positive trend continues, then as these funds are spent, the research workforce is likely to stabilize and perhaps return to modest growth.

Chapter 9, Research, provides details and analysis of the impact of external sponsorship on the research workforce.

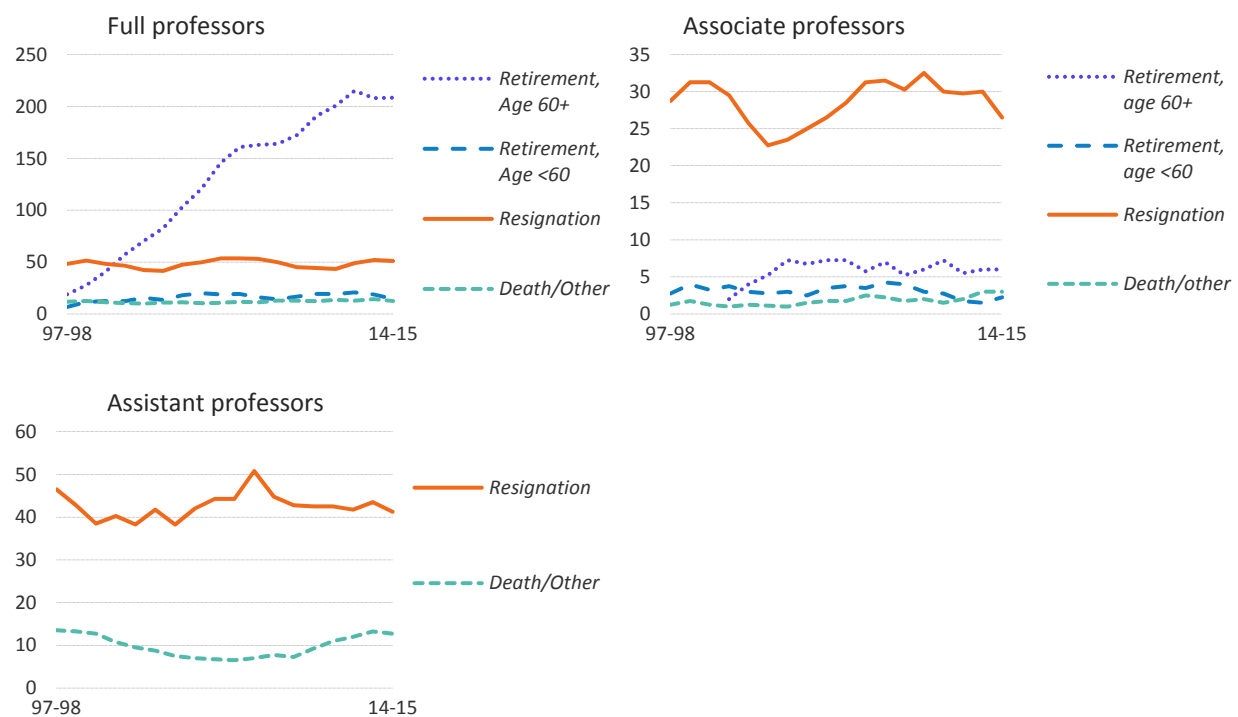
5.5 ACADEMIC WORKFORCE DEPARTURES

The number of faculty who have retired at age 60 or above has grown in the past 15 years; other types of departures have remained constant.

5.5.1 Departure reasons of faculty Universitywide, all faculty 1994–95 to 2014–15



5.5.2 Departure reasons of faculty by rank Moving four-year average, 1997–98 to 2014–15 (SCALES VARY)



Source: UCOP Office of Academic Personnel and Program Administration¹

¹ "Other" reasons include faculty whose appointments ended or who were not tenured or not renewed. The data shown are the average of the past four years. For example, the figure for 10–11 is the sum of departures from 07–08 to 10–11 divided by four.



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Chapter 6. Staff

Workforce demographics

Like all universities, UC has both academic and nonacademic employees. The academic employees (teaching faculty, researchers, librarians, academic administrators, etc.) constitute about 30 percent of UC's workforce; nonacademic employees (staff) constitute the remaining share of the workforce. This chapter describes UC's nonacademic workforce in demographic terms: size and structure, age distribution and compensation relative to market levels.

As of fall 2015, UC employed 143,695 nonacademic staff (or 106,087 FTE) across a wide range of occupational categories, including doctors, nurses and other health care staff; research administration and laboratory staff; student services staff; food and auxiliary services staff; maintenance and physical plant staff; and management and clerical staff.

Funding sources and the structure and composition of the staff workforce have changed significantly over the past decade. Hospital and health science funds, for example, contribute an increasingly large proportion of staff salaries, while general funds, which consist primarily of funds from the state of California together with student fees and tuition, constitute a shrinking proportion. Growth in staff personnel has been driven primarily by expansion in teaching hospitals, with additional staff growth due to increases in research activity and auxiliary enterprises, such as residence halls and food service. Consistent with an increase in UC's complexity and the dramatic proliferation of technology, the proportion of highly skilled professional staff also has increased — a shift that aligns with national trends.

Workforce strategies related to staff

In 2015, UCOP Human Resources updated the Human Resources Strategic Plan from 2010. Directed at staff, the plan focuses on employee relations, labor relations, compensation and benefits. The University is striving to construct programs that provide value and engage its employees. In the systemwide staff engagement survey, employees

cited competitive compensation as a key concern. Recognizing that quality personnel are essential for maintaining excellence, one of the University's human resource initiatives is to implement a systemwide classification system for all staff which would organize positions into functional groupings, assign market-based salary structures for competitive pay opportunities, and provide well defined jobs to support employees' career development efforts. UC is currently emphasizing talent management, focusing on staff hiring, development, deployment and retention.

Looking forward — staff renewal challenges

Inconsistencies in delivering an annual salary program have put pressure on UC's competitive position in various employment markets. While in recent years the frequency of annual increase programs has improved, UC is still experiencing the effects of past years when an increase program could not be funded. With more than one-third of UC staff age 50 or older, UC will likely face talent management challenges from its multi-generational workforce and increased turnover rates due to an impending retirement bubble and a continuing economic recovery that may provide alternative opportunities for staff.

For more information

UC's Strategic Plan:

http://ucop.edu/human-resources/_files/hr-strategic-plan.pdf

Staff Workforce Profiles:

<http://ucop.edu/institutional-research-academic-planning/data-reports/key-reports/workforce-profiles.html>

UC Regents Diversity Policy, 2007:

<http://regents.universityofcalifornia.edu/governance/policies/4400.html>

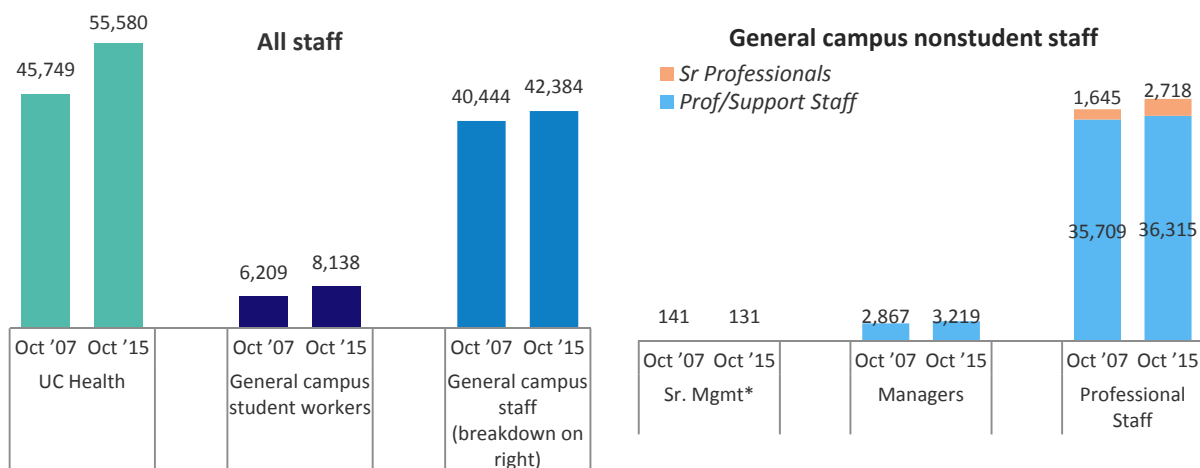
Staff Engagement Survey Results:

www.ucop.edu/staff-assembly/resources/2012-staff-engagement-survey-results.html

6.1 STAFF WORKFORCE

Staff growth has been greatest in UC Health, encompassing the teaching hospitals and health science education programs. Since 2007, UC Health has seen staffing increase by almost 20 percent. In contrast, general campus staff levels (excluding student employees) grew by less than 5 percent. This is less than a third of the 18 percent increase in general campus student enrollment over this same period.

6.1.1 Staff FTE (full-time-equivalent) workforce growth over time Universitywide Fall 2007 and 2015



Source: UC Corporate Personnel System

* In 2010, certain academic administrators (mostly deans) were moved from the Senior Management category to the Academic category in recognition that their primary role is academic. Eighty-one Senior Management FTE are excluded from the Oct '07 General Campus nonstudent staff figure to provide accurate comparisons between 2007 and 2015. All staff measures in this chapter exclude Lawrence Berkeley National Laboratory, Hastings School of Law and Associated Students UCLA.

UC operates five teaching hospitals as well as schools of medicine, dentistry, nursing and other health sciences education and research programs. Together these UC Health hospitals and academic programs have experienced proportionally greater growth in staffing since 2007 than the remaining components of UC (including the Office of the President), which are considered “General Campus.”

Teaching hospitals and other health sciences programs accounted for nearly three-quarters of the nonacademic staff increase between 2007 and 2015 (9,831 FTE); this growth is largely related to increased demand for medical care. General Campus nonstudent staff and student employees each accounted for less than one-fifth of the growth (1,940 and 1,929 FTE, respectively). The growth in student employees is largely related to the

additional 36,000 students UC has enrolled on the general campuses over this period. About half of the student employees in staff positions are work-study students who work on-campus as part of their financial aid package.

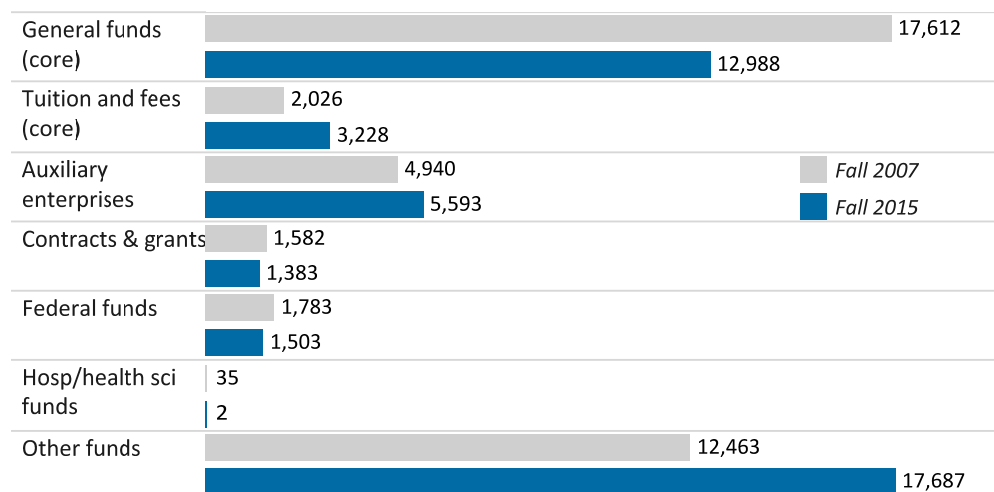
The growth in Senior Professional staff is a reflection of the professionalization of UC’s workforce, similar to changes seen in the wider labor market over the past seven years. This has resulted in growth of more analytical and technical jobs and a reduction in the clerical workforce. The other area with significant growth is professional support staff, which includes such diverse occupations as nurses, computer analysts and technicians, administrative and financial analysts, clerical assistants, groundskeepers, food service workers and many others.

6.1 STAFF WORKFORCE

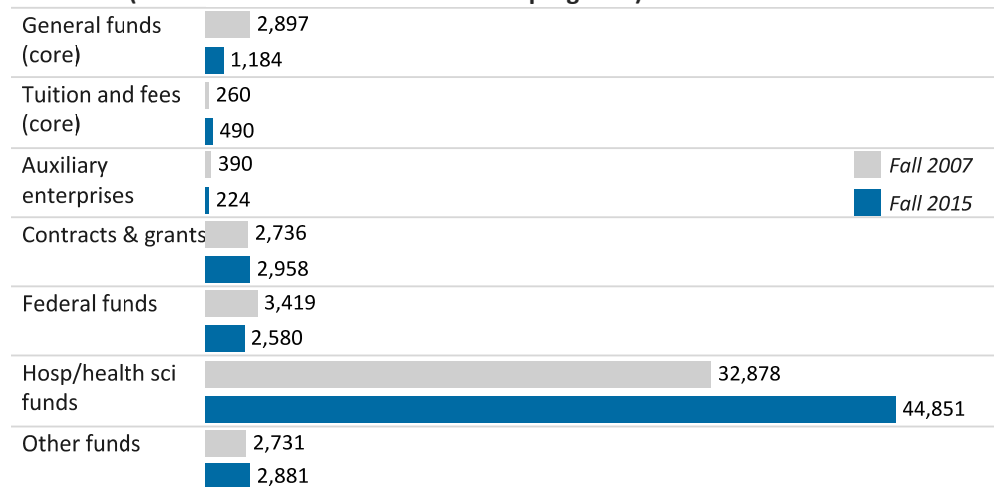
Since 2007, the number of staff supported by general funds has fallen as state funding for the University has decreased. At the same time, the number of staff funded by hospital and health science sources has increased.

6.1.2 Nonstudent staff FTE (full-time-equivalent) workforce, by fund source General campus and UC Health Fall 2007 and 2015

General campus nonstudent staff (includes ANR* and UCOP)



UC Health (medical centers and health science programs)



Source: UC Corporate Personnel System. Not shown are general campus staff who are also students (6,209 FTE in 2014).

*ANR is the Division of Agriculture and Natural Resources.

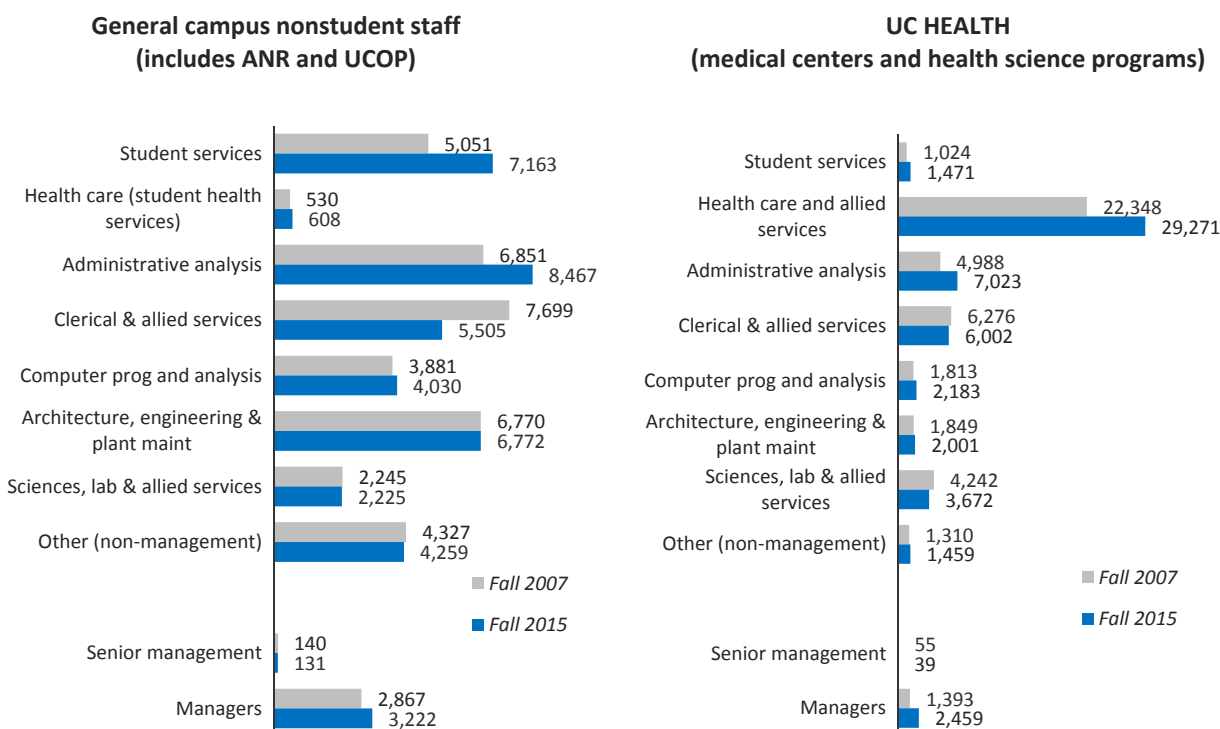
Between October 2007 and 2015, staff growth was concentrated among teaching hospital employees, due to increasing demand for health care, most notably growth in Medi-Cal and other government programs. These employees are primarily supported by hospital and health science funds.

Most of the increase in campus employees is attributable to growth in numbers of staff supported by noncore funds, such as health science funds, research funds, federal support, auxiliaries and other sources.

6.1 STAFF WORKFORCE

Over the past 11 years, changing technology has led to a need for more staff with higher-level skills and fewer staff with lower-level skills.

6.1.3 Nonstudent staff FTE, by occupation group Universitywide Fall 2007 and 2015



Source: UC Corporate Personnel System¹

Technological advances have had a marked effect on staffing needs as computers increasingly perform tasks once requiring significant time and manual effort. Technology also has created a need for more staff with higher-level skills, such as information technology expertise and fiscal management experience. This is reflected above in the decline of clerical staff FTE and the growth of administrative analysis FTE.

In the past seven years, student enrollment has also grown, with a corresponding increase in staff supporting student services.

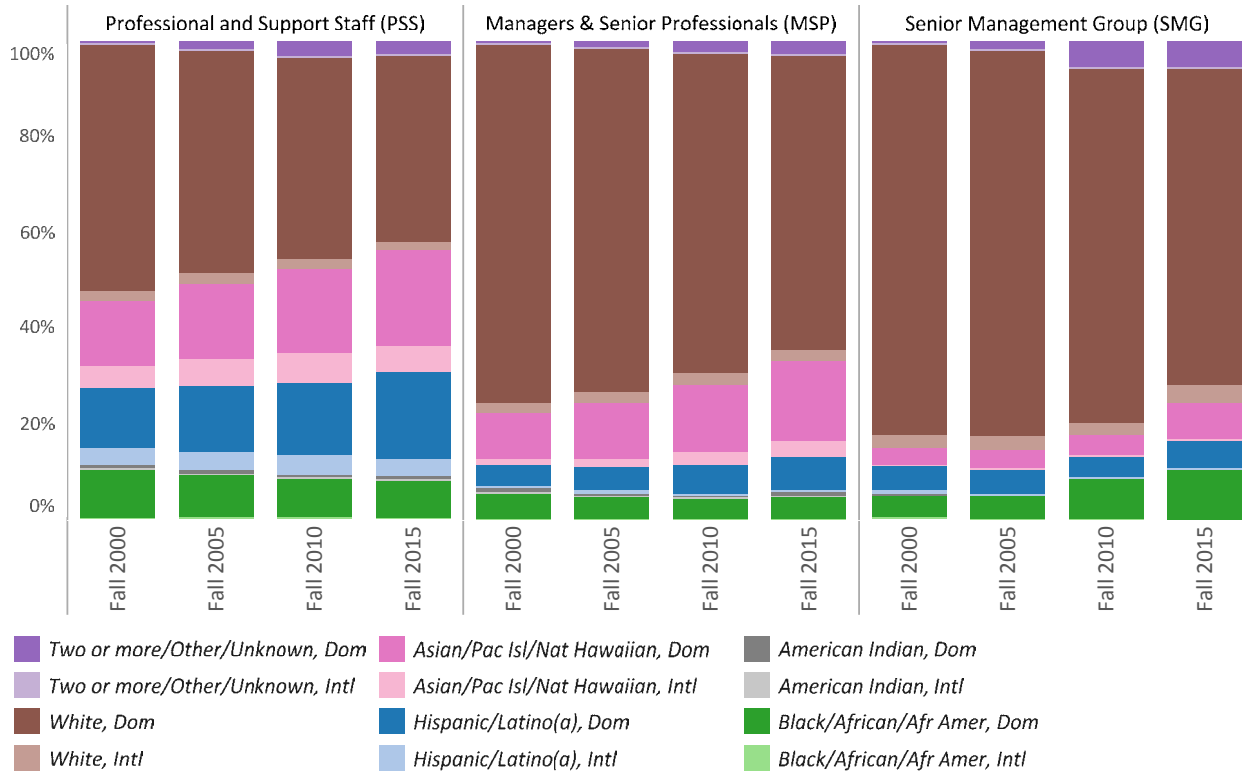
The number of health care employees has grown faster than any other group. Health care staff in the medical centers are funded from patient services revenues.

¹ Not shown are general campus staff members who are also students (8,138 FTE in 2015). Eighty-one and 9 Senior Management FTE are excluded from the Oct '07 General Campus and UC Health nonstudent staff figures, respectively, to provide consistent comparison between 2007 and 2014.

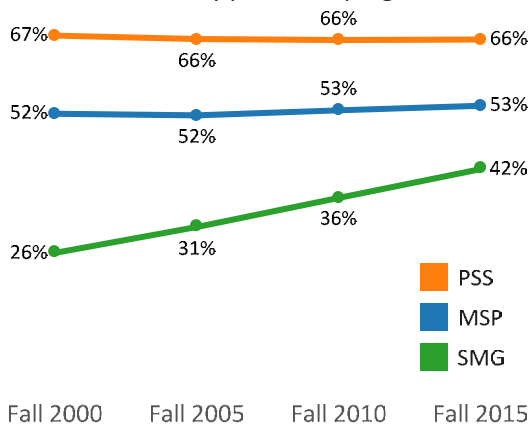
6.1 STAFF RENEWAL

Over the past 15 years, the proportion of nonwhite staff has grown at all staffing levels; however, the proportion of nonwhite staff is lower in more senior positions. Female representation at the PSS and MSP levels has stayed flat, while it has grown at the SMG level.

6.1.4 Racial/ethnic and gender distribution of nonstudent career staff Universitywide Fall 2000, 2005, 2010 and 2015



Career female staff by personnel program



Source: UC Corporate Personnel System

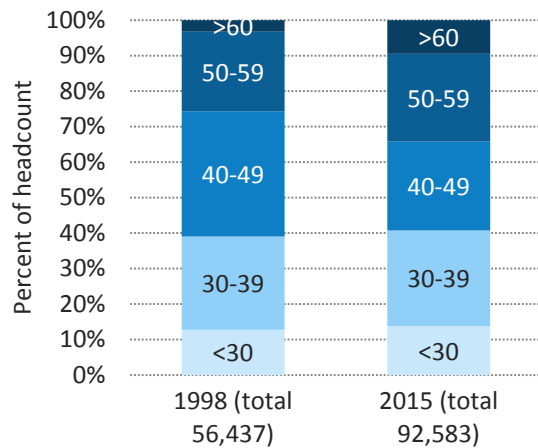
UC values cultivating a work environment inclusive of people from all communities. The University has sought to improve representation of domestic racial/ethnic groups that have been historically underrepresented. Over time, the University has moved towards that goal as employment of underrepresented racial/ethnic groups (African American, American Indian and Hispanic/Latino(a)) has grown over the past 15 years. However, ethnic minorities are still underrepresented, particularly in the MSP and SMG categories.

The percentage of female employees at UC has stayed relatively flat at both the PSS and MSP levels, while it has grown steadily in the SMG category.

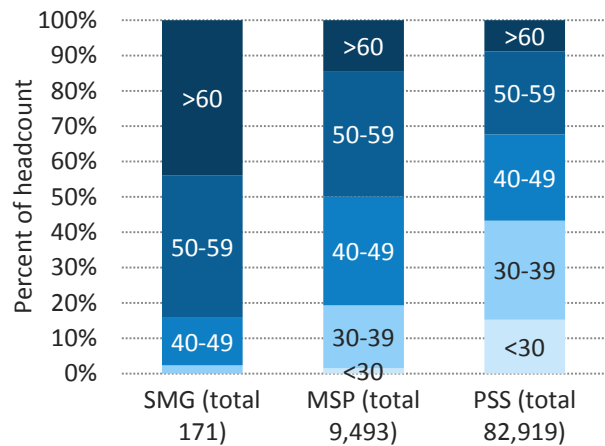
6.2 STAFF RENEWAL

Overall, the average age of the UC staff career workforce was higher in 2015 than in 1998. In 1998, 26 percent of career staff were age 50 or older; in 2015, 35 percent of career staff were age 50 or older.

6.2.1 Age distribution of career staff
Headcount
Universitywide
Fall 1998 and 2015



6.2.2 Age distribution of career staff by personnel program
Headcount
Universitywide
Fall 2015



Source: UC Corporate Personnel System

Since 1998, the age distribution of UC's staff has shifted. Previously, most career staff were between 40 and 49 years of age; by 2014 the number of staff in the 30 to 39 and the 50 to 59 year ranges had surpassed those in the middle. At the same time, the number of staff 60 and older has increased considerably. Questions of the preservation and transmittal of institutional memory and of succession planning have become more important in the current environment.

The Senior Management Group (SMG) and the Managers and Senior Professionals (MSP) group have higher average ages because positions in these personnel programs generally require more experience and entail a higher level of responsibility. The Professional and Support Staff (PSS) group contains a lower proportion of older staff personnel.

6.2 STAFF RENEWAL

While many staff members are nearing retirement eligibility, less than 5 percent of staff have the combination of age and years of service to qualify for the maximum retirement benefit factors.

6.2.3 UC retirement program active career staff headcount by age and years of service (YOS) Universitywide Fall 2015

	Professional and Support Staff (PSS) [NOTE SCALE]					Managers and Senior Professionals (MSP) and Senior Management Group (SMG)				
	Age					Age				
	0-29	30-39	40-49	50-59	60+	0-29	30-39	40-49	50-59	60+
20+ years		4	1,306	5,242	1,951			299	1,205	509
15 to 19.99		468	2,859	3,128	1,236		59	563	591	209
10 to 14.99	14	2,992	4,888	4,031	1,653		289	676	610	272
0 to 9.99	13,775	21,159	11,982	7,714	2,755	176	1,841	1,864	1,367	659

LEGEND

BLUE Not eligible to retire and/or not eligible to retire with health benefits (under age 50 and/or <10 YOS)

GREEN Eligible to retire with reduced age factor and/or less than maximum UC retiree health benefit contribution (age 50–59, 10–19 YOS)

RED Eligible to retire with maximum age factor and maximum UC retiree health benefit contribution (age 60+, 20+ YOS)

Source: UC Retirement System

UC Retirement Plan benefits are designed so that the highest benefits commence at age 60 for employees hired before July 1, 2013. Actual benefits depend on total years of service and highest average compensation. To be eligible for the maximum UC contribution for retiree health benefits, a retiring employee must have 20 years of service.

UC monitors the number and proportion of staff nearing or at retirement age because replacing experienced staff is a critical component of

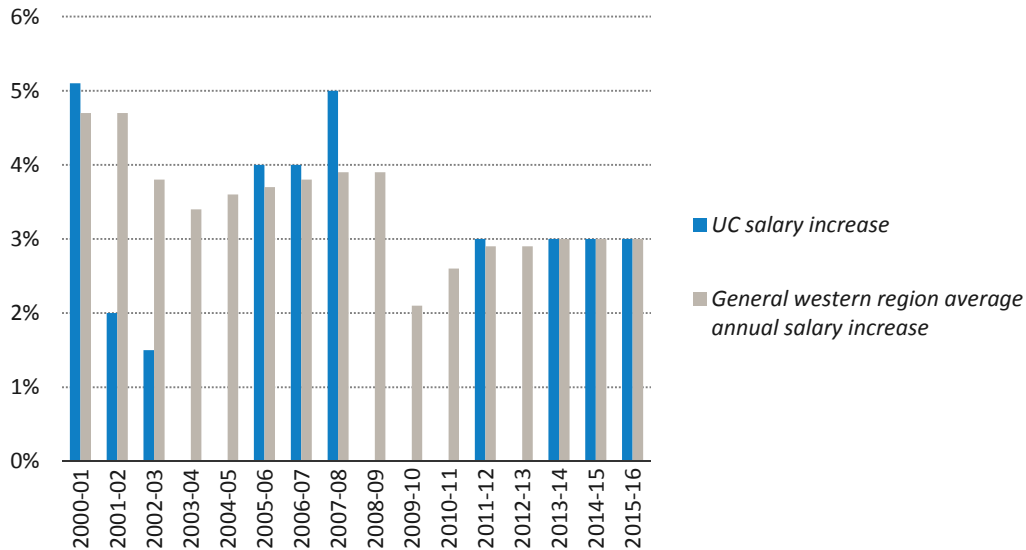
managing staff resources. About 2 percent of PSS staff and almost 5 percent of management staff are age 60 or above with 20 or more years of service. This is somewhat higher than the ratios of ten years ago.

The proportion of staff who are eligible to retire but with less than the maximum age factor and/or eligibility for UC retiree health benefit contribution has grown slightly since 2004.

6.3 STAFF SALARY GROWTH

Growth rates for staff salaries are below market rates in the Western region benchmark.

6.3.1 UC base salary increases compared with inflation and market averages Universitywide 2000–01 to 2015–16



Source: UC Human Resources¹

In recent years, UC salary increases have been on par with the “Western U.S. Region” data as reported in the “WorldatWork Salary Budget Survey” conducted by the WorldatWork Human Resources Association. However, due to several years with zero salary increases, UC salaries still lag behind the WorldatWork benchmark. UC salaries have increased an average of 2.1% annually over the last fifteen years, while the WorldatWork benchmark has been 3.4%.

Going forward, UC employees are now contributing more to health care costs and to the UC retirement system, which could further erode the competitiveness of UC total remuneration compared with the regional labor market.

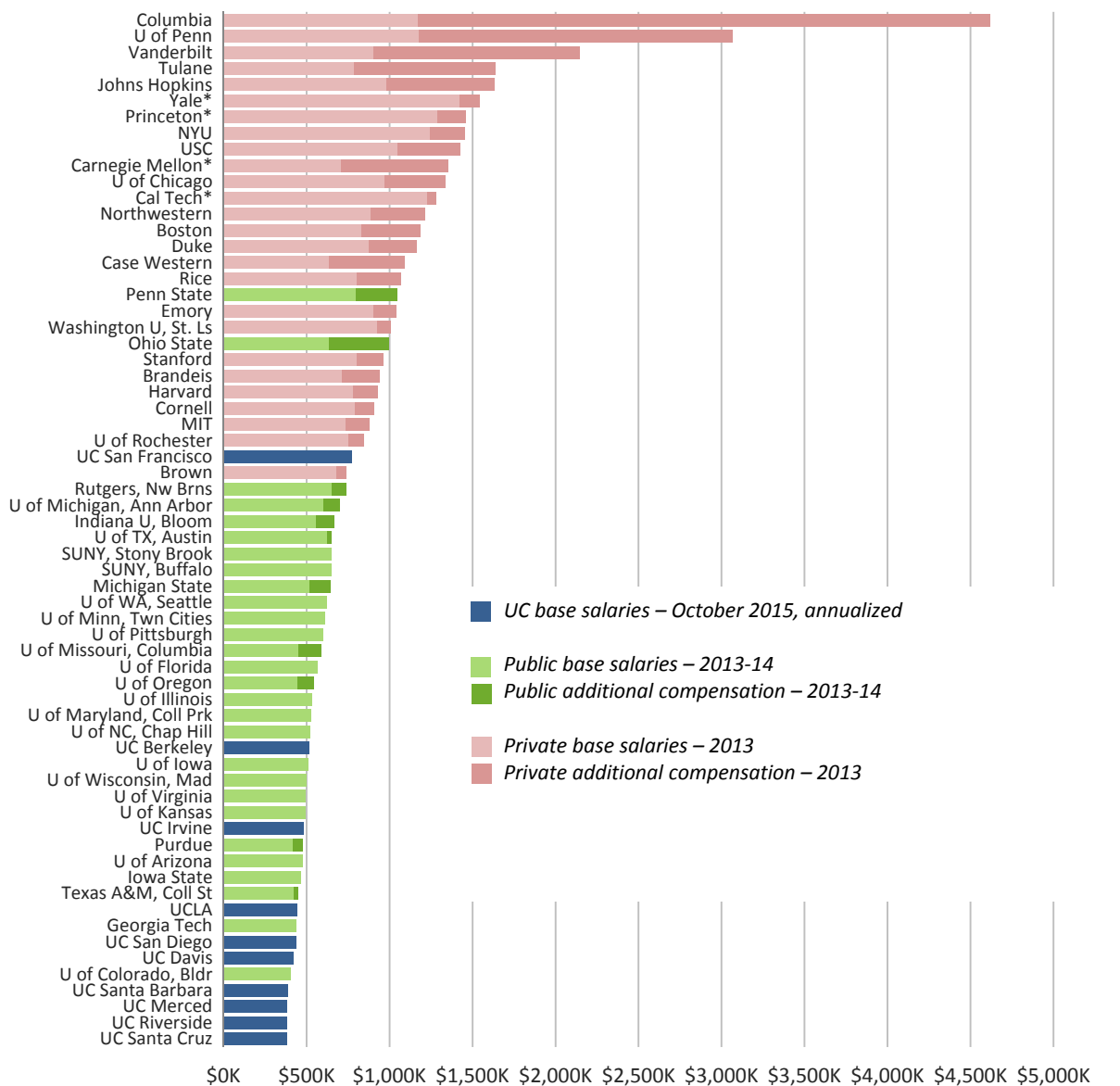
The chart above presents comparative data for base salaries only.

¹Excludes medical centers. Nonrepresented staff only.

6.4 UNIVERSITY LEADER SALARIES

UC chancellors place among the lowest-paid when compared to their Association of American Universities (AAU) peers, despite recent UC salary increases.

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



Source: *The Chronicle of Higher Education Executive Compensation Report* and institutional data sources¹

UC Chancellors place among the lowest-paid university leaders when compared with their AAU peers. This placement of UC chancellors remains unchanged from the previous analysis in June 2015, despite recent salary increases. Nine UC

chancellor salaries fall among the lowest third in this comparison group. UC San Francisco, an exclusively graduate health science campus, is the only exception. Seven UC chancellors are among the ten lowest-paid leaders within this comparison group.

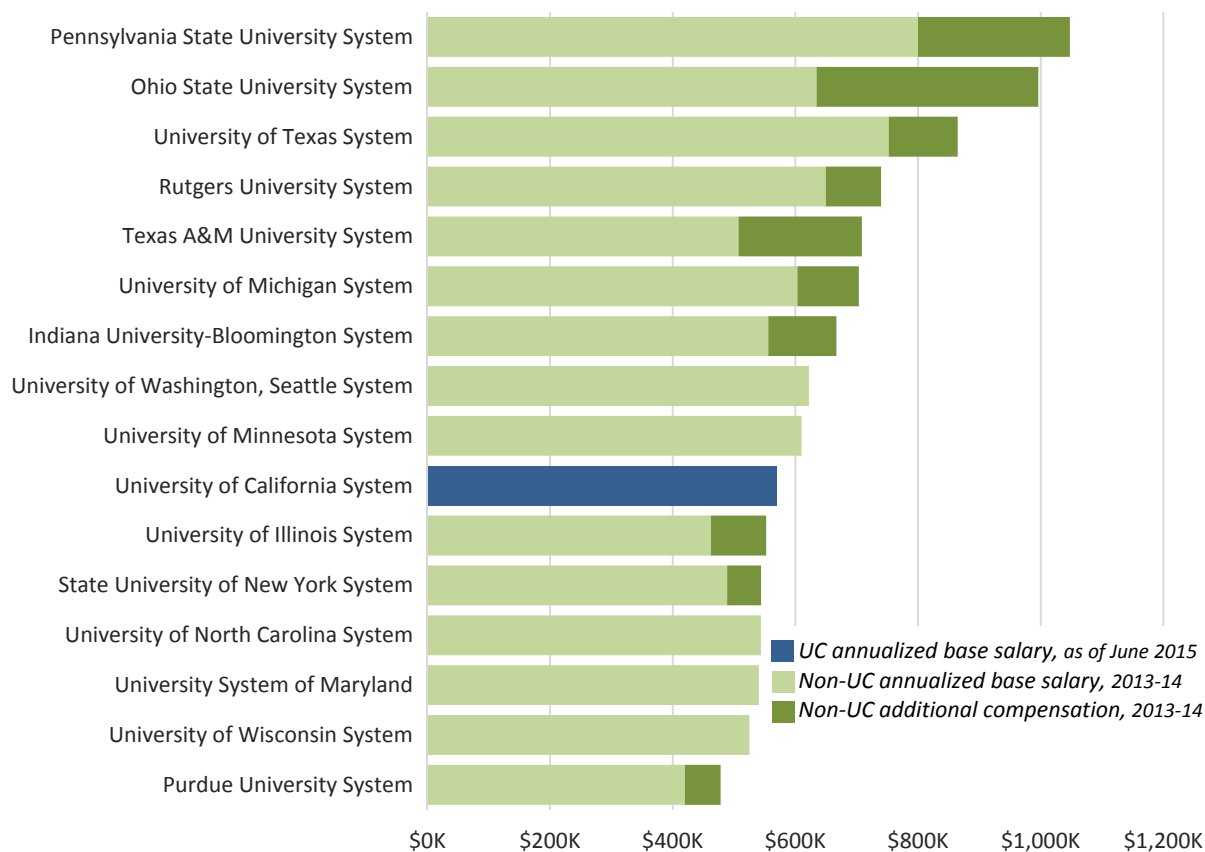
¹ Base salary is the minimum salary an employee receives. Additional compensation includes other pay (e.g., bonus & incentive, severance and deferred paid out). It does not include deferred compensation set aside. UC chancellors do not receive additional compensation. As per Chronicle instructions, auto allowances are not included.

* Due to change of leadership at four private institutions, the reported partial-year compensation was annualized for this report.

6.4 UNIVERSITY LEADER SALARIES

The UC President's salary ranks 10th among 16 public university systems.

6.4.2 Annualized base salaries and additional compensation UC and comparison public institutions



Source: *The Chronicle of Higher Education* and the Institutional Research & Academic Planning unit of the UC Office of the President¹

The salary for the President of the UC system places 10th within 16 selected comparable research university systems with similarity to UC. For the purposes of this report, a system leader is a chancellor or president who administers or coordinates multiple campuses.

Additional compensation includes forms of pay such as lump sum compensation for special assignment, incentive pay and deferred compensation and bonuses are often added to the base salary an employee receives. Deferred compensation (set aside) is not included.

¹ Base salary is the minimum salary an employee receives. The UC President does not receive additional compensation. Note: Where there was a change of chancellor/president during the course of the year, an annualized base salary was calculated from the salary reported for the partial year.





Chapter 7. Diversity

Goals

The University of California is dedicated to fostering a university community that provides leadership for constructive participation in a diverse, multicultural world. The University has a long history of 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.

<http://policy.ucop.edu/doc/4000375/Diversity>

Summary of findings

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

- A growing number of Hispanic/Latino(a) undergraduates

- Increasing undergraduate graduation rates across all 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) faculty
- Slow but steady progress in the percentage of underrepresented graduate academic students
- An increasingly diverse career staff workforce

At the same time, however, challenges include:

- Low enrollment of African American and American Indian undergraduate students
- Low proportion of female and underrepresented faculty compared to availability pools in most disciplines (presented in Chapter 5 of this report)
- Lower feelings of being respected reported by undergraduates of historically disadvantaged groups
- The graduation gap between underrepresented and White and Asian undergraduates (presented in Chapter 3 of this report)

Evaluating diversity

UC's assessment of diversity can be evaluated a variety of ways: current demographic characteristics and trends of its students, faculty and staff; policies and activities that promote equity and inclusion; and survey data that reveal perceptions of campus climate and respect.

The indicators in this chapter present an overview of trends for incoming freshmen and transfer students, along with trends in graduate academic and professional programs. This information feeds into a broad overview of the University community — students, faculty and staff — by race/ethnicity and gender.

Trend data illustrate growing proportions of underrepresented and international students in the undergraduate population, more so for freshman

than transfer entrants. Over the last 15 years, the proportion of Hispanic/Latino(a) undergraduates has grown tremendously, reflecting the growing number of Hispanic/Latino(a) students in California and improved high school graduation rates. Four UC campuses (Riverside, Santa Cruz, Merced and Santa Barbara) are designated by the federal government as Hispanic-Serving Institutions (HSIs). UC Davis and UC Irvine are also emerging HSIs.

Among graduate academic students, underrepresented populations show slow and steady increases across disciplines, with growth in international students generally limited to physical science and engineering. Female students constitute the majority in all disciplines except for physical science and engineering. Graduate professional programs show similar growth patterns for underrepresented and international students, with variation by discipline. Education programs have a larger proportion of underrepresented students, and business and other professional programs have growing international populations. The proportion of female students is trending slightly downward but remains around 50 percent or higher for all disciplines except business.

For staff, the proportions of nonwhites and females in Managers and Senior Professional (MSP) and Senior Management Group (SMG) positions are smaller than their proportions in Professional & Support Staff (PSS) positions. The proportion of females among ladder-rank faculty is lower than proportions among other academic employee groupings.

Surveying students about diversity on campus

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

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 groups, Muslim students are less likely to feel respected. LGBTQ students also are less likely to feel respected. Along the political spectrum, students identifying as having conservative political beliefs are less likely to feel respected.

Diversity indicators elsewhere in this report

Indicators for graduation rates for entering freshmen and entering undergraduate transfers by race/ethnicity are presented in Chapter 3 — Undergraduate Student Success.

Indicators for new faculty hiring compared to national availability pools for underrepresented groups and women are presented in Chapter 5 — Faculty and Other Academic Employees.

Looking forward—diversity initiatives

UC devotes considerable resources to developmental outreach, which involves extensive academic and college preparation support for more than 100,000 K-12 and community college students. Of the high schools served by UC's systemwide programs, 70 percent are among the lowest-performing schools in the state. Program participants have higher rates of enrollment in the California public college segments and participants who are accepted to UC enroll at higher rates than do their peers, with 61 percent of UC academic preparation participants completing all courses required for UC and/or CSU eligibility in comparison to an average of 30 percent of their peers who did not participate (based on an average eligibility rate for the past five years, 2009 to 2014). In 2013, the enrollee yield of Hispanic/Latino(a) program participants — the ratio of students admitted to UC who actually enroll — for all participants in UC academic preparation programs is higher (64 percent vs. 59 percent) than the enrollee yield for all California high school graduates who are admitted and enroll. African American students who participated in a UC college preparation program were also more likely to enroll at a UC campus than were their peers who did not participate (55 percent compared to 52 percent).

The UC-HBCU Initiative improves diversity and strengthens graduate programs by investing in relationships between UC campuses and Historically Black Colleges and Universities (HBCUs). Since its inaugural year (2012), more than 230 HBCU scholars have participated in the program, which offers faculty-led summer research opportunities and year-round mentoring. More than a third of summer research interns have chosen to apply to UC for graduate education, and 20 Ph.D. and four master's degree students have enrolled at UC as a direct result of the program. The current yield rate for UC of UC-HBCU participants who apply to and are admitted to a UC graduate program is 89 percent.

The University has increased its investment in programs that support new scholars in all fields whose teaching, research and service will contribute to diversity. Since its inception in 1984, more than 180 former President's Postdoctoral Fellows have received UC tenure-track appointments. And of those Fellows appointed to the UC faculty since 1995, 99 percent of those reviewed for tenure have received tenure. In early 2014, President Napolitano committed \$5 million in one-time funds to support its goals. Funds were distributed in three areas: 1) hiring incentive start-up packages; 2) salaries for additional faculty hires; and 3) resources for training, mentoring and development. With the number of applicants (now over 650 per year) and fellows (15–20 appointed annually) rising in the last three years, the additional funds from President Napolitano's initiative will support even more departments that recruit PFP fellows into faculty positions at UC.

For more information

May 2016 UC Annual Accountability Sub-Report to the Regents on Diversity:

<http://regents.universityofcalifornia.edu/regmeet/may16/e3.pdf>

March 2014 UC Campus Climate Regents Item:

<http://regents.universityofcalifornia.edu/regmeet/mar14/e2.pdf>

At the time that this report was being finalized (June 2016), there were 17 products in the UC Information Center (www.universityofcalifornia.edu/infocenter) on diversity topics. Here are links to key products in each area:

Faculty and academic appointees –

www.universityofcalifornia.edu/infocenter/diversity-ucs-faculty-and-academic-appointees

Personnel –

www.universityofcalifornia.edu/infocenter/personnel-data

Undergraduate admissions –

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

Graduate admissions –

www.universityofcalifornia.edu/infocenter/academic-professional-doctoral-and-academic-master-s-admissions

Degrees awarded –

<http://www.universityofcalifornia.edu/infocenter/degrees-awarded-data>

7.1 UNDERGRADUATE DIVERSITY TRENDS

Each year, UC enrolls a growing number of undergraduates from underrepresented groups (African American, American Indian or Hispanic/Latino(a)); entering freshmen are somewhat more likely to be from an underrepresented group than entering transfer students.

7.1.1 Racial/ethnic distribution of new undergraduates Universitywide Fall 1999 to fall 2015



Source: UC Information Center Data Warehouse

A number of factors may help explain why entering freshmen are somewhat more diverse than entering transfer students. Among the population of high school graduates sufficiently prepared to qualify for UC, white students are more likely to be from high-income families and to choose private and out-of-state colleges, while Asian American and Hispanic/Latino(a) students are more likely to

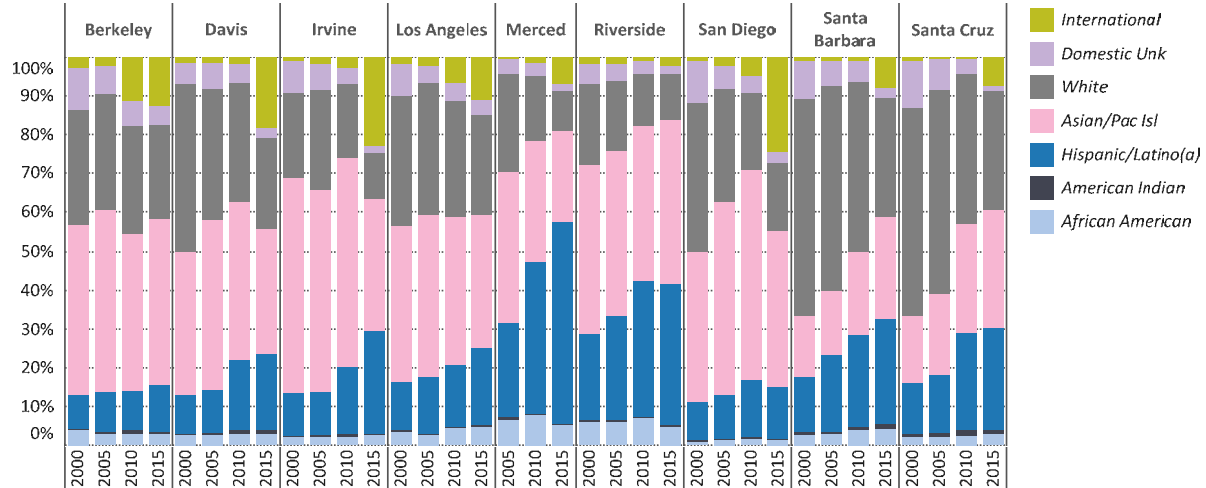
choose UC. Part of the Transfer Action Team (discussed at more length in Chapter 1) initiative's charge is to look for opportunities to expand outreach to California community colleges with greater diversity of transfer-eligible students who currently do not apply to UC.

As shown on the next page, campuses vary in their racial/ethnic diversity.

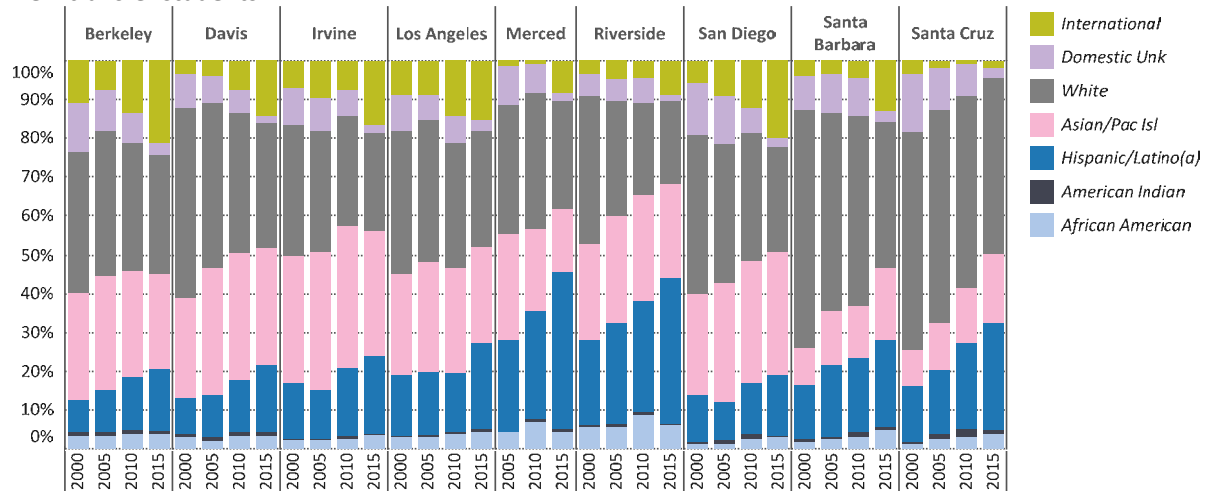
7.1 UNDERGRADUATE DIVERSITY TRENDS

7.1.2 Racial/ethnic distribution of new undergraduates UC campuses Fall 2000 to fall 2015 (selected years)

New freshmen



New transfer students



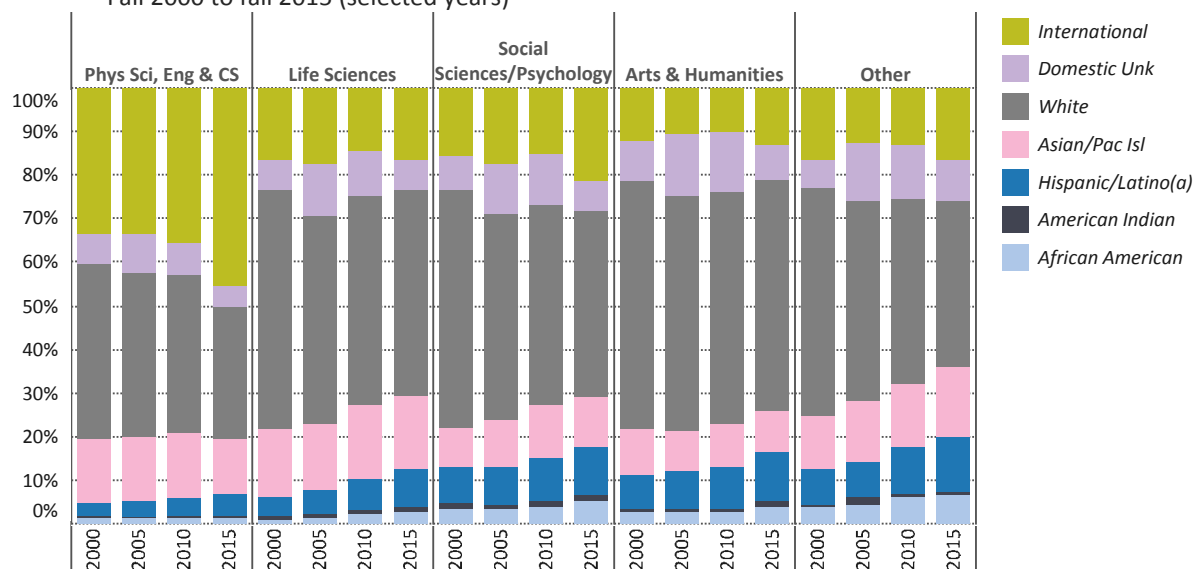
Source: UC Information Center Data Warehouse

7.2 GRADUATE STUDENT DIVERSITY TRENDS

UC is making slow but steady progress in diversifying the racial/ethnic makeup of its graduate academic students.

7.2.1 Racial/ethnic distribution of graduate academic students by discipline

Universitywide
Fall 2000 to fall 2015 (selected years)



Source: UC Information Center Data Warehouse¹

Enrollment of underrepresented racial/ethnic groups (African American, American Indian and Hispanic/Latino(a)) in UC's graduate academic programs has grown over the past decade. In 2013–14, UC awarded academic doctoral degrees to underrepresented racial/ethnic groups in higher proportion than did its peers, except in the social sciences.

Proportion of underrepresented racial/ethnic groups receiving academic doctoral degrees

2013–14	Other AAU		AAU
	UC	Public	Private
Social sciences	11%	11%	8%
Arts & humanities	11%	7%	8%
Life sciences	9%	6%	8%
Physical sciences	8%	3%	3%
Engineering & computer science	4%	4%	4%

Source: IPEDS

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

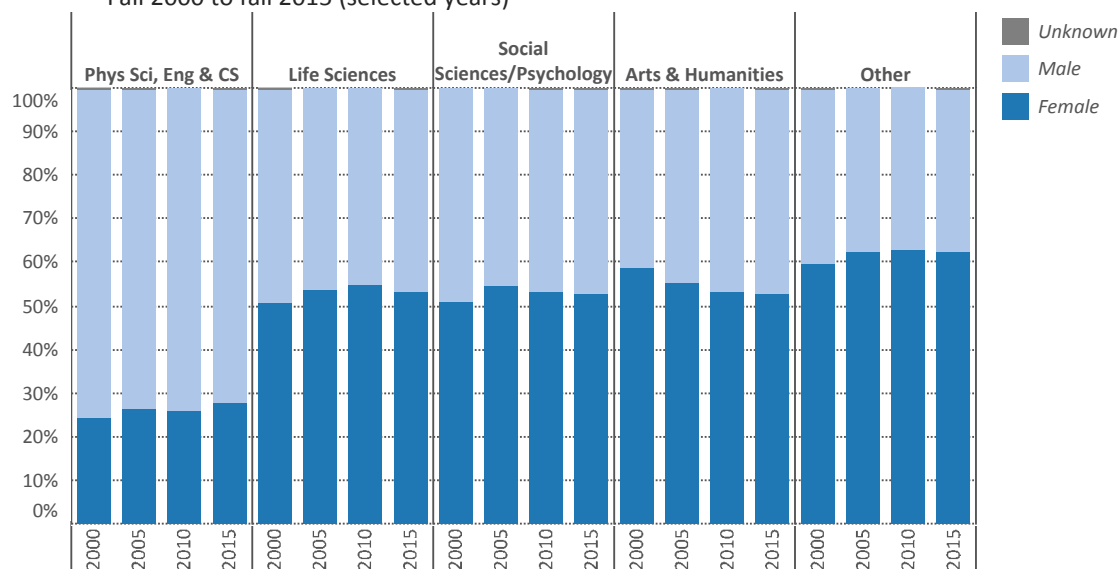
Because recent Ph.D.s constitute the pool for new faculty, a critical means for increasing the diversity of the faculty is to increase the diversity of the pool of doctoral degree recipients.

¹ "Other" disciplines represent about 12 percent of degrees awarded and include interdisciplinary areas (3 percent), academic degrees in professional fields such as a Ph.D. in education (4 percent) or health sciences (3 percent) and miscellaneous areas such as criminology.

7.2 GRADUATE STUDENT DIVERSITY TRENDS

Overall, 42 percent of UC’s graduate academic students are women, compared with 53 percent of its undergraduates.

7.2.2 Gender distribution of graduate academic students by discipline Universitywide Fall 2000 to fall 2015 (selected years)



Source: UC Information Center Data Warehouse¹

The proportion of graduate academic students who are women varies by discipline. Half or more of the graduate academic students in the life sciences, social sciences and humanities are women, compared with about one-quarter in the physical sciences, engineering and computer science.

Overall, the proportion of degree recipients who are women by broad discipline group is comparable to UC’s AAU peers.

Proportion of women receiving academic doctoral degrees

2013–14	UC	Other AAU	
		Public	AAU Private
Social sciences	54%	58%	52%
Arts & humanities	54%	53%	51%
Life sciences	51%	51%	53%
Physical sciences	30%	30%	30%
Engineering & computer science	22%	21%	25%

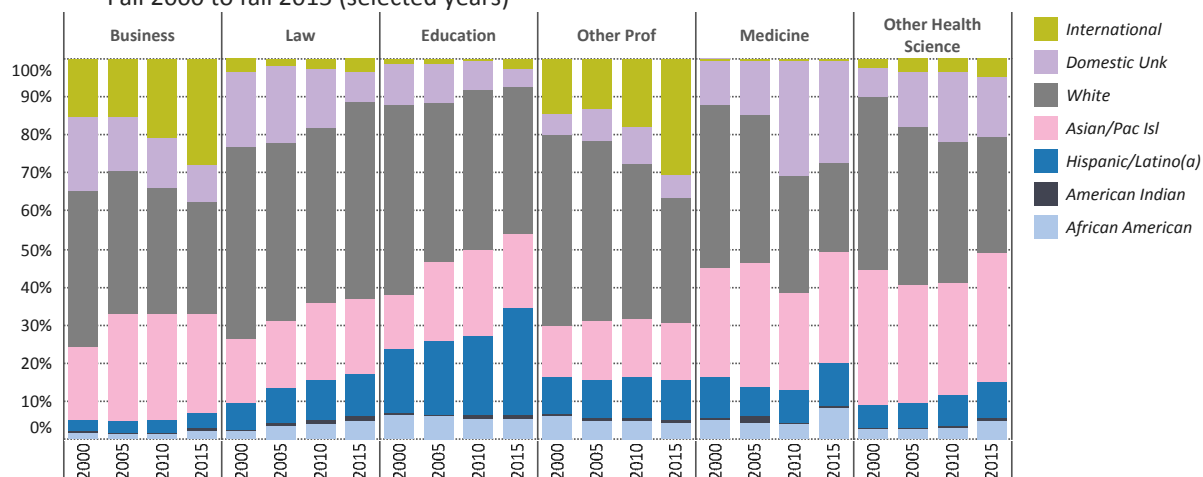
Source: IPEDS

¹ “Other” disciplines include interdisciplinary areas, miscellaneous fields such as criminology, and academic degrees in professional fields such as a Ph.D. in business or law.

7.2 GRADUATE STUDENT DIVERSITY TRENDS

The proportion of students from underrepresented racial/ethnic groups enrolled in UC’s professional degree programs varies widely — lowest in business and highest in education.

7.2.3 Racial/ethnic distribution of graduate professional degree students, by discipline Universitywide Fall 2000 to fall 2015 (selected years)



Source: UC Information Center Data Warehouse¹

UC awards a greater share of its education, medicine and other health science professional degrees to students from underrepresented racial/ethnic groups compared with its AAU peers, but a smaller share of its business degrees.

Proportion of underrepresented students receiving professional degrees, 2013–14

	UC	Other AAU Public	AAU Private
Education	25%	12%	17%
Medicine	17%	10%	13%
Other health science	16%	11%	11%
Law	13%	13%	14%
Business	6%	8%	7%

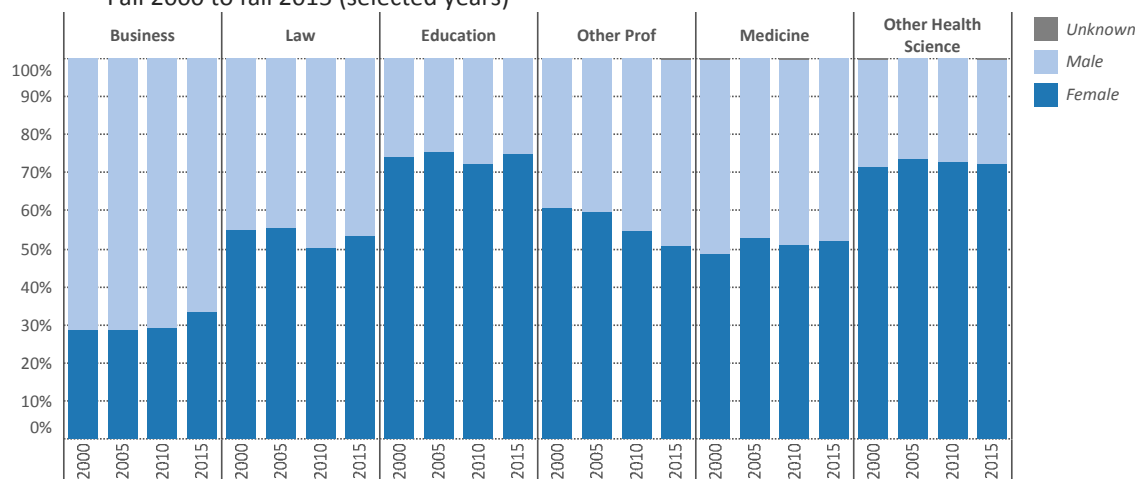
Source: IPEDS

¹ “Other health science” includes dentistry, nursing, optometry, pharmacy, public health and veterinary medicine; “Other prof” includes programs such as architecture, library and information science, public policy and social welfare, and other small programs. Medical residents are not included.

7.2 GRADUATE STUDENT DIVERSITY TRENDS

The proportion of women enrolled in UC’s professional degree programs varies widely and is trending somewhat downward in nearly all fields.

7.2.4 Gender distribution of graduate professional degree students by discipline Universitywide Fall 2000 to fall 2015 (selected years)



Source: UC Information Center Data Warehouse¹

The proportion of women enrolled in UC’s professional degree programs has trended slightly downward in all discipline areas except for business.

As shown in the table to the right, UC graduated roughly the same proportion of women in professional degree programs as the comparison AAU peers — somewhat higher in law and nonmedical health sciences and somewhat lower in business.

Proportion of women receiving professional degrees, 2013–14

	UC	Other AAU Public	AAU Private
Education	73%	74%	74%
Medicine	51%	47%	50%
Other health science	72%	71%	73%
Law	50%	44%	45%
Business	34%	38%	35%

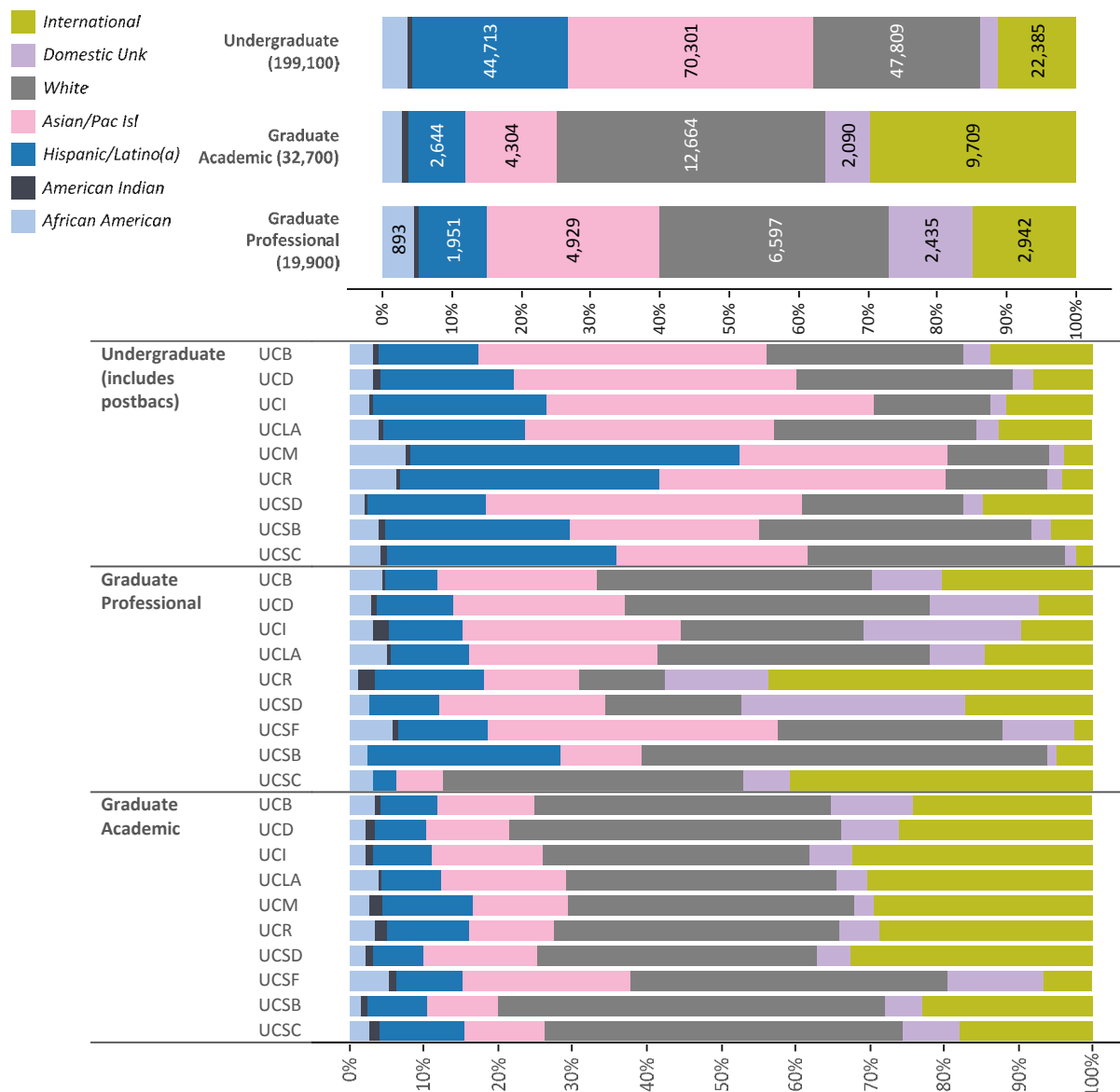
Source: IPEDS

¹ “Other health science” includes dentistry, nursing, optometry, pharmacy, public health and veterinary medicine; “Other prof” includes programs such as architecture, library and information science, public policy and social welfare, and other small programs. Medical residents are not included.

7.3 DIVERSITY OF THE UNIVERSITY COMMUNITY

Undergraduates have the highest proportion of underrepresented students. Graduate professional and academic populations have comparable representation of underrepresented groups but vary in their share of international students.

7.3.1 Racial/ethnic distribution of students Universitywide and by campus Fall 2015



UC Merced does not have any graduate professional programs at this time. Undergraduates include approximately 300 postbaccalaureate teaching credential students.

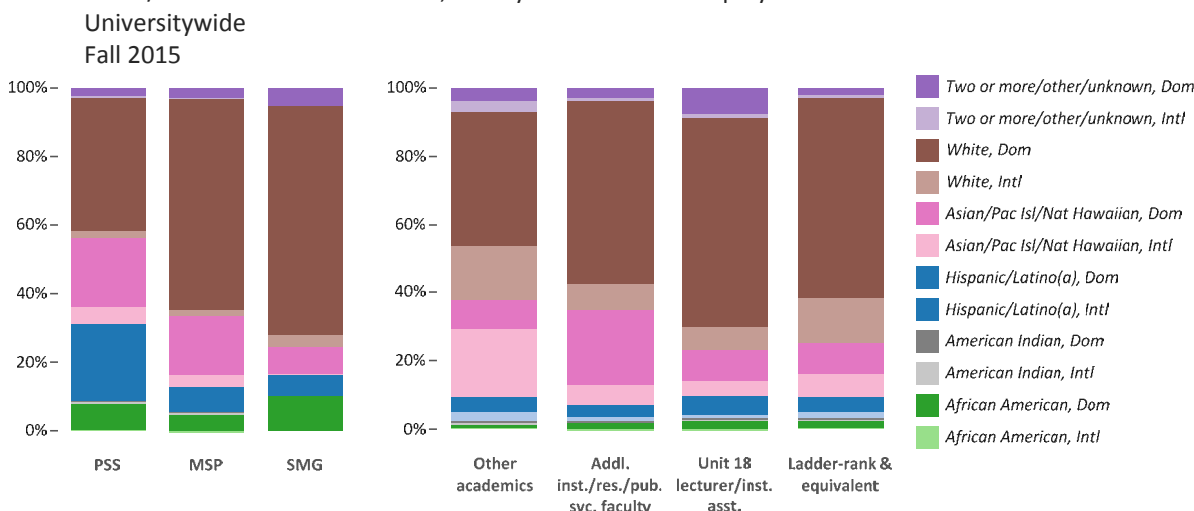
UC systemwide data shows that about a quarter of undergraduate students are from underrepresented groups. About 12 percent of graduate academic and 15 percent of graduate professional students are from underrepresented groups.

Campuses vary in the share of international students, who represent 30 percent of graduate academic and 15 percent of graduate professional students.

7.3 DIVERSITY OF THE UNIVERSITY COMMUNITY

The proportion of nonwhite staff is lower among more senior positions, and the proportion of nonwhite academics is highest among nonfaculty academics.

7.3.2 Racial/ethnic distribution of staff, faculty and academic employees



Source: UC Corporate Personnel System and UC Information Center Data Warehouse¹

UC values cultivating a work and learning environment inclusive of all communities. The University seeks to improve representation of domestic racial/ethnic groups that have been historically underrepresented. As shown below, UC is especially challenged by low representation of these groups in senior staff (MSP and SMG), academic and faculty positions.

International employees contribute to the diversity of the UC workforce. These employees bring educational backgrounds and experiences that differ from those of domestic employees. As shown below, the highest proportion of international academics is in the nonfaculty academics category, primarily due to high numbers of international postdoctoral scholars.

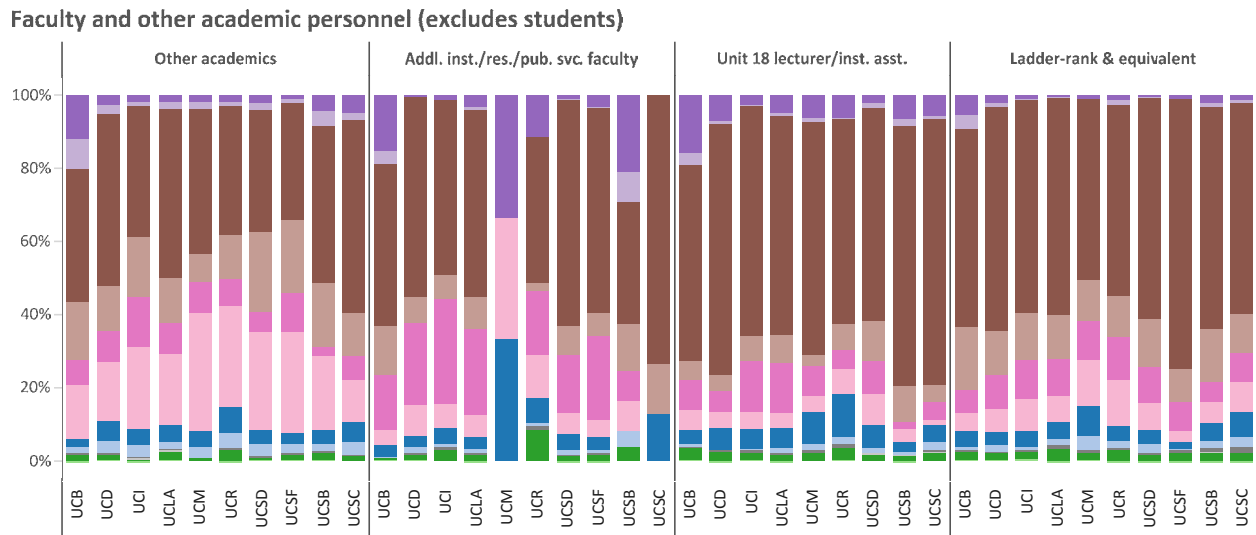
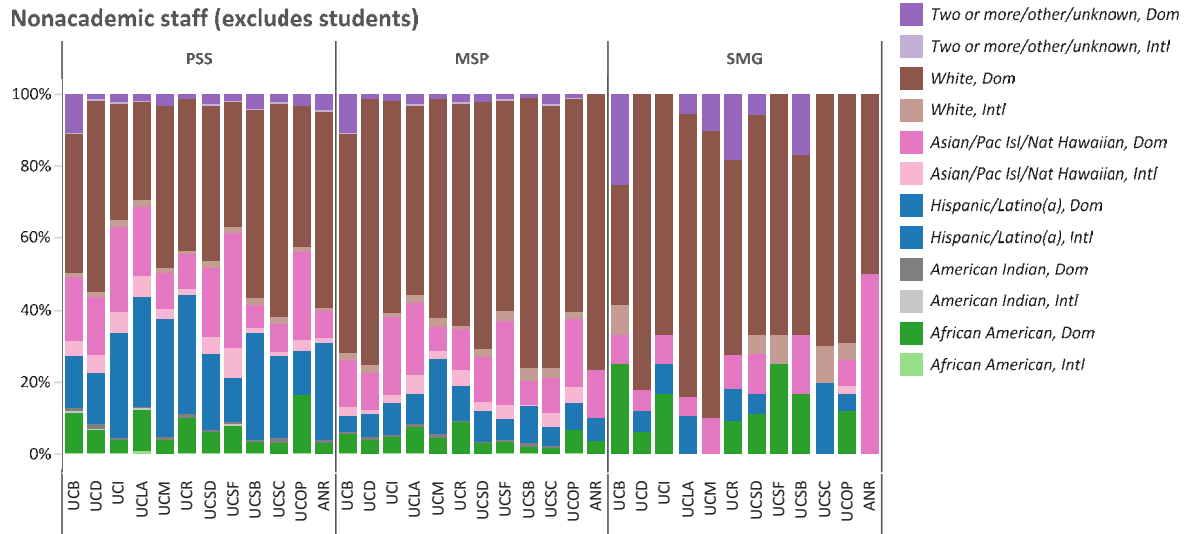
	Domestic		International
	Black/African American, American Indian, or Hispanic/Latino(a)	Asian, Pac Isl, or Nat Hawaiian	All races/ethnicities
PSS (Professional and Support Staff)	26.9%	20.0%	11.6%
MSP (Managers and Senior Professionals)	12.5%	16.9%	6.3%
SMG (Senior Management Group)	16.4%	7.6%	4.1%
Other academics	6.0%	8.2%	42.34%
Addl. inst./res./pub. svc. faculty	6.0%	21.9%	15.17%
Unit 18 lecturer/inst. asst.	8.3%	9.1%	13.92%
Ladder-rank & equivalent	7.2%	8.9%	23.33%

All percentages use the total (both domestic and international) as the denominator.

¹ International status for faculty and staff is based on citizenship status instead of IRS tax status, which was used in the 2012 Accountability Report. For more information, please see <http://regents.universityofcalifornia.edu/regmeet/jan13/e1.pdf>. The “Additional instruction/research/public service faculty” group includes professors in residence, professors—clinical and health science clinical faculty. The “Other academics” group includes only nonstudent employees and comprises many positions (e.g. librarians and administration categories) as well as academic researchers. Students are excluded in all groups.

7.3 DIVERSITY OF THE UNIVERSITY COMMUNITY

7.3.3 Racial/ethnic distribution of staff, faculty and academic employees By location Fall 2015

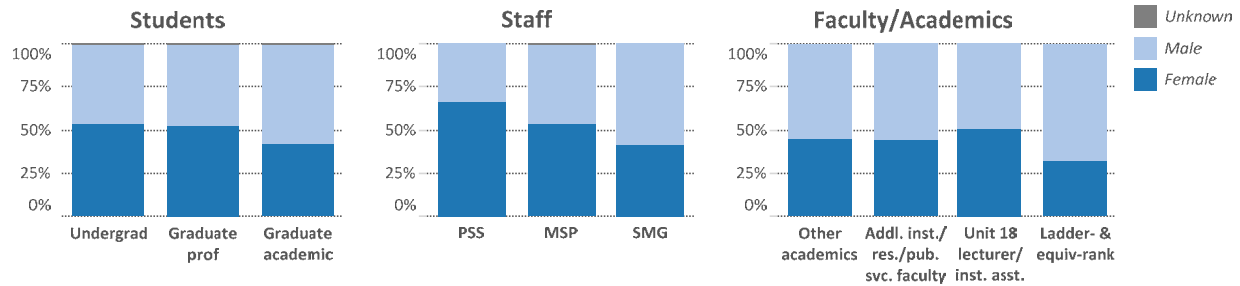


Source: UC Corporate Personnel System and UC Information Center Data Warehouse.
Note: ANR stands for Agriculture and Natural Resources. UCOP is UC Office of the President.

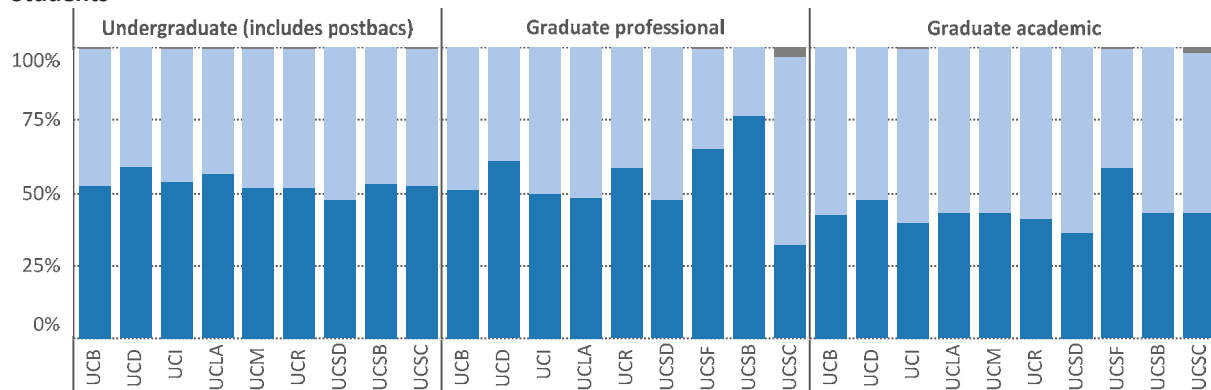
7.3 DIVERSITY OF THE UNIVERSITY COMMUNITY

Women constitute more than 40 percent of all student, staff and academic employee groups, except for ladder-rank faculty and senior managers.

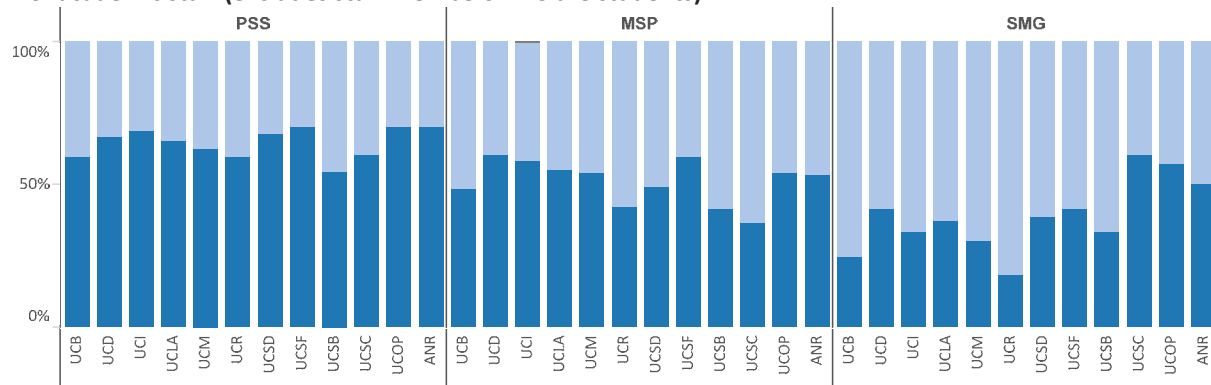
7.3.4 Gender distribution of the University community Universitywide and by location; Fall 2015



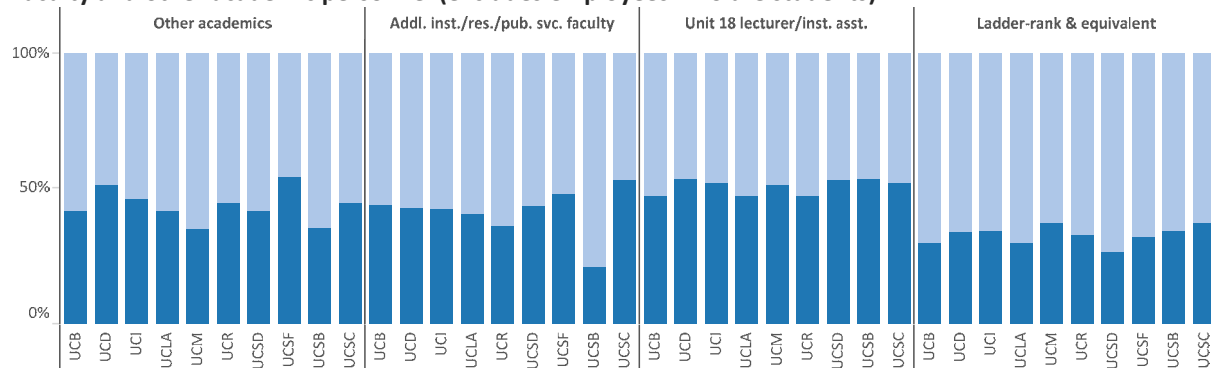
Students



Nonacademic staff (excludes staff members who are students)



Faculty and other academic personnel (excludes employees who are students)

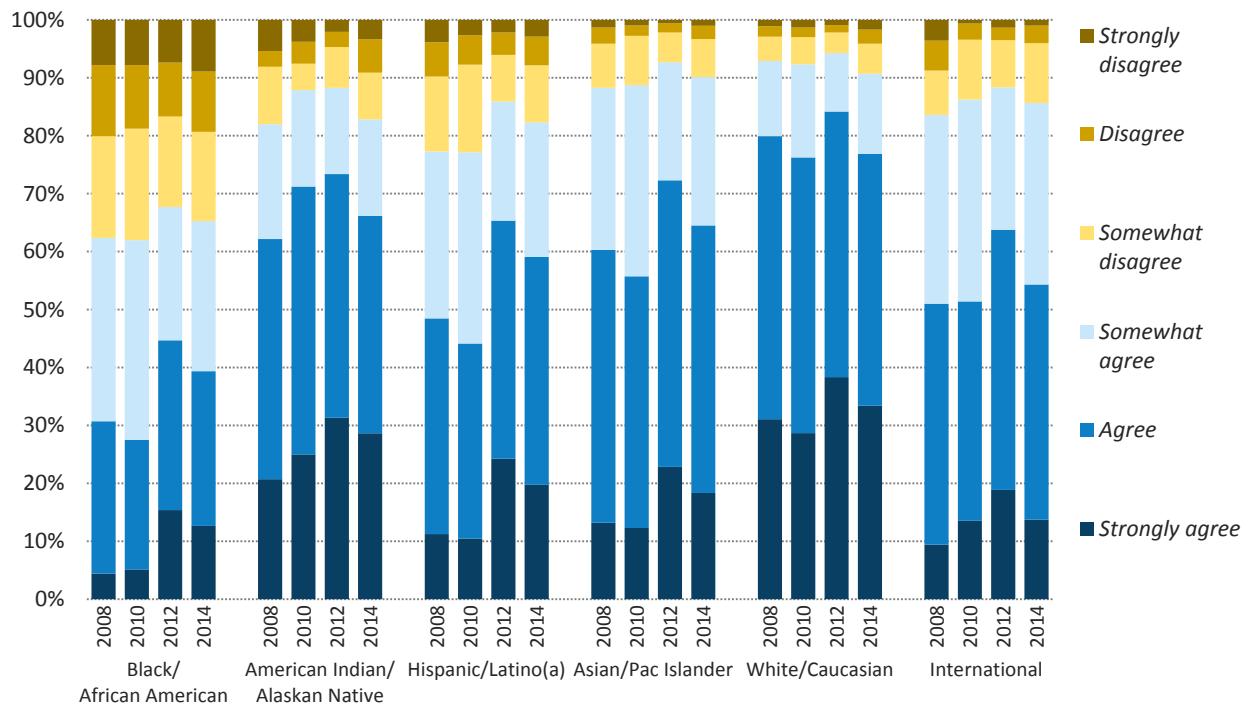


Source: UC Corporate Systems. ANR is Agriculture and Natural Resources. UCOP is UC Office of the President.

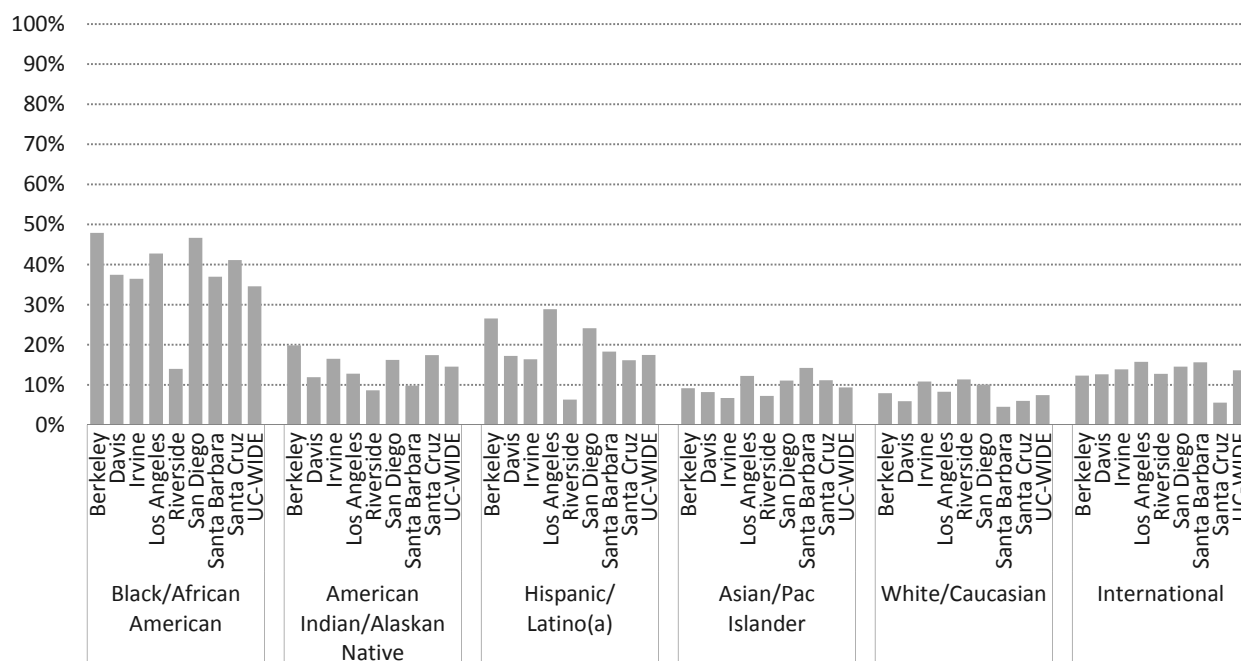
7.4 UNDERGRADUATE CAMPUS CLIMATE

Surveys show that most undergraduates feel that students of their same race/ethnicity are respected on campus, but the proportion of African Americans who report feeling respected is lower than other groups.

7.4.1 Response to “Students of my race/ethnicity are respected on this campus” Universitywide and UC campuses Spring 2008, 2010, 2012 and 2014



Percent that **somewhat disagree, disagree or strongly disagree** (2008, 2010, 2012 and 2014 combined)

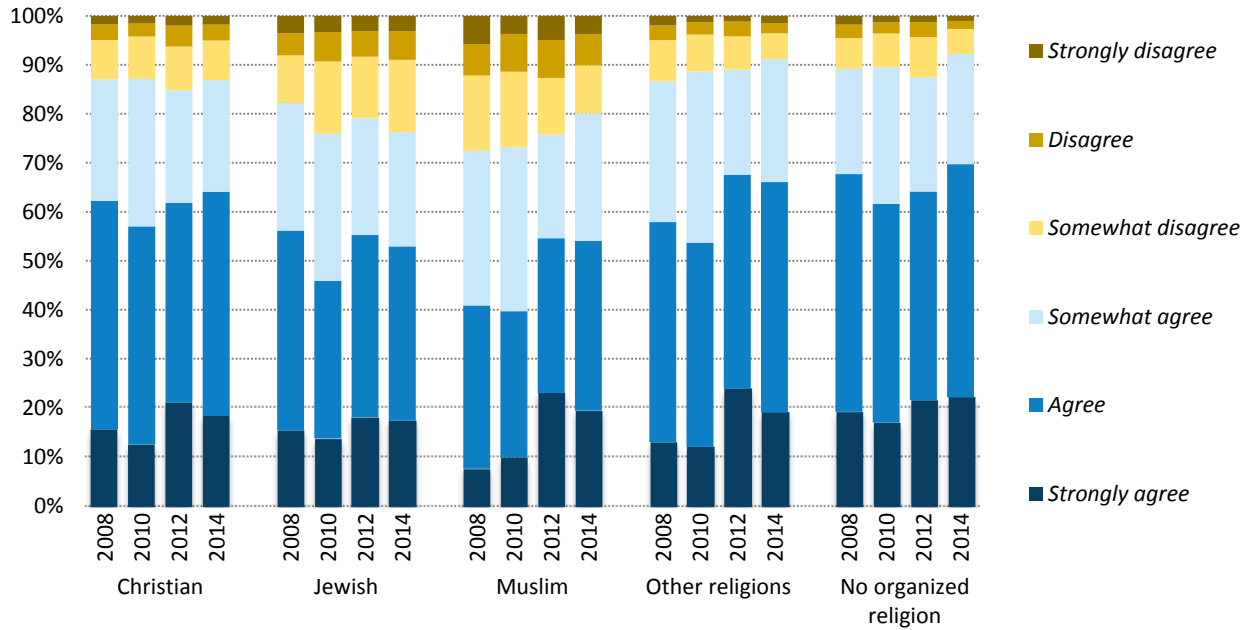


Source: UCUES. UC Merced not shown due to small cell sizes.

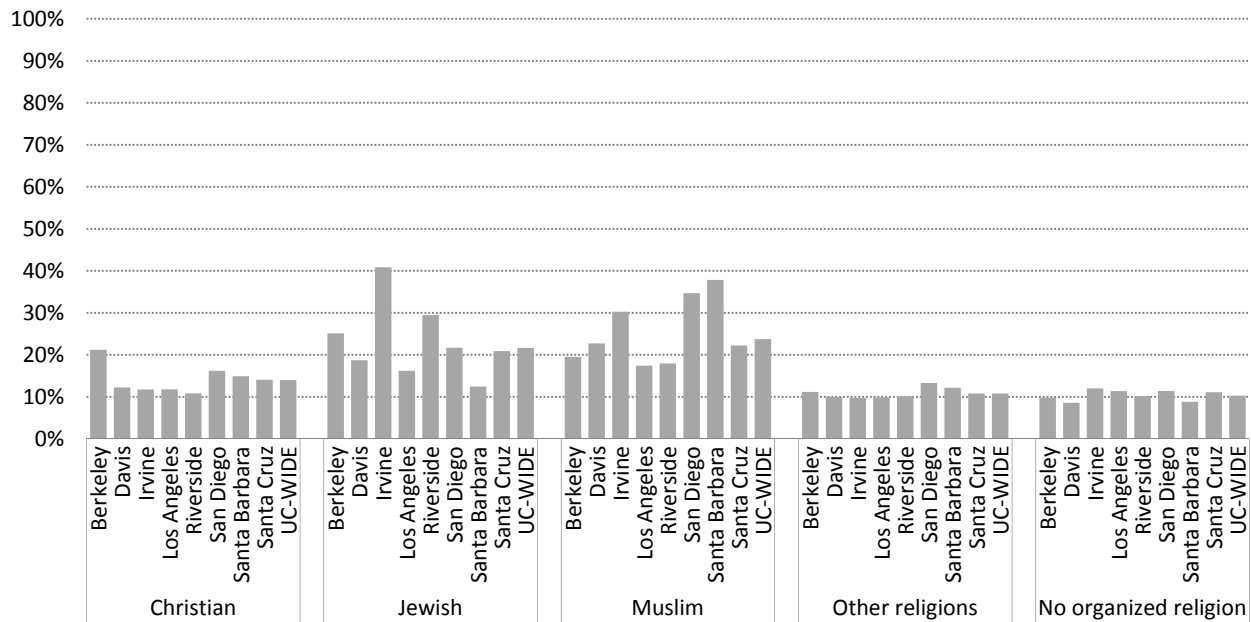
7.4 UNDERGRADUATE CAMPUS CLIMATE

More than 70 percent of students from major religious groups feel that students of their religions are respected.

7.4.2 Response to “Students of my religion are respected on this campus”
Universitywide and UC campuses
Spring 2008, 2010, 2012 and 2014



Percent that somewhat disagree, disagree or strongly disagree (2008, 2010, 2012 and 2014 combined)

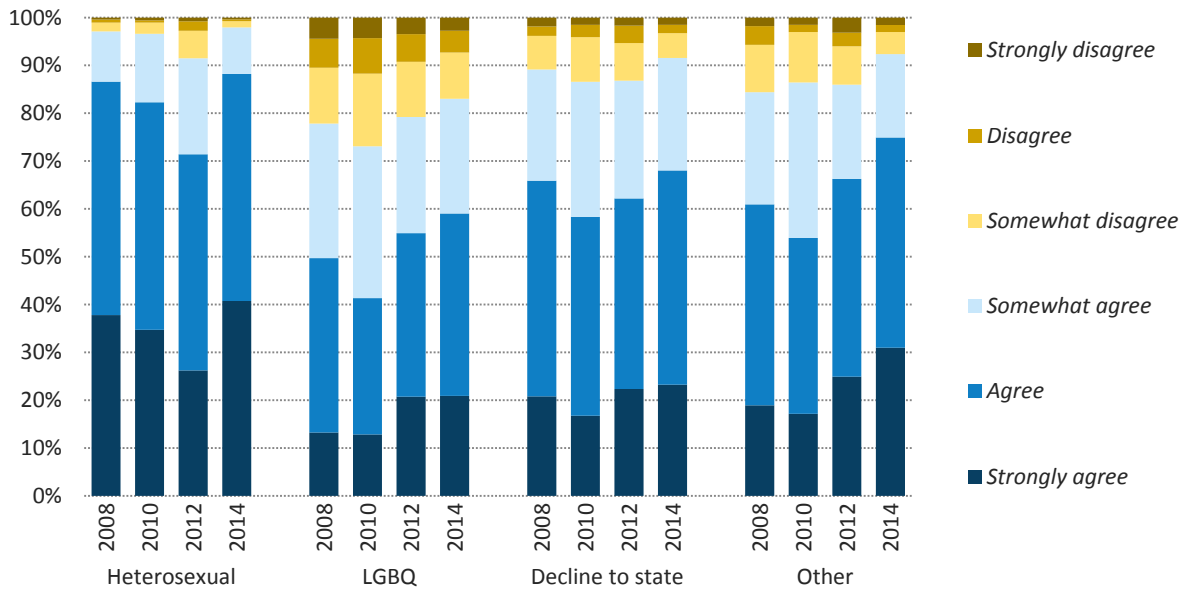


Source: UCUES. UC Merced not shown due to small cell sizes.

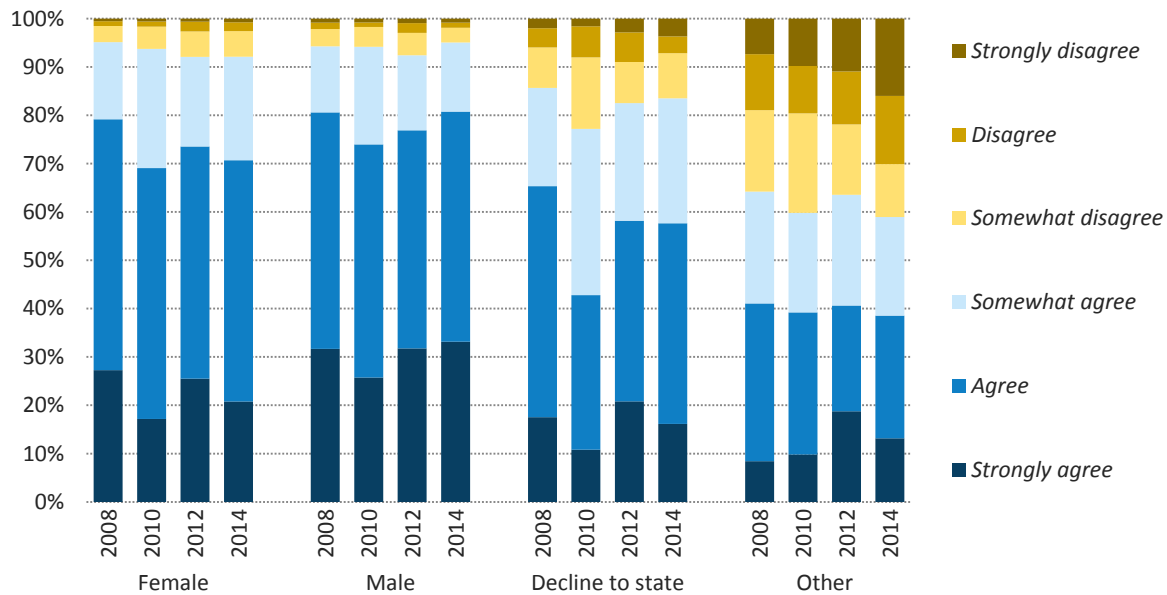
7.4 UNDERGRADUATE CAMPUS CLIMATE

Undergraduates who identify as LGBTQ 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 2008, 2010, 2012 and 2014



7.4.4 Response to “Students of my gender are respected on this campus” Universitywide Spring 2008, 2010, 2012 and 2014



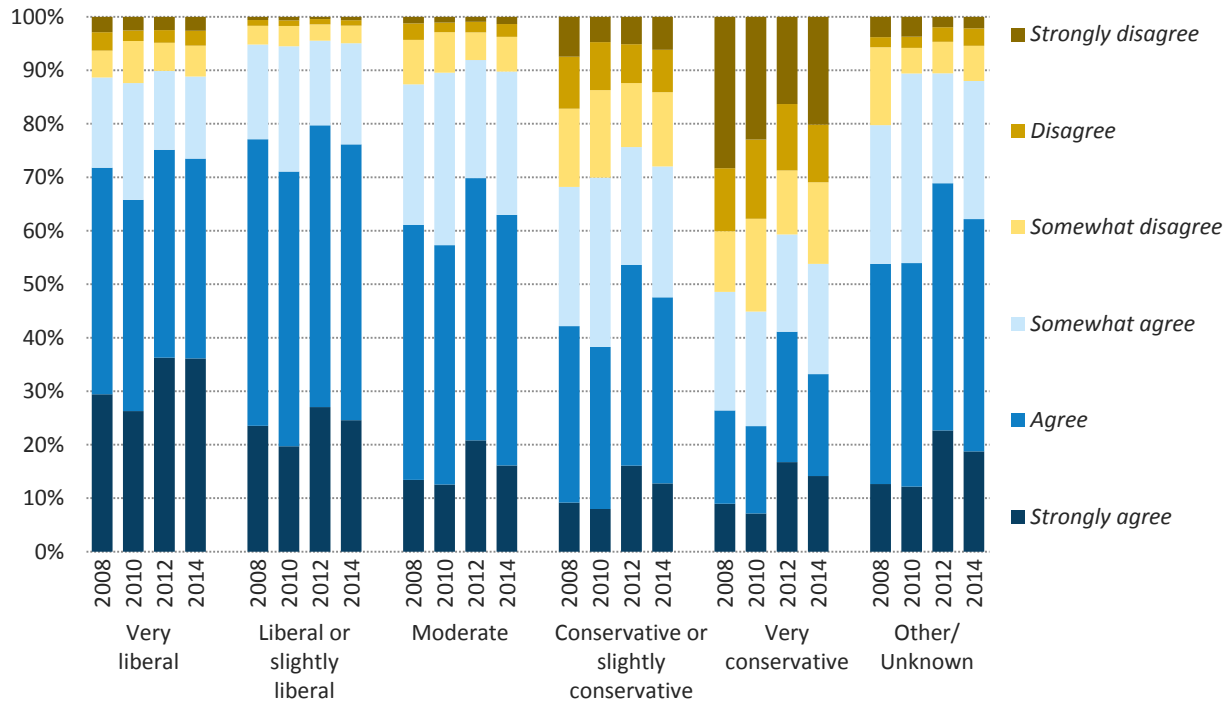
Source: UCUES¹

¹ The LGBTQ category includes Gay/Lesbian, Bisexual, Self-identified Queer and Questioning/Unsure. The Other category is its own category in UCUES; the data shown here do not include any other responses. Because the numbers for some of the groups are small, campus data are not reported separately.

7.4 UNDERGRADUATE CAMPUS CLIMATE

Undergraduates who categorize their political beliefs as conservative are less likely to feel 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 2008, 2010, 2012 and 2014







Chapter 8. Teaching and Learning

Goals

The University of California provides its students with a rich learning environment created by faculty who are actively engaged in both teaching and academic research. Student learning experiences at UC involve classes, seminars and lab sections enhanced by opportunities to collaborate on hands-on research projects with experienced faculty and researchers. Through these activities, faculty and students engage in a learning process that helps students develop critical thinking, communication and problem-solving skills, as well as domain-specific knowledge that future employers value.

Educating students and the public

UC's faculty are principally responsible for maintaining UC's academic excellence and achieving student success. Crucial measures of faculty effectiveness are student graduation and retention rates, presented in detail in Chapter 3. This chapter focuses on the composition and workload of instructional staff — full-time permanent faculty, lecturers, visiting faculty, adjuncts and other instructors — across different academic disciplines and professional programs. This chapter also considers the learning experience of UC's undergraduate students, reporting their engagement with faculty and their self-evaluation of their UC experience. A majority of students report improvement in academic skills and a deeper understanding of their chosen field of study.

Under California's Master Plan for Higher Education, UC is responsible for educating professional and doctoral students. This chapter describes UC's faculty involvement in awarding doctoral degrees and provides comparisons with other public and private members of the Association of American Universities (AAU).

Expanding learning opportunities beyond students on campus is an important contribution of UC and demonstrates the connection between the teaching and the public service missions of the university.

UC Extension serves students through its adult professional and continuing education programs. In 2014–15, there were 430,000 UC Extension course registrations.

UC also operates a wide range of public education programs through the Division of Agriculture and Natural Resources (ANR). One flagship program is the 4-H Youth Development Program, which provides enrichment education through inquiry-based learning to 300,000 youth statewide. 4-H projects and programs focus on citizenship, healthy living and STEM (science, technology, engineering and math) fields. Chapter 10 describes ANR's community programs and statewide impact in more detail.

The future of instruction

The University of California is committed to continuous improvement of instruction, employing a broad range of pedagogical and assessment strategies to expand and enhance learning opportunities for all students and support student success. UC is significantly expanding its summer course offerings to reduce students' time to degree and enrich their academic experience. UC also offers bridge experiences and orientation during summer to help incoming students transition into campus life and prepare them for the rigorous introductory courses in their fields of study.

UC continues to offer a growing number of online courses and online programs, expanding learning opportunities for UC and non-UC students. Through the UC cross-campus enrollment system (<http://crossenroll.universityofcalifornia.edu>), UC provides undergraduates increased access to high-demand, needed courses; this system gives students more flexibility in completing their degree. UC online courses are developed and taught by UC faculty at campuses across the system and provide UC credit based on departmental and programmatic requirements.

For non-UC students seeking higher education experiences, UC online education provides courses that span the discipline spectrum, from psychology to language and STEM courses. For students who are considering matriculation at a four-year university or are taking steps toward getting back to school, UC offers for-credit online courses that may transfer to other colleges and universities. 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. There are currently seven fully online graduate programs at UC with many more planned.

In addition to online courses, UC leverages innovative instructional technologies to enhance instruction and promote student success. UC continues refining and developing high-quality hybrid courses using multimedia resources, high-quality videos and audio recordings, e-books, and other technology-based tools to enrich students' learning experiences. UC follows best instructional practices for incorporating technology innovations into course design and focuses on creating online spaces that encourage collaborative learning and maximize faculty-student and peer-to-peer interactions. A number of UC courses utilize a flipped model of instruction, where lectures and other traditional classroom elements are provided online, and classroom time is dedicated to group discussions and problem-solving activities, and experiential exercises.

Data-driven learning and assessment are an integral part of UC's use of technology tools to enhance instruction. Several UC campuses have adopted web-based assessment systems that use online conceptual models and adaptive learning tools to determine students' knowledge quickly and accurately. Based on student responses to a series of questions, the software determines specific concepts or topics where each student needs the most support. Assessment and Learning in Knowledge Spaces (ALEKS) uses web-based adaptive tools to provide undergraduates 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

are engaged in a pilot study of the impact of adaptive learning technologies on student success and as a mechanism to strengthen instruction.

Providing assessment

At UC, individual academic departments and degree programs are responsible for defining learning objectives and for assessing students' progress toward meeting them. These objectives and assessments guide continual improvements in teaching and learning and are subject to scrutiny by external reviewers during program reviews conducted approximately every five years. In recent years, educational objectives and assessments have become a major focus of reviews conducted by the WASC Senior College and University Commission (WSCUC), as well as by many other professional accrediting and related bodies.

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. In addition to these core competencies, UC graduates are also expected to attain knowledge and skills specified by their program of study (Program Learning Outcomes). Information about Program Learning Outcomes is available on departmental websites, and each campus posts materials related to accreditation.

For more information

Campus websites:

<http://www.universityofcalifornia.edu/uc-system/parts-of-uc>

Presentation to the Regents' Committee on Long Range Planning (includes online education):

<http://regents.universityofcalifornia.edu/regmeet/jan15/11.pdf> (January 2015)

Interactive dashboard on summer enrollment:

www.universityofcalifornia.edu/infocenter/summer-enrollment

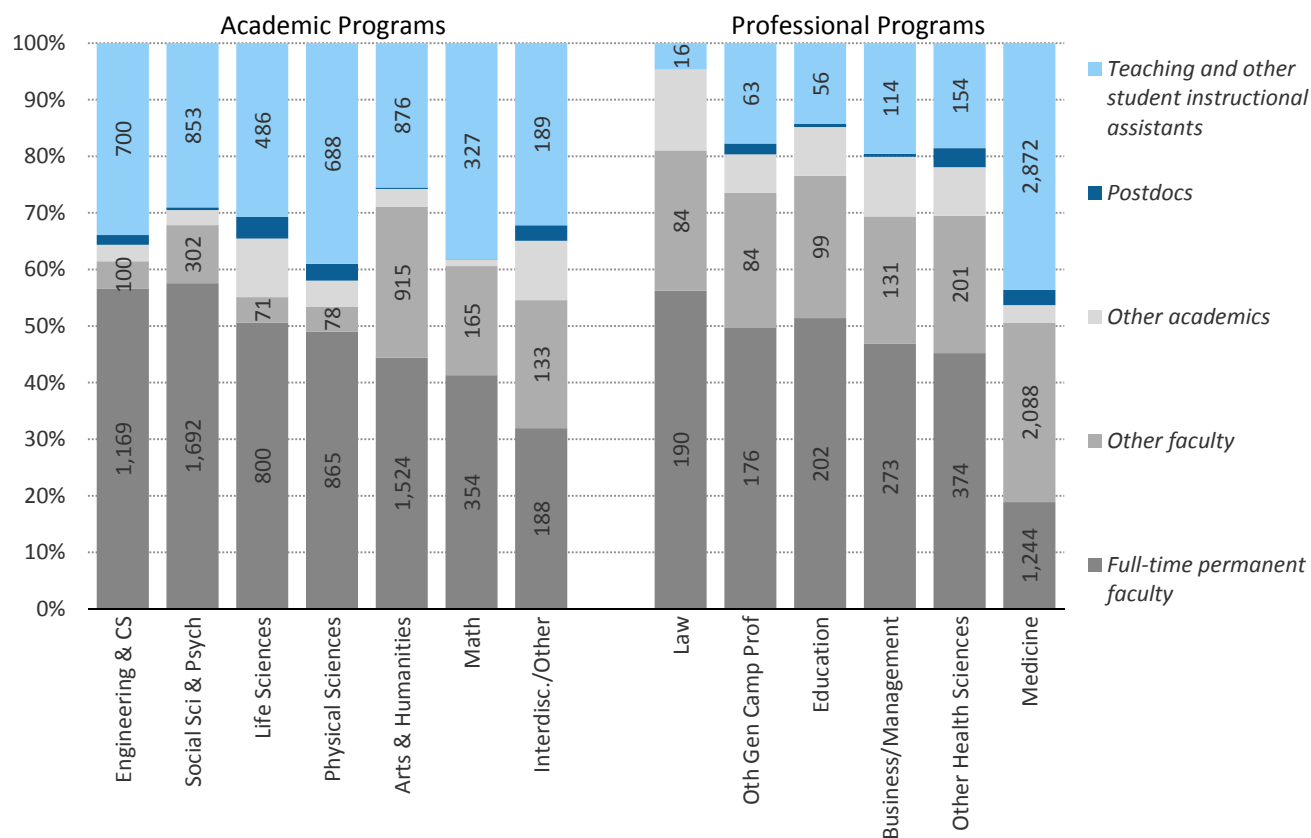
Interactive storyboard on undergraduate research experiences:

www.universityofcalifornia.edu/infocenter/uc-undergraduate-student-research-expectations-experiences-and-aspirations

8.1 THE INSTRUCTIONAL WORKFORCE

In most disciplines, full-time permanent faculty constitute around half of the instructional workforce.

8.1.1 Instructional workforce FTE composition, by employee type and discipline
Universitywide
2014–15



Source: UC Corporate Personnel System¹

In most disciplines at UC, full-time permanent faculty constitute about half of the instructional workforce. Some fields, however, require a different composition. Medical education, for example, relies more heavily for instruction on faculty who also have clinical roles; other faculty play a greater instructional role in the arts and humanities (e.g., writing and languages).

“Other faculty” in this indicator includes clinical faculty, most lecturers, adjuncts, faculty in residence and visiting faculty. “Student instructional assistants” refer to students acting in supporting

roles, such as teaching assistants, readers and tutors. They typically lead labs and discussion sections for large lecture courses. The “Other academics” category includes administrators and researchers who have instruction functions.

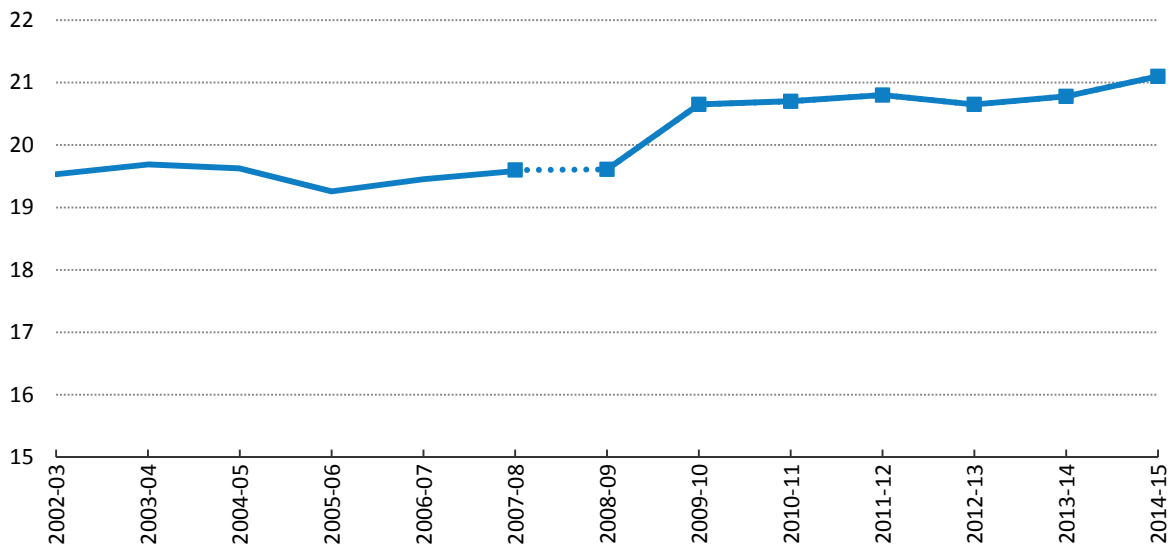
Because full-time permanent faculty have scholarship and research experience, their instruction is a valuable part of a student’s learning experience. When faculty incorporate their early research results into their courses, UC students gain access to insights and discoveries even before they are available to the wider research community.

¹ Academic support staff, such as clerical staff, administration and advisers, including students working in these titles, are excluded. Data are for full-time-equivalent number of academic employees paid with instructional funds.

8.1 THE INSTRUCTIONAL WORKFORCE

The student-faculty ratio has increased because faculty hiring has not kept pace with the increase in student enrollment.

8.1.2 General campus student-faculty ratio Universitywide 2002–03 to 2014–15*



*A revised methodology for calculating the student-faculty ratio is used beginning in 2008–09. Previously, UC calculated this ratio by including only faculty supported by core funds (comprising state general funds, UC general funds, and tuition and fees). Starting with 2008–09, the ratio calculation includes faculty paid through all fund sources (other than self-supporting program fees). This change in methodology better reflects recent increased flexibility in use of fund sources to pay faculty.

Source: UC Information Center Data Warehouse

One widely used 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 8.1.3 on student credit hours (SCH) provides additional insight into the student experience.

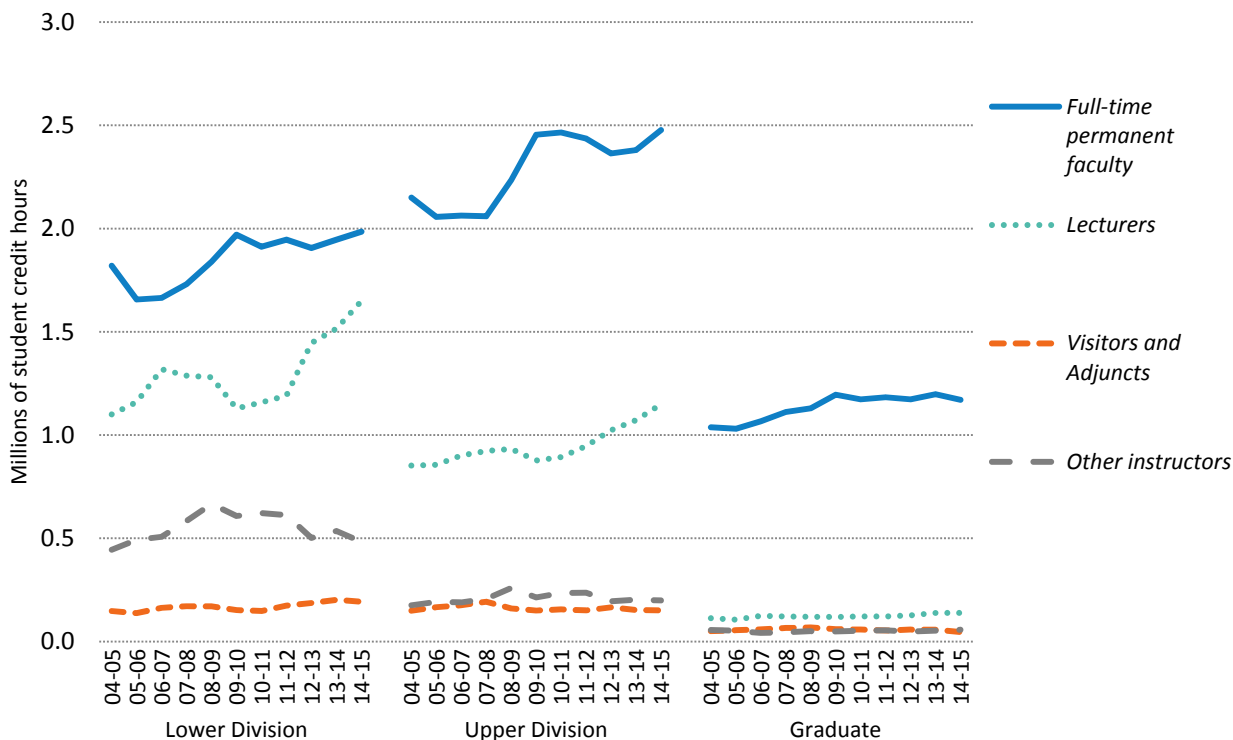
The student-faculty ratio has increased at various times in the University's history and particularly in the last decade. During the most recent recession, campuses responded to uncertainty in state funding by delaying faculty hiring, or deciding not to fill vacant faculty positions on a permanent basis.

UC's student-faculty ratio is at the highest level it has ever been and is also high relative to research universities of comparable quality.

8.1 THE INSTRUCTIONAL WORKFORCE

As a group, full-time permanent faculty are teaching increasing numbers of student credit hours in both undergraduate and graduate levels.

8.1.3 Student credit hours, by instructional staff and class type
Universitywide
2004–05 to 2014–15



Source: UC Faculty Instructional Activities dataset¹

Student credit hours (SCH) represents the number of student enrollments in a course multiplied by the number of credits earned from that course. For example, a 4-credit class with 50 students generates 200 SCH; a 2-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. Overall, a larger number of student credit hours performed by full-time permanent faculty means students have additional opportunities to be taught by leading scholars in their disciplines.

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.

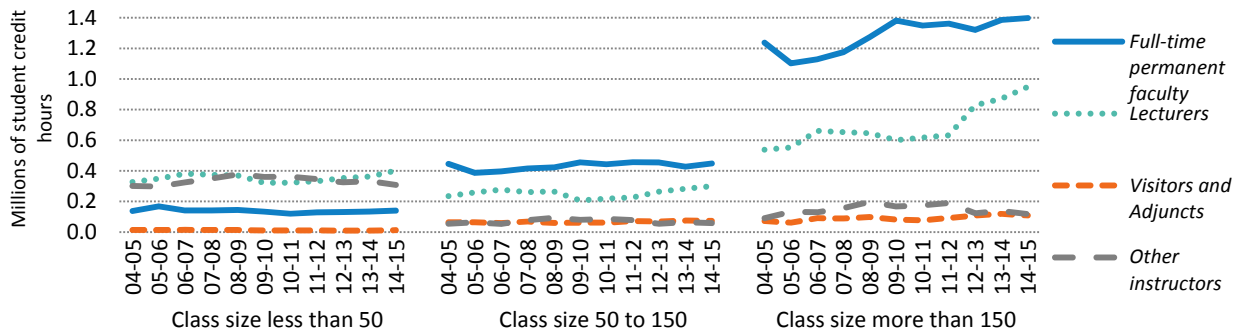
¹ Data are for general campus courses only. These data are submitted annually by UC campuses and contain information on all general campus courses taught in that year.

8.1 THE INSTRUCTIONAL WORKFORCE

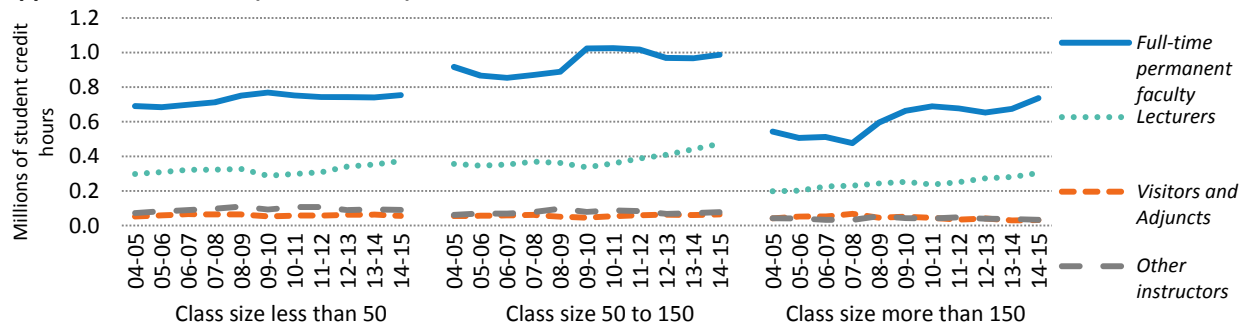
As students progress through their academic careers and enroll in upper-division and graduate classes, they receive more consistent exposure to full-time permanent faculty and smaller classes.

8.1.4 Student credit hours, by instructional staff and class type and class size Universitywide 2004–05 to 2014–15

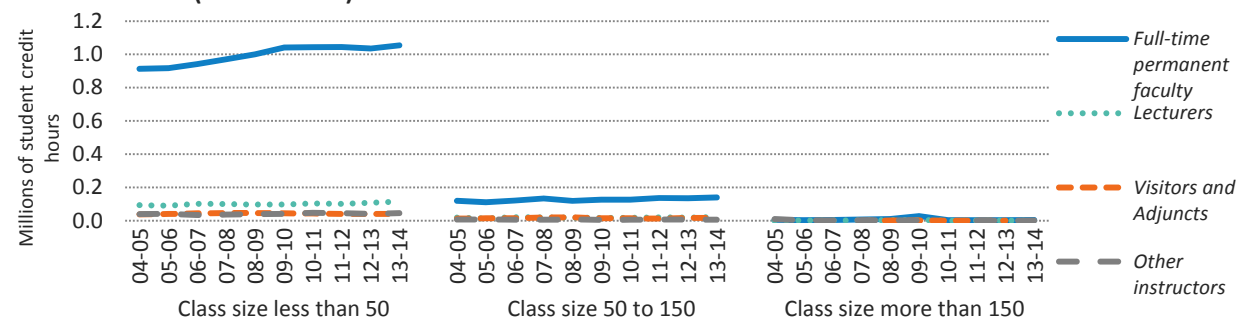
Lower-division classes (scale 0–1.5m)



Upper-division classes (scale 0–1.2m)



Graduate classes (scale 0–1.2m)



Source: UC Faculty Instructional Activities dataset

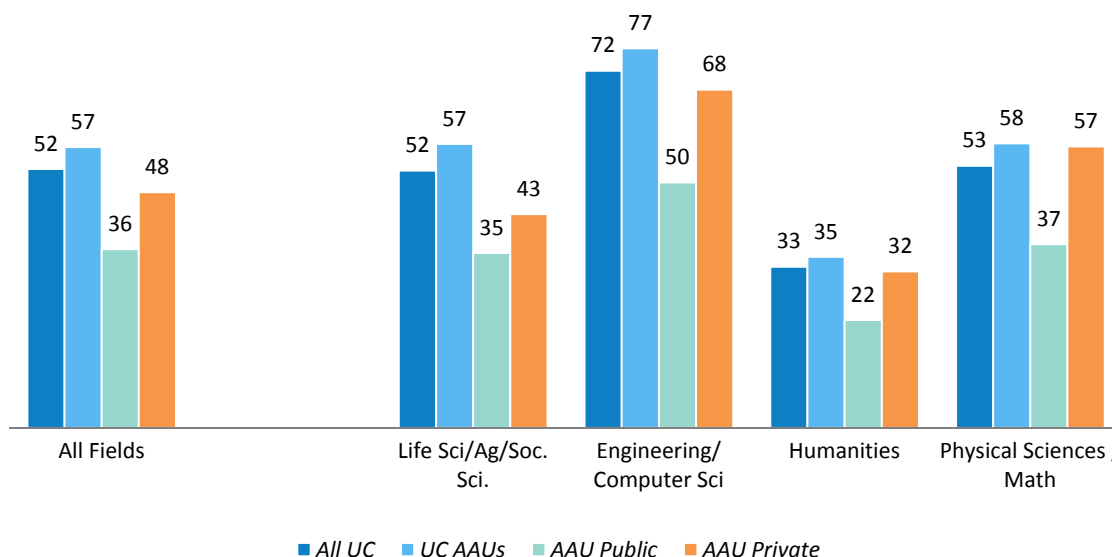
In the lower division, full-time permanent faculty generally teach large lecture classes; nonpermanent faculty, such as lecturers, generally teach lecture sections and smaller classes. In the upper-division, student contact with full-time permanent faculty is fairly evenly distributed across classes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

Graduate academic students are almost uniformly taught by full-time permanent faculty in classes with fewer than 50 students.

8.2 DOCTORAL DEGREE PRODUCTION

Overall, UC campuses confer more doctoral degrees per tenured and tenure-track faculty member than other AAU public institutions, and are on par with AAU private institutions.

8.2.1 Doctoral degrees awarded per 100 faculty (annual average) UC and comparison institutions 2007–08 to 2011–12



Source: IPEDS and 24 non-UC Public and 16 Private AAU Institutions¹

Doctoral degree production is an important measure of an academic research university’s strength in teaching and research. Each doctoral degree awarded represents one more highly skilled professional added to the workforce and contributing to the economic, cultural and social development of California, the nation and the world.

The current data reflect very favorably on UC faculty’s effectiveness in conferring doctoral degrees. Between 2007 and 2012, UC awarded 52 doctoral degrees per 100 faculty each year. In comparison, AAU public universities awarded 36 degrees per 100 faculty, and AAU private universities awarded 48 degrees per 100 faculty. In engineering and computer science, UC awarded 72 doctoral degrees per 100 faculty, while AAU public

universities awarded 50 degrees per 100 faculty, and AAU private universities awarded 68 degrees per 100 faculty. Comparisons for the six AAU-member UC campuses are even more favorable.

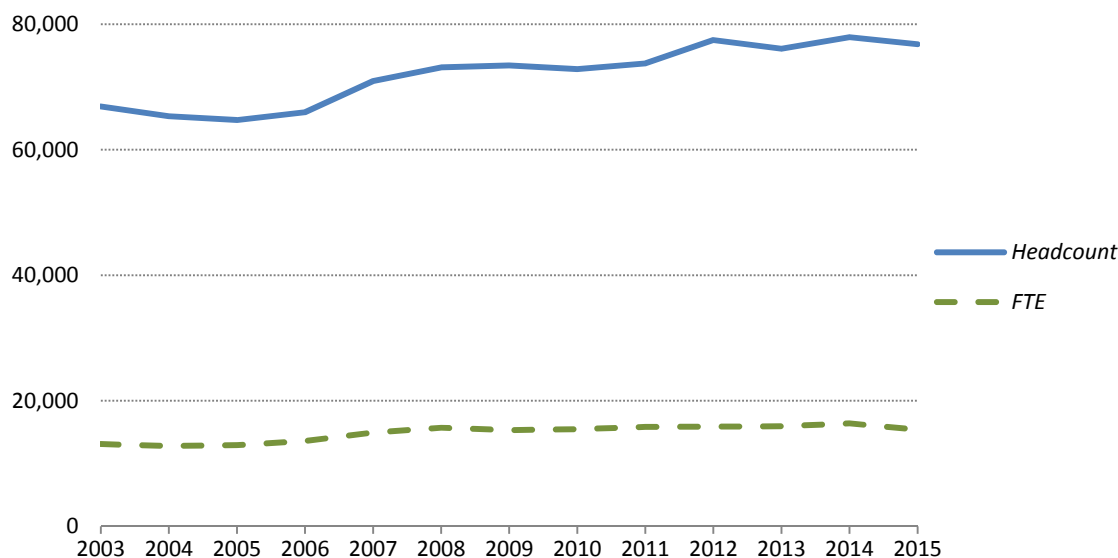
UC has proportionally fewer terminal master’s degrees than other AAUs, meaning that UC faculty’s graduate instruction is more concentrated on doctorates and on master’s degrees leading to doctorates. The ratio shown here may also reflect differences in the way institutions define and count faculty in the data they report nationally. The data were calculated based on tenured and tenure-track faculty headcount.

¹ UC campus data excludes UC San Francisco, an exclusively graduate health sciences campus.

8.3 SUMMER ENROLLMENT

Summer enrollment has increased since 2003.

8.3.1 Summer enrollment Universitywide 2003 to 2015



Source: UC campuses

Over a decade ago, the University of California began expanding summer instruction programs with full support and funding from the state. From 2003 to 2015, headcount and FTE summer enrollment increased by 15 percent and 18 percent, respectively. Summer enrollment growth has kept pace with UC overall enrollment, which grew by 25 percent over that 12-year period.

Across all UC campuses, many students enroll in summer session to finish the coursework required for graduation. Expanded summer sessions have contributed to notably increased four-year graduation rates.

The federal government does not provide Pell Grant funding for summer enrollment. Because 41 percent of UC students rely on Pell support (as of the 2014–15 academic year), these students may find it difficult to take advantage of summer classes and

maintain timely progress to degree.

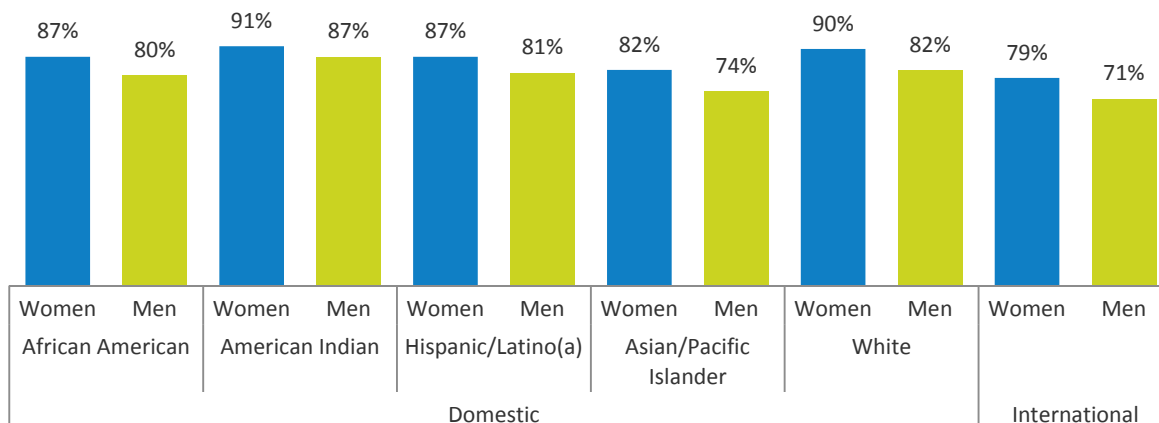
However, in an effort to eliminate financial hurdles and increase summer session access for all students, campuses continue to set aside a portion of summer revenues for financial aid. In summer 2015, campuses provided 28,422 students with \$78 million in need-based financial aid, including \$54 million in grants and scholarships. As part of the 2015 state budget agreement, three UC campuses are also piloting alternative pricing models for the 2016 summer session. These pilots will assess options to encourage more undergraduates to take more courses during the summer.

In addition, UC summer session supports 11,000 non-UC students, including many CSU and CCC students.

8.4 UNDERGRADUATE LEARNING AND STUDENT ENGAGEMENT

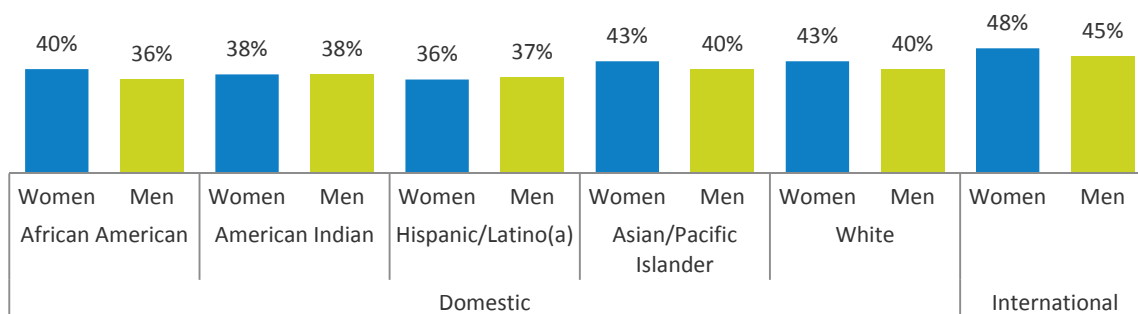
Research participation is high among UC's graduates across racial/ethnic and gender groups.

8.4.1 Students completing a research project or research paper as part of their coursework Universitywide graduating seniors Spring 2014



Source: UCUES

8.4.2 Students assisting faculty with research Universitywide graduating seniors Spring 2014



Source: UCUES

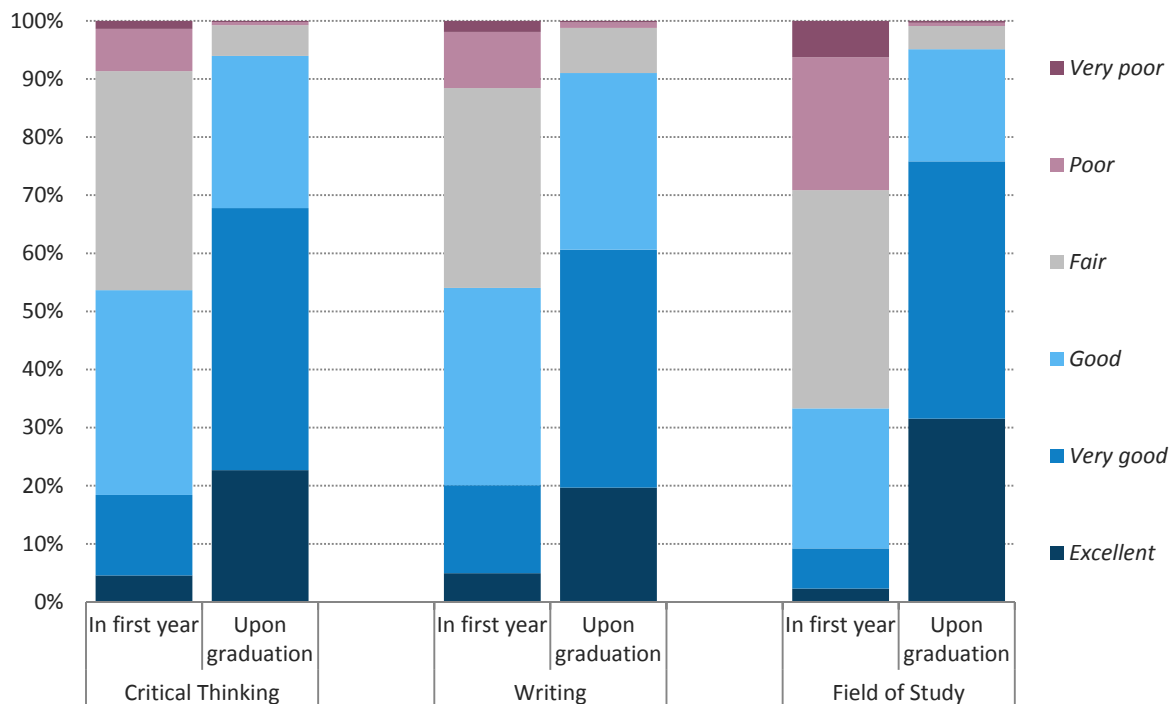
One of the distinct benefits of attending an academic research university is the opportunity for undergraduates to conduct research, both through class research projects and by assisting faculty with their ongoing research.

Overall, undergraduate students self-report participating in research activities at a high rate. Data from the UC Undergraduate Experience Survey (UCUES) show that underrepresented racial/ethnic groups are involved in these activities at rates comparable to other groups. Women tend to be slightly more involved in research than men.

8.4 UNDERGRADUATE LEARNING

UC students report experiencing significant improvement between their freshman and senior years in critical thinking skills, writing skills and understanding of their chosen field of study.

8.4.3 Self-reported skill levels from first year to graduation Bachelor's degree recipients who entered as freshmen Universitywide Spring 2014



Source: UCUES

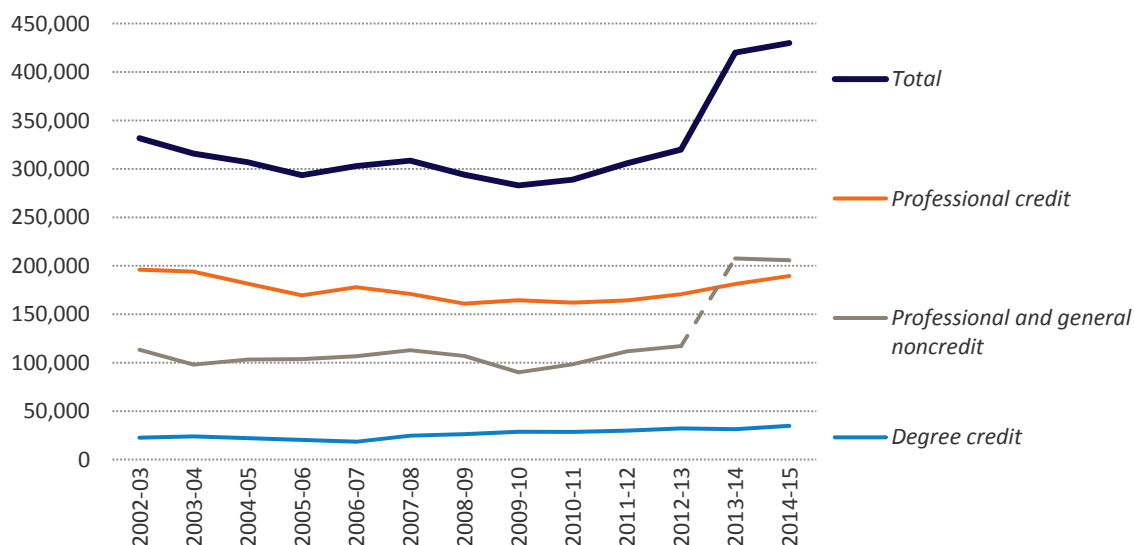
The University of California Undergraduate Experience Survey (UCUES), which is conducted every two years, provides a valuable source of information on how UC undergraduates view their educational experience. These indicators also show student perception of how much they have developed core competencies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

Reflecting on their skill levels between their freshman and senior years, UC bachelor's degree recipients self-report significant improvements with respect to critical thinking ability, writing and understanding of their chosen field of study.

8.5 CONTINUING EDUCATION

UC is a significant provider of post-college continuing education to Californians.

8.5.1 Continuing education enrollments in extension programs Universitywide 2002–03 to 2014–15



Source: UC Extension Financial Statements¹

UC Extension is the largest continuing education program in the nation. It provides courses to individuals who want to continue their education beyond their undergraduate studies, advance in their professions, change careers, engage in further academic pursuits and improve their skills in current or new endeavors. Extension’s highly diverse range of courses offers specialized programs of study, and provides both credit and noncredit certificate programs.

UC Extension is completely self-supporting. Each campus extension division addresses the particular educational needs of its geographic area. For example, UC Riverside Extension offers a Turfgrass Management Certification program; UC Davis Extension offers a Winemaking Certificate Program.

Extension enrollment fluctuates with the economy; enrollment numbers decreased during the 2007–09 recession and have increased since 2010–11. There was a steep increase in noncredit enrollment in 2013-14 because outreach in-service courses were included for the first time. These programs may satisfy continuing-education requirements of public agencies and professional associations but do not convey UC Academic Senate-approved credit.

¹ “Degree credit” courses lead to formal UC degree credit, developed and presented in partnership with campus faculty and degree programs. “Professional credit” courses provide Academic Senate-approved academic credit but are not associated with a specific UC degree program. “Professional and general noncredit” courses are high-quality continuing education courses and workshops.





Chapter 9. Research — Increasing Public Knowledge

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 and the quality of life.

UC has more than 800 research centers, institutes, laboratories and programs that span ten campuses, five medical centers, three national energy laboratories and numerous research facilities. All forms of intellectual inquiry are represented, from the search for sub-atomic particles to the study of distant galaxies, and all things in between, including our own species, the natural world we inhabit and the societies we create. The extraordinary diversity and quality of research at UC is reflected in the rankings assigned to UC campuses (see Chapter 14).

Evaluating the research enterprise

UC's research may be assessed in a variety of ways: expenditures; quality and impact; enhancement of UC students' experience; contribution of findings to public knowledge; and economic and societal benefits. This chapter focuses on quantitative measures such as expenditures, employees and publications.

However, these measures do not present a comprehensive account of UC's research. They underrepresent research achievements in the arts, humanities, social sciences and theoretical sciences, where work leaves less of a financial footprint, but still contributes to UC education and society.

Sources of research funding

Research expenditures at UC nearly doubled over the last 15 years, to about \$4.3 billion. In comparison with its peers, UC excels in research dollars per faculty member. Federal funds account for more than half of the total. Private support is a growing component, funding research in health, life sciences, technology, materials engineering, education and other fields. Private support only accounts for about

22 percent of research awards — 10 percent from corporations and 12 percent from nonprofit organizations. This leaves UC's research susceptible to federal budgetary fluctuations.

A small sample of research funded in 2014–15:

- UC Berkeley was awarded \$15 million by the William and Flora Hewlett Foundation to study cybersecurity and internet policy.
- UC Davis School of Veterinary Medicine received \$47.6 million from the US Agency for International Development to monitor the global emergence of pathogens from animals.
- UC Irvine's Center for Chemistry at the Space-Time Limit was granted \$8 million from the National Science Foundation.
- UCLA received \$5.2 million from Biomarin Pharmaceuticals to explore gene therapy for sickle cell disease.
- UC Merced was granted \$2.7 million by the National Institutes of Health for research on copper exposure and neurological disorders, including Alzheimer's.
- UC Riverside was awarded \$3 million by the U.S. Department of Energy to study nanoscale electronic systems.
- UC San Diego received \$21.5 million from the National Science Foundation to study the role of high-performance cyberinfrastructure in furthering science.
- UC San Francisco was awarded \$11.2 million by the National Institute of Allergy and Infectious Diseases to improve the delivery of AIDS therapy in Africa.
- UC Santa Barbara's Kavli Institute for Theoretical Physics received \$4.6 million from the National Science Foundation.
- UC Santa Cruz was granted \$3.5 million by the National Human Genome Research Institute for its Genome Browser.
- UC's Division of Agriculture and Natural Resources was awarded \$2 million by the US Geological Survey for drought research.

Research activities

Nearly two-thirds of direct research expenditures in 2014–15 went to salaries and benefits. Only about 25 percent went to faculty; the majority supported staff researchers, and about one-fifth went to students and postdocs.

Research results — enhancing instruction

UC's research enhances the student experience. Faculty often incorporate their research results into their courses. This provides UC students with access to insights and discoveries even before they are published. UC students also participate; the 2014 UC Undergraduate Experience Survey found about half of seniors had been involved in research projects or creative activities.

Participation in research defines graduate education, and graduate student researchers make up a significant portion of the research workforce. In 2014–15, of UC's 52,500 graduate students, about 15,800 were employed as paid research assistants. UC also trains about 6,200 postdoctoral scholars.

Research results — spurring the economy

The economic benefit of UC's research enterprise to the state of California is significant. For every dollar spent by UC, the state's economy increases by about two dollars. The \$4.3 billion spent by UC on research multiplies to nearly \$9 billion statewide. Research employees' salaries are spent all across the state. Research funds also purchased over \$1 billion in goods and services, with one in three dollars supporting California vendors.

In addition to direct economic impact, many businesses in California are based on technology developed at UC or rely on the skills of UC graduates. Research becomes public knowledge through publications and the patent process. These innovations enhance industries, stimulate economies, and improve health and well-being. Over the past two decades, UC has secured more licensable patents than any other U.S. research university. Since 1976, 934 startup companies have been founded around UC inventions, with 85 percent based in California.

Research results — diffusing knowledge

Publications are perhaps the most visible results of UC research. This chapter includes an analysis by academic publisher Elsevier of the impact of UC research publications, attributing one out of 12 research publications in the United States to UC.

The books, periodicals and journals in which research findings are published are expensive and often only available through subscriptions. This puts them beyond the reach of many researchers, students, journalists and others with limited financial resources, especially in developing regions. To ensure that research findings become public, UC has adopted Open Access policies enabling UC authors to make their articles available through the eScholarship repository, operated by UC's California Digital Library. This chapter presents a progress report on UC's Open Access program since its inception in 2012, charting publication availability and worldwide utilization.

Research results — improving global health

During 2014–15, about 2,900 clinical trial research projects were underway at UC. Clinical trials occupy a unique position in academic research. Unlike basic research, these projects represent the final stage in the journey from a scientific discovery to an effective treatment. Of the research dollars that came to UC from businesses during 2014–15, half of the total was directed toward clinical trials.

Research results — addressing climate change

UC is a leader in research on technologies and practices to reduce carbon emissions and impacts. In addition to appropriations from the U.S. Department of Energy to Lawrence Berkeley National Laboratory, UC campuses secured about \$491 million over a six-year period for work on carbon neutrality.

Research workforce changes

UC's research mission faces numerous challenges. These include recruiting and retaining faculty, attracting and supporting graduate students and postdoctoral researchers, and fully funding the research enterprise, because UC does not recover

the full costs of research from either governmental or private sponsors.

A nationwide issue is the lack of federal support for basic research and development. For more than a decade, federal research support has been essentially flat, with the exception of American Recovery and Reinvestment Act stimulus funds. Between late 2009 and 2011, the Act provided UC with over \$1 billion for research. In 2012–13, cutbacks in federal spending reduced UC's research awards to early 2000's levels. As a result, the workforce has fallen by 9.2% from its peak in 2011 of nearly 29,600 FTE (full-time equivalent) to 26,890.

The effect of these reductions has impacted the University's instructional mission, as research funding supports graduate student researchers and postdoctoral researchers. The impact has varied by campus and by discipline, with more of an impact on fields such as medical research, which depend on funding from UC's largest research sponsor, the National Institutes of Health.

Since 2011, the FTE of graduate student researchers (GSR) has dropped 15 percent, from over 4,000 FTE to about 3,400. The total number of UC's academic doctoral students has remained about the same, which indicates that graduate students, overall, are spending less time as compensated researchers. The number of postdoctoral researchers increased more dramatically than the number of GSRs under the Recovery Act. Their numbers also declined with Recovery Act expenditures, but not as sharply as GSRs — from 4,600 FTE to 4,300, representing a drop of 6.5 percent.

Looking forward — federal research funding

Federal funding supports more than half of UC's research. The Federal Bipartisan Budget Act of 2015 calls for two years of substantial increases in federal agency appropriations for academic research and projects. The increases in appropriations vary among federal agencies: UC's largest research sponsor, the National Institutes of Health (NIH), anticipates an increase of 6.6 percent; UC's second-largest research sponsor, the National Science Foundation, expects an increase of 1.6 percent.

Beyond this two-year horizon, the long-term prospects for federal research sponsorship remain uncertain, in part because the competition for federal funding has grown. The success rate for federal grant proposals for all research universities has declined over the last decade to about one proposal funded for every five received at NIH. UC faculty are submitting an ever-larger number of proposals to maintain the same level of funding. 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.

To offset some of the uncertainty involved in federal funds, UC and other research universities are increasingly looking to private sources of support, such as foundation grants and corporate investment.

For more information

UC's Budget for Current Operations 2016–17 contains information on the contributions and impacts of UC's research on the California economy. It can be found at http://www.ucop.edu/operating-budget/_files/rbudget/2016-17budgetforcurrentoperations.pdf

The Technology Commercialization Report for 2015 is here: www.ucop.edu/innovation-alliances-services/_files/ott/genresources/documents/IASRptFY15.pdf

The UCOP Office of Research and Graduate Studies (www.ucop.edu/research-graduate-studies) maintains resources on UC's research enterprise.

A storyboard on research sponsorship is here: <http://universityofcalifornia.edu/infocenter/research-sponsorship-uc>

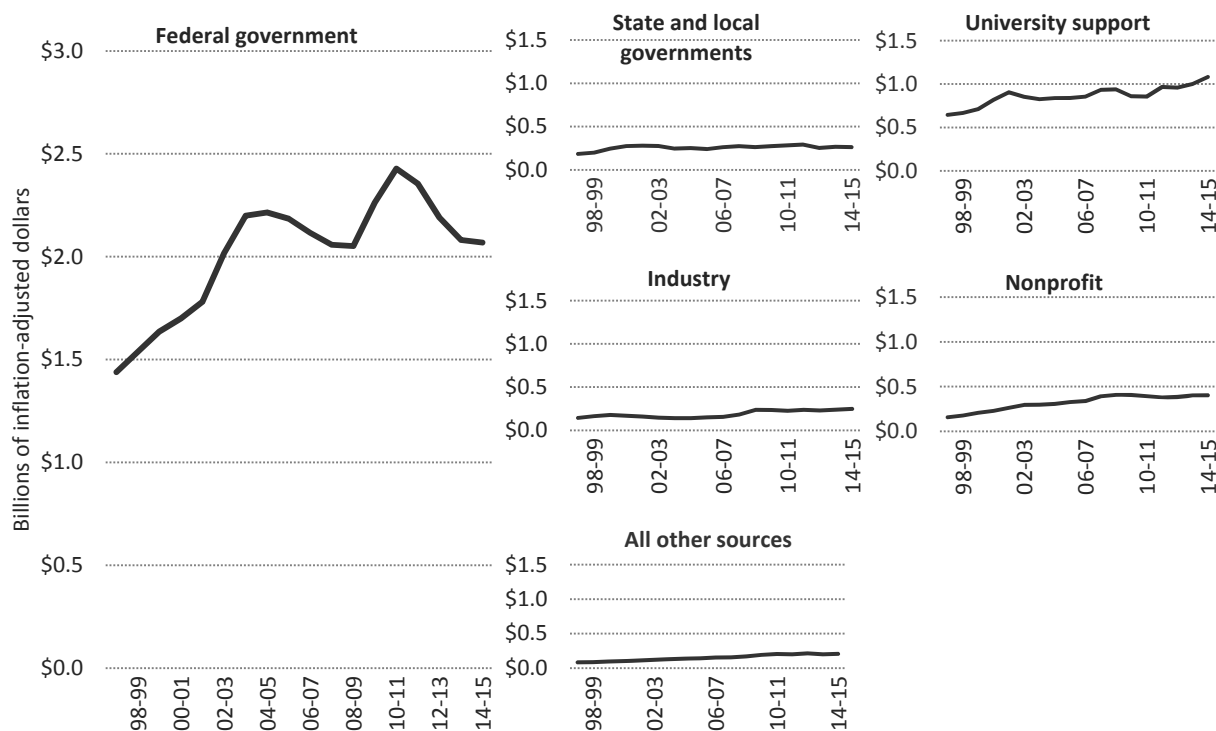
A map of the economic impact of UC research activity in California is here: www.ucop.edu/institutional-research-academic-planning/_files/UC_research_impacts_in_california.pdf

More information about UC's research enterprise, including quarterly updates on UC's research funding is available here: www.ucop.edu/institutional-research-academic-planning/areas-of-expertise/research/index.html

9.1 RESEARCH EXPENDITURES

Federal funds support most of the research work done at UC.

9.1.1 Direct research expenditures by source Universitywide 1997–98 to 2014–15



Source: UC Corporate Financial System¹

UC's direct research expenditures during 2014–15 amounted to nearly \$4.3 billion. Forty-eight percent of this total came directly from federal agencies, the lowest percentage in 15 years. A further 8 percent represents federal flow-through funds that came to UC as sub-awards from the state, corporations, nonprofit organizations or other research universities. Together, about 56 percent of UC's research expenditures started as federal funds.

About three-quarters of UC's federal research funds came from two agencies: the National Institutes of Health and the National Science Foundation.

Fluctuations in federal appropriations have a major impact on UC's research. Cutbacks at federal

agencies starting in 2006 ended a long period of growth. This downturn was reversed during 2009–10 by the American Recovery and Reinvestment Act, which provided over \$1 billion in research funds to UC. Federal appropriations have been relatively stable for the last two years, and the Federal Budget Bill of 2015 calls for funding at about the same level for the next two years.

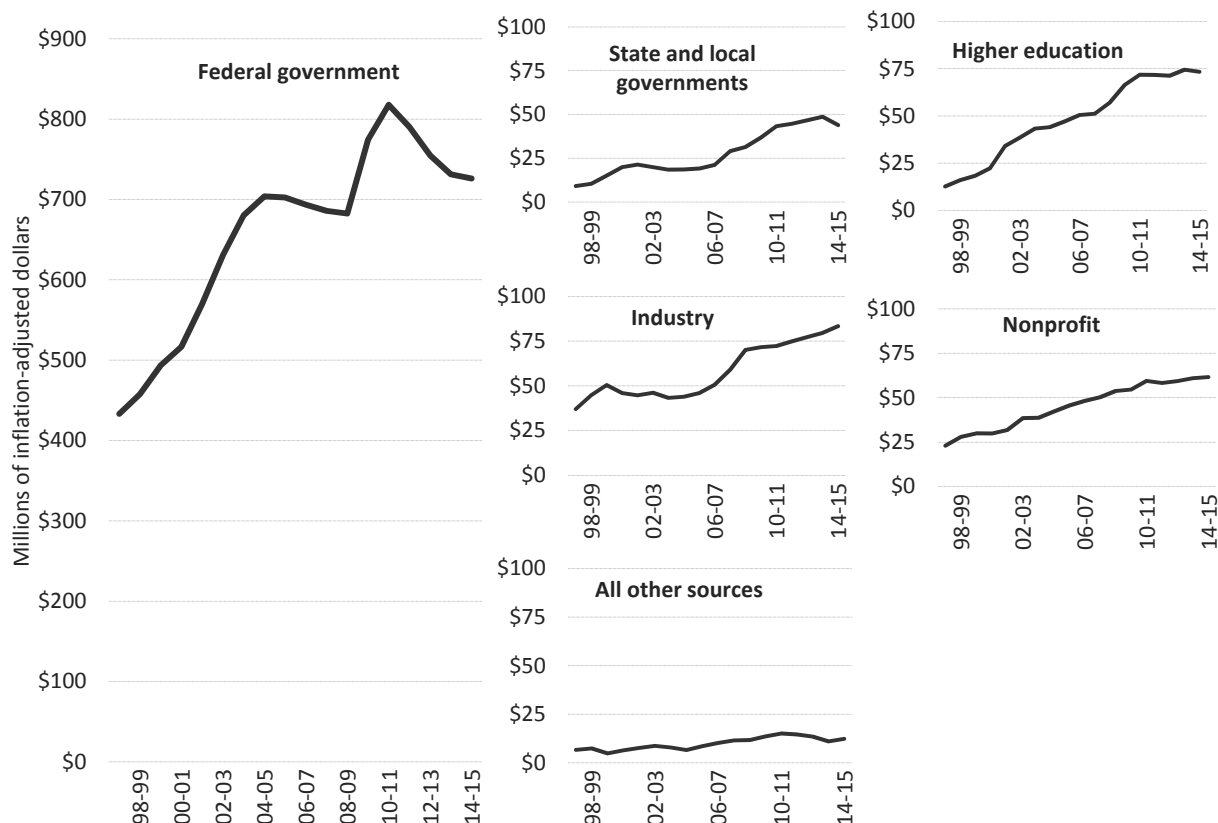
University support, accounting for 25 percent of all 2014–15 direct research expenditures, derives from a variety of sources. These funds include UC general funds (including a portion of recovered indirect costs), state government specific appropriations, endowment income and gifts.

¹ Amounts have been adjusted for inflation and do not include accrual funds for postemployment retirement benefits or indirect cost recovery funds.

9.1 RESEARCH EXPENDITURES

The true costs of conducting sponsored research at UC are significantly greater than the amounts the University receives, even for federally funded projects.

9.1.2 Research indirect cost recovery by source Universitywide 1997–98 to 2014–15



Source: UC Corporate Financial System

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

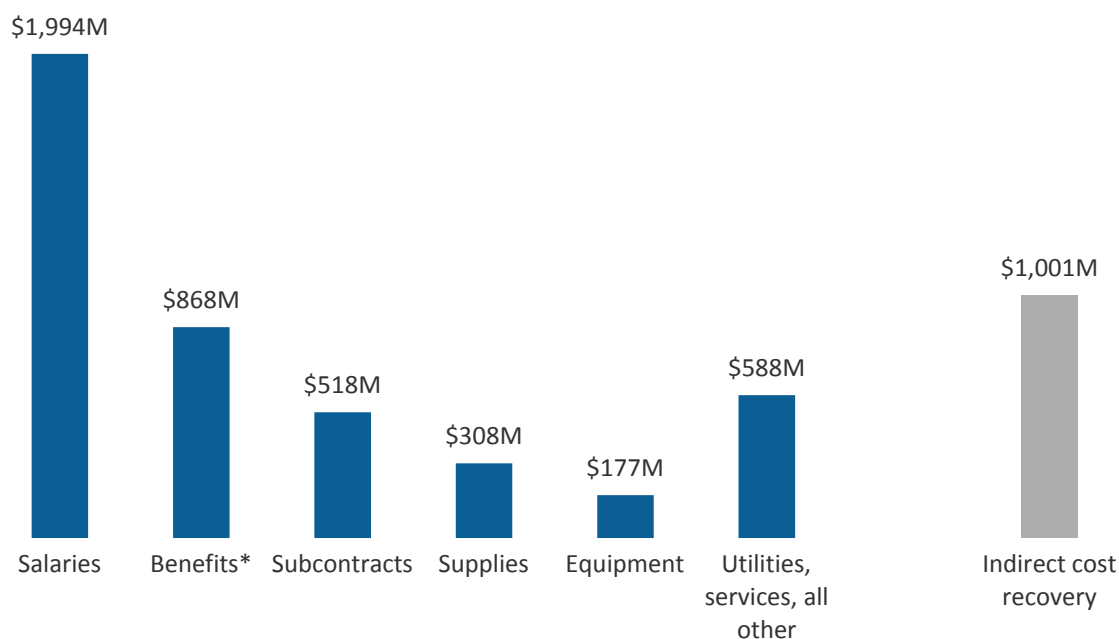
In 2014–15, UC’s indirect cost recovery was just over \$1 billion. The true indirect costs of research are typically much higher than the rate that research sponsors are willing to pay to UC or, for that matter,

to other research universities. Actual indirect cost recovery rates vary widely. Rates negotiated with federal agencies are among the highest, at about 52–56 percent, but nonetheless run between 5 and 18 percentage points below the true indirect costs. Most non-federal research sponsors, including corporations, nonprofit organizations and the state of California, have policies that limit indirect cost rates to well below federal rates. UC estimates that the true costs of its research exceed direct awards and indirect cost recovery by \$600 million annually, which must be made up from other sources.

9.1 RESEARCH EXPENDITURES

Salaries and benefits represent more than half of all research expenditures.

9.1.3 Research expenditures by type Universitywide 2014–15



*Includes post-employment benefit accruals. Source: UC Corporate Financial System

Total research expenditures of about \$5.45 billion during 2014–15, which include about \$1 billion in recovered indirect costs, represent about one-fifth of UC’s total expenditures.

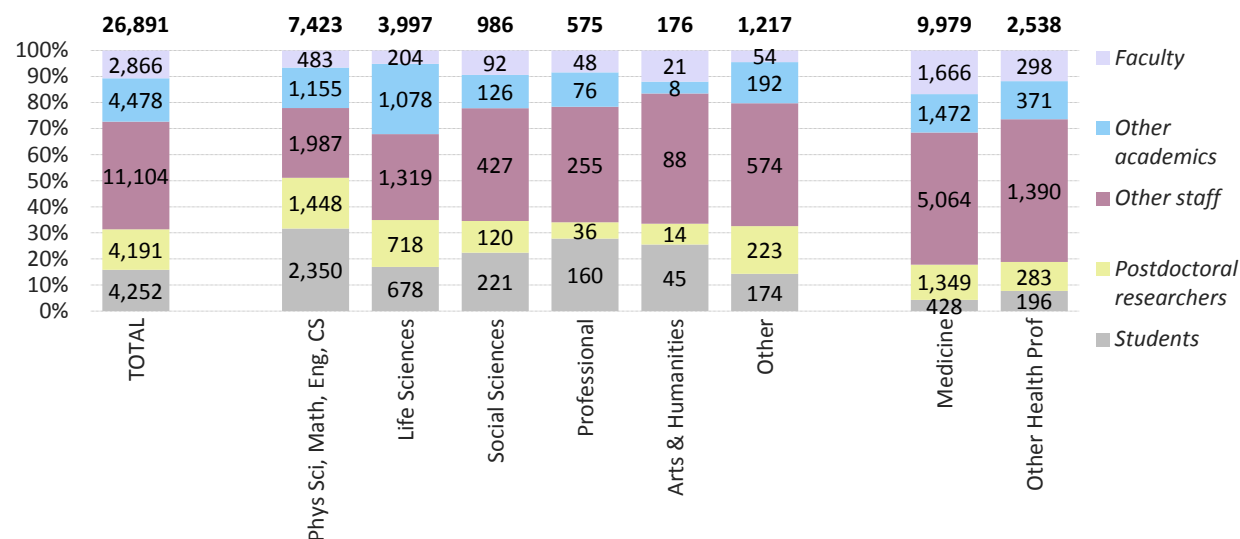
About a quarter of research salaries went to faculty. Twenty percent went to postdoctoral researchers and students. The great majority of those students were graduate students.

Research salary distribution	\$ millions	%
Faculty	512	26%
Academic researchers	324	16%
Other staff	758	38%
Postdoctoral researchers	217	11%
Students	183	9%
Total	1,994	100%

9.2 RESEARCH WORKFORCE

In 2014–15, funded research projects provided employment for about 26,900 full-time-equivalent personnel. This represents over 25 percent¹ of the total UC workforce, including student employees.

9.2.1 Research workforce by discipline, FTE Universitywide 2014–15



Source: UC Corporate Personnel System²

A diverse community of faculty, other academics, postdoctoral researchers, students, professional researchers and support staff all participate in UC's research enterprise. Student researchers (primarily graduate students) contribute to research in all disciplines and comprise almost one-third of the paid research workforce in the physical sciences and technology fields.

The 2014–15 research workforce is about 1.6 percent smaller than it was last year, due principally to a decline in the number of postdoctoral researchers and other staff.

The figures shown above include only staff and students paid through an externally funded research program or by UC's own research funds. This does not capture the effort of faculty and students who engage in research in the normal course of their work, or the staffers who provide administrative, facilities and equipment maintenance support as part of the overall University mission. In disciplines without significant external research funding, such as the arts and humanities, this work constitutes the lion's share of the total research effort.

¹ UC has about 106,000 full-time-equivalent employees.

² Data shown here represents full-time-equivalent personnel receiving earnings from research accounts.

9.2 RESEARCH WORKFORCE

Postdoctoral scholars (“postdocs”) are an integral part of the research function in many fields, and the training they receive at UC helps to create the next generation of scholars and researchers.

9.2.2 Postdoctoral scholars by discipline

UC campuses Fall 2015	UCSD (1,218)	UCSF (1,107)	UCB (1,140)	UCLA (943)	UCD (826)	UCI (304)	UCSB (295)	UCR (205)	UCSC (125)	UCM (47)
Medicine (2,160)	624	928		389	164	43		12		
Life Sciences (1,099)	113		326	74	329	104	7	102	38	6
Physical Sciences (969)	241		257	133	58	77	81	40	65	17
Engineering/ Comp Sci (914)	159		254	122	121	41	159	26	14	18
Other Health Professions (440)	33	167	49	119	58	14				
Interdisciplinary (271)	4	12	164	33	13	5	29	8		3
Social Sciences (210)	32		55	49	35	10	17	8	3	1
Professional Fields (110)	5		32	18	43	7		2	3	
Arts & Humanities (37)	7		3	6	5	3	2	7	2	2

Source: UC Information Center Data Warehouse, October 2015 Payroll Data¹

There are more than 6,200 postdoctoral scholars at UC. Not all have full-time appointments. Postdoctoral scholars are paid mainly from research grants, and for this reason are more prominent in fields with greater external research funding.

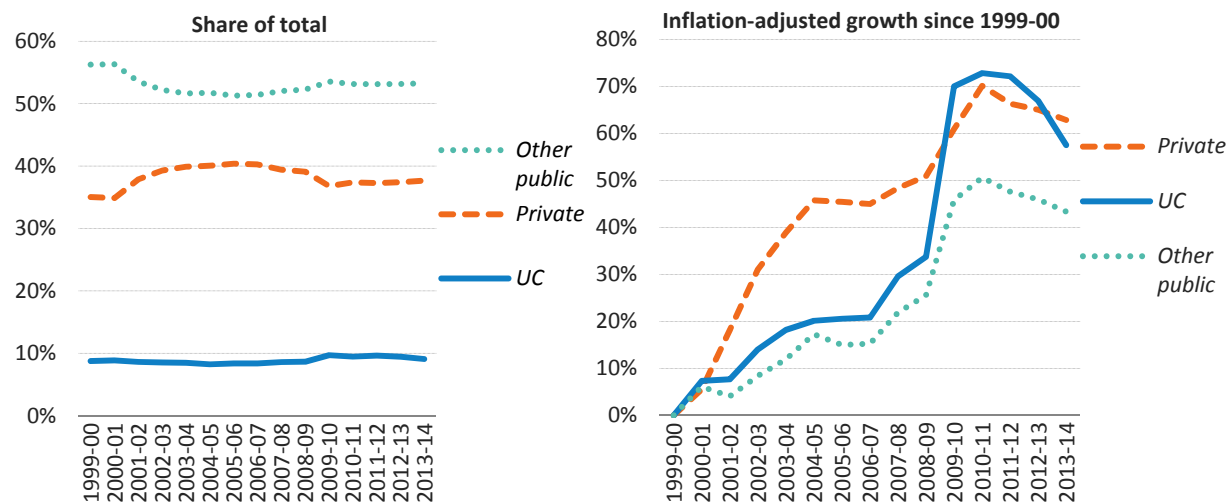
Postdoctoral scholars contribute to instruction in the laboratory sciences by working side by side with graduate students. They may also have a formal supervisory function in the laboratory.

¹ Includes all postdoctoral scholar titles: employee, fellow and paid direct. Includes those who may hold concurrent titles in other academic or staff categories. Professional Fields include architecture & environmental design, business & management, communications, education, home economics, law, library science and social welfare. Other health professions & clinical sciences include dentistry, nursing, optometry, other health professions, other health sciences, pharmacy, public health and veterinary medicine.

9.3 RESEARCH ACTIVITIES

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

9.3.1 UC share of U.S. research expenditures and rate of growth Universitywide 1999–2000 to 2013–14



Source: IPEDS

UC’s contribution to academic research and development activity in the United States has remained constant over the last decade, at between 9 and 10 percent. Over this period, the rate of growth in UC’s research expenditures exceeded the average pace at other public universities. This reflects both UC’s competitiveness in securing federal awards and UC’s successful relationships with the private sector.

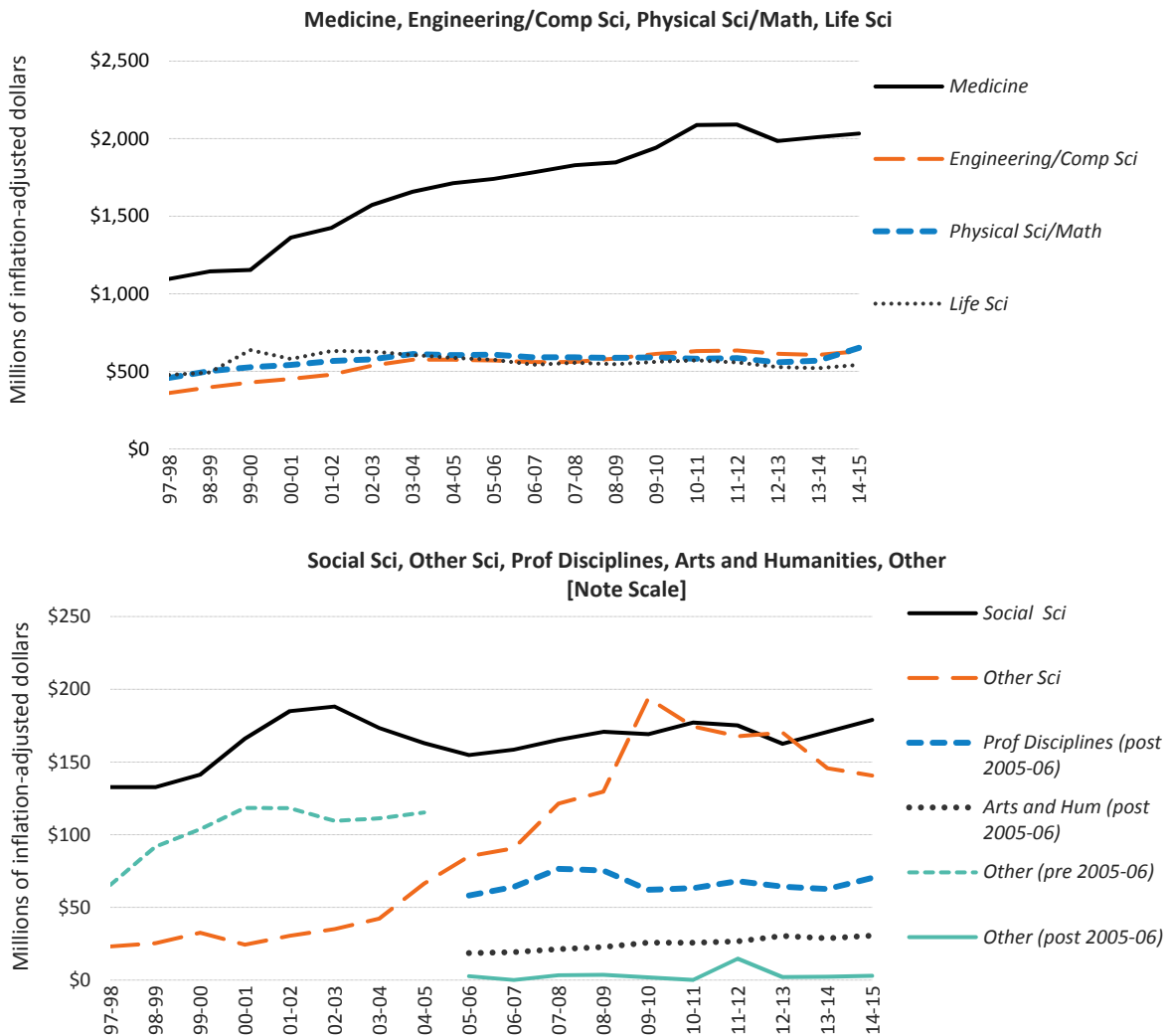
UC is the largest single recipient of funding from the two federal agencies principally responsible for academic research: the National Institutes of Health and the National Science Foundation. UC generally receives 5 to 6 percent of NIH’s annual appropriations for research and 7 to 8 percent of NSF’s annual appropriations.

All research universities experienced a decline in research expenditures during 2012–13 and 2013–14, as stimulus funds from the American Recovery and Reinvestment Act (ARRA) were spent and when Congress enacted cutbacks on research appropriations. The decline at UC was steeper than at private and other public universities on average, largely because UC was successful in attracting over \$1 billion in stimulus funds. The current federal budget calls for relatively steady agency research funding for the next two years, so research expenditures should remain constant for that period.

9.3 RESEARCH ACTIVITIES

Inflation-adjusted expenditures for research in the medical fields have increased by 86 percent since 1997–98, compared to 48 percent for all other disciplines.

9.3.2 Direct research expenditures by discipline Universitywide 1997–98 to 2014–15



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

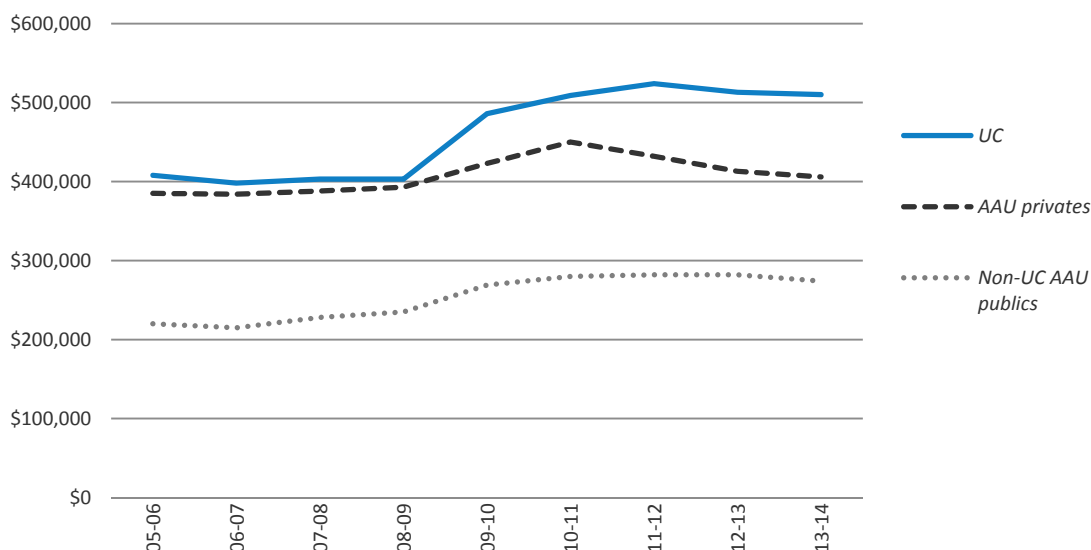
Research expenditures in all STEM (Science, Technology, Engineering and Mathematics) and medical fields represented over 90 percent of total research expenditures each year during the past decade. This reflects the availability of funding and parallels the nationwide pattern.

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.

9.3 RESEARCH ACTIVITIES

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

9.3.3 Average inflation-adjusted research expenditures per ladder-rank faculty UC and AAU comparison universities 2005–06 to 2013–14

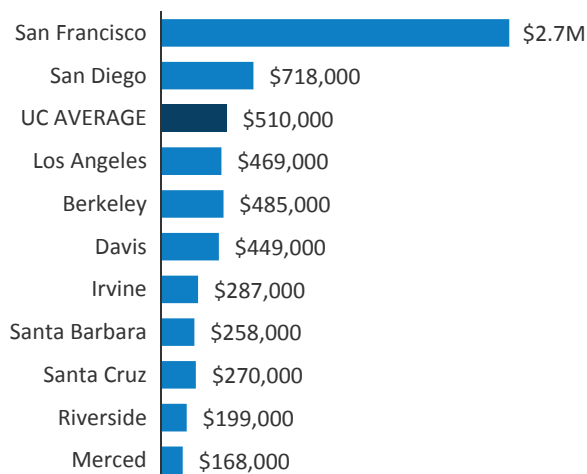


Source: IPEDS

UC faculty are extremely successful at attracting research support from both government and private sponsors. On average, UC annually conducts \$510,000 in research per tenured and tenure-track faculty member, which surpasses the average of \$406,000 per faculty member for American Association of Universities (AAU) private institutions and \$274,000 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.

9.3.4 Average research expenditures per ladder-rank faculty UC campuses 2013–14

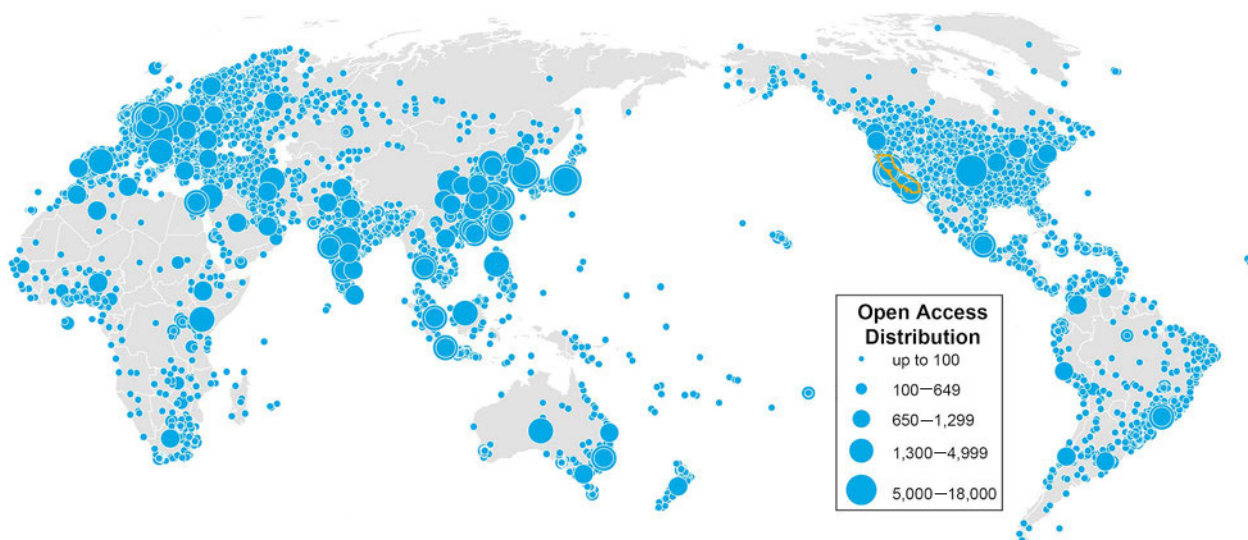


UCSF is an exclusively health science campus, where many non-ladder-rank (clinical) faculty conduct significant research.

9.4 RESEARCH OUTPUT

UC's Open Access policies have already resulted in a growing body of freely available research publications in the eScholarship online repository, expanding the global reach of UC's research findings.

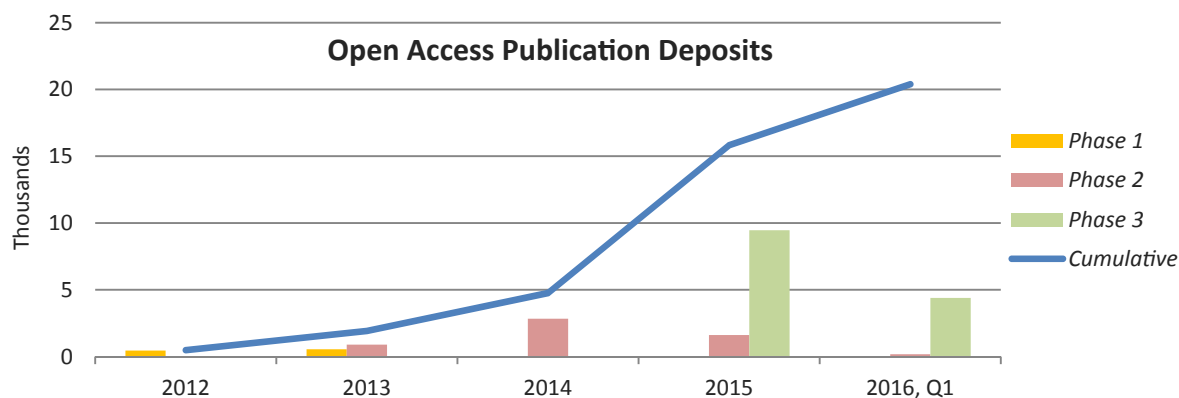
9.4.1 Open Access Project Initiative progress report Universitywide 2012 to March 2016



Source: California Digital Library

This map shows the geographic distribution and concentration of article downloads for materials deposited in eScholarship, a repository run by UC's California Digital Library. There are currently over 100,000 open access publications available in the repository, 20,000 of which have been recently deposited under the UC Academic Senate's Open Access Policy. Phase 1 of this initiative represents the rate of deposit prior to the adoption of the Senate's policy in 2013.

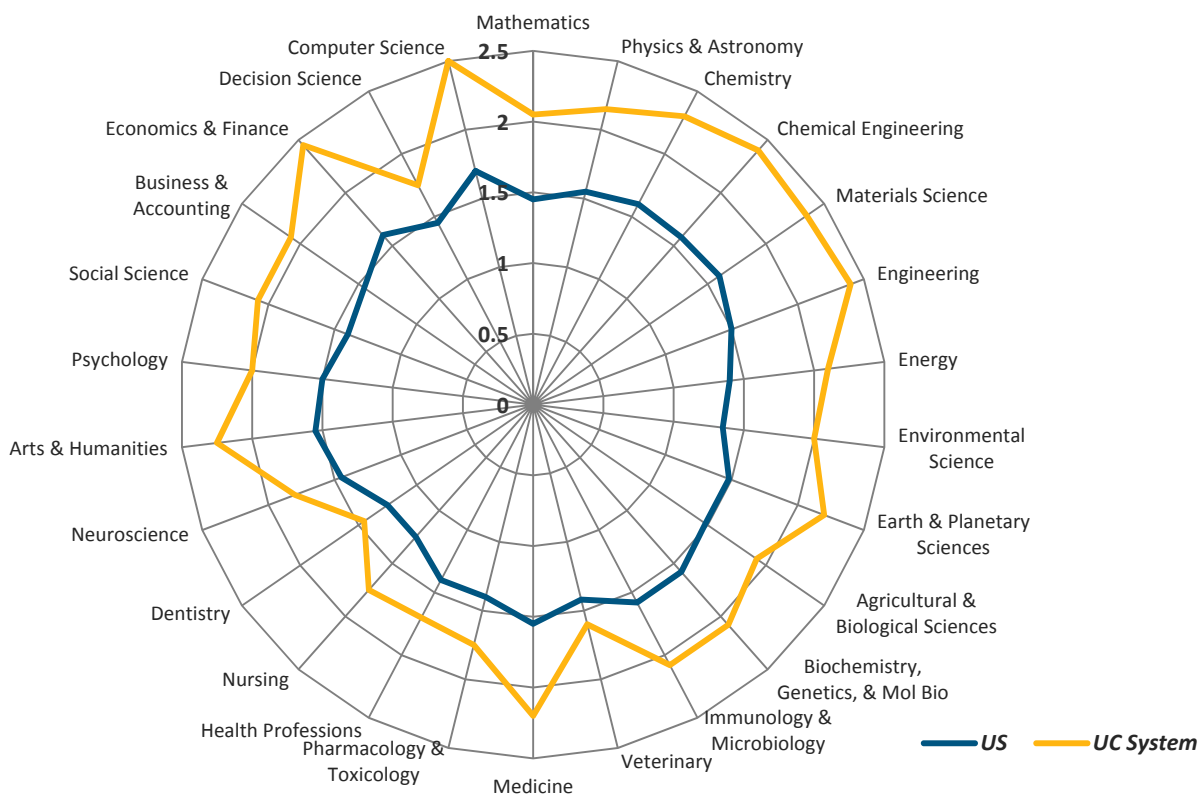
Deposits to eScholarship increased during Phase 2, once the Senate policy was in place. Starting in 2015, an automated publication management system was implemented, resulting in a greater public distribution of research findings. The recent application of these policies to all UC employees, not just Senate Faculty, by the Presidential Open Access Policy should accelerate the growth of publications in eScholarship.



9.5 RESEARCH IMPACT

The University of California is a major research presence at both the state and national levels, producing about one-twelfth of the nation’s research publications.

9.5.1 Total UC research publication national impact, by field-weighted citation impact and discipline Universitywide 2009 to 2013



Across all disciplines, the UC FWCI average is 2.15; the U.S. FWCI average is 1.48.

Source: Elsevier, “Research Performance of the UC System,” March 2015

Publication databases can be analyzed to develop measures of the output and impact of UC researchers. A recent Elsevier study showed that UC research publications accounted for 8.3 percent of all research publications in the United States between 2009 and 2013.

In assessing research output, it is important to consider not only volume but also quality. A field-weighted citation impact (FWCI) compares publication citation data across disciplines and

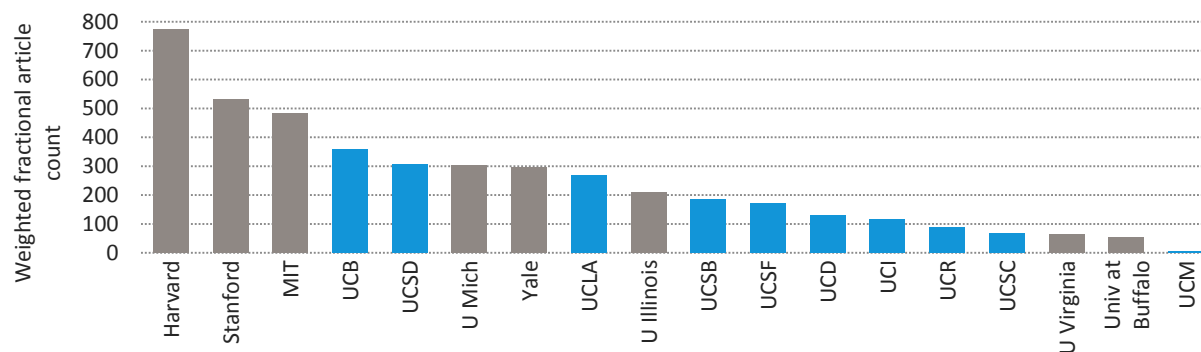
compares the quality of UC research output to state, national and global levels. The FWCI for the UC System as a whole is 2.15 across all disciplines, higher than both the world average (1.0) and the U.S. average (1.49) between 2009 and 2013.

In all fields, the impact of UC publications significantly exceeded U.S. national averages. UC’s publication impact is particularly high in the fields of arts and humanities, economics, computer science, engineering and medicine.

9.5 RESEARCH IMPACT

UC is a major contributor to the world’s publication output in the natural sciences, with each campus individually producing annual numbers of articles similar to comparison universities.

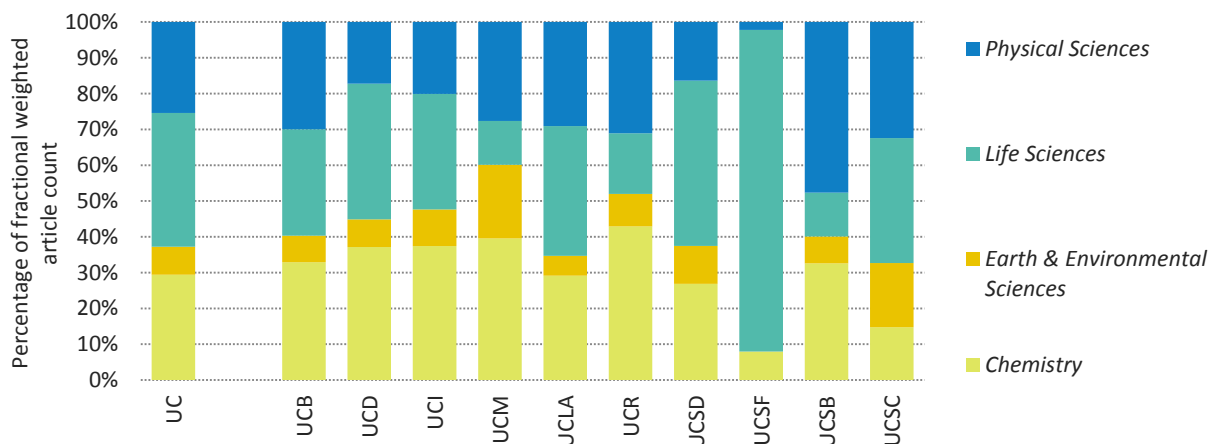
9.5.2 Natural sciences research output UC campuses and comparison institutions 2015



Among all North American academic institutions, three UC campuses consistently rank in the top ten for research output in the natural sciences: UC Berkeley (4th), UC San Diego (5th), and UCLA (9th).

Within the natural sciences, UC’s research publications are fairly equally distributed among life sciences (30 percent), chemistry (29 percent) and physical sciences (25 percent), with a much smaller percentage in the field of earth and environmental sciences.

9.5.3 Natural sciences research output by subject area Universitywide and campuses 2015



Source: Nature Index¹

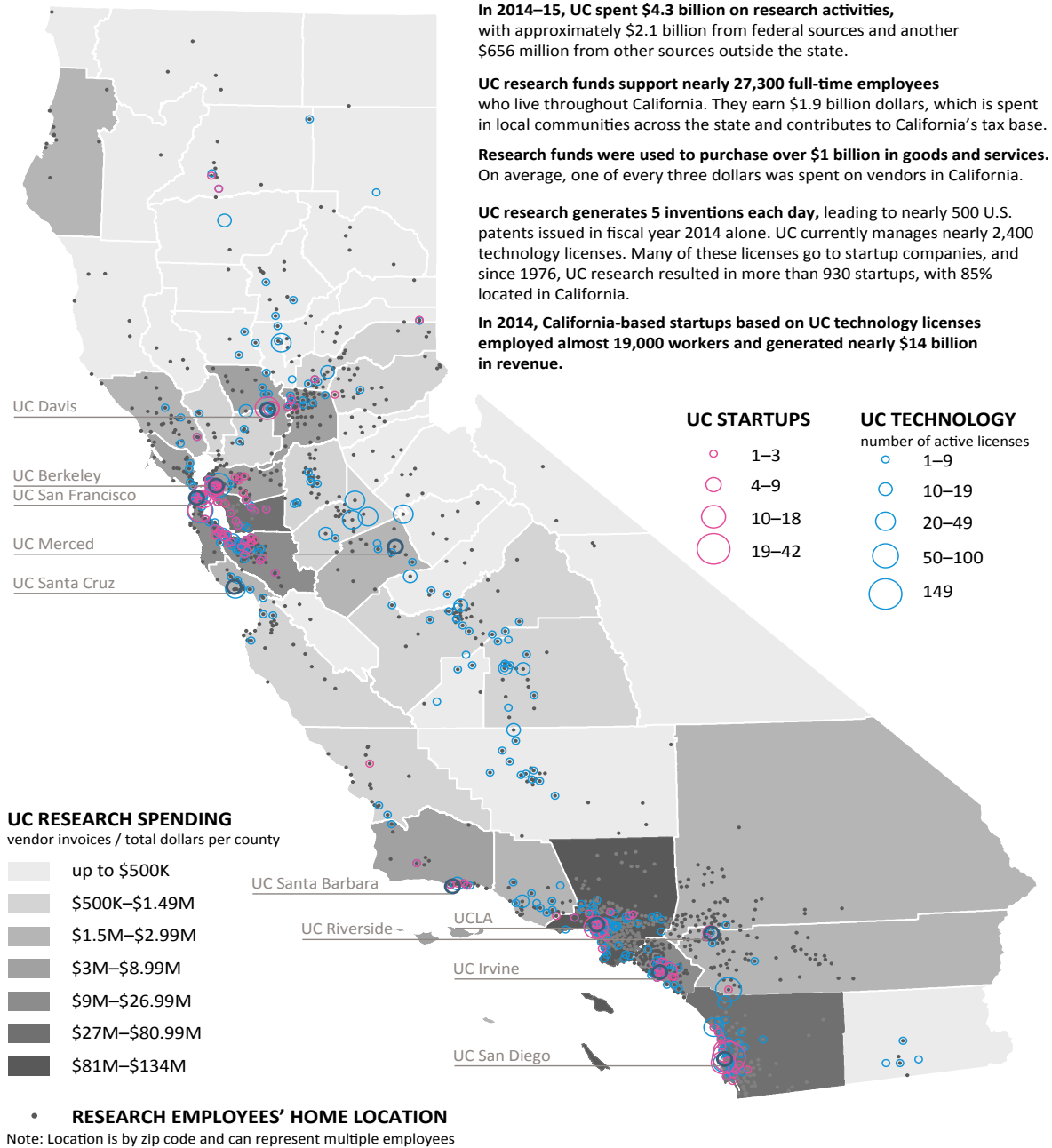
¹ Nature Index is a database of author affiliation information collated from research articles published in a selected group of 68 high-quality science journals. Data are compiled by the Nature Publishing Group. Weighted fractional article count is a measure of research output that counts the number of articles with authors affiliated with an institution, but it takes into account how many coauthors an article has; it also down-weights articles published in the fields of astronomy and astrophysics, which are over-represented among natural science journals.

9.6 RESEARCH IMPACT IN CALIFORNIA

The amounts spent on UC research projects diffuse throughout the state and support local economies.

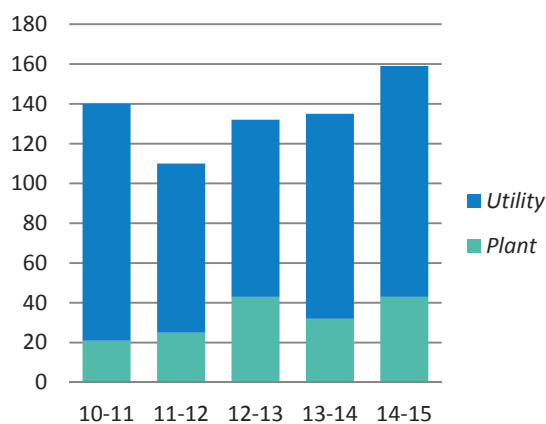
9.6.1 Impact of UC research activity in California Universitywide 2014–2015

UC RESEARCH IMPACTS IN CALIFORNIA



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

9.6.2 New licenses for UC technology issued to California businesses 2010–11 through 2014–15

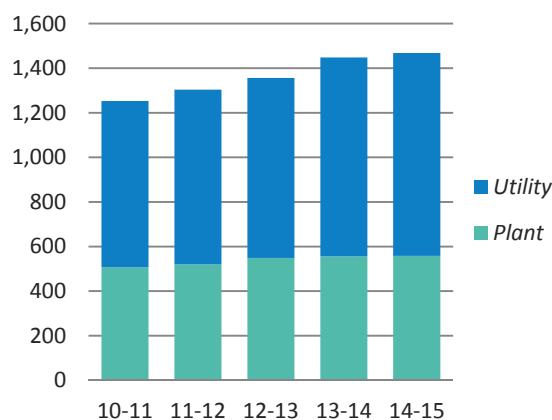


Research is part of UC’s mission, and much of this research is basic, foundational research. However, some UC research leads directly to new inventions and innovations; bringing those innovations from the lab to the marketplace is an intrinsic part of UC’s public service mission.

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 company. Both pathways ultimately benefit the economy of the state of California.

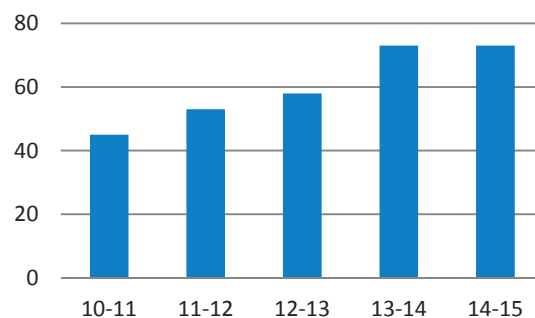
University inventions are classified as utility licenses or plant licenses. Utility licenses cover inventions protected by utility patents, such as processes, machines, manufactured items or compositions of matter. Utility licenses are often exclusive to the licensee. Plant licenses cover sexually and asexually reproducing plant varieties, 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.

9.6.3 Licenses for UC technology currently active in California 2010–11 through 2014–15



UC startups are independently operating companies that formed to commercialize a UC technology. The number of startups has increased to over 70 companies each year. More than 85% of these startups were founded and remain in California. As of 2015, 492 UC startups are actively operating in California, employing over 5,000 people and generating a combined \$654 million in annual revenues. An additional 22 startups have grown and merged with other, larger companies, representing an additional 13,324 employees and \$13.7 billion in annual revenues.

9.6.4 UC startups formed per year in California 2010–11 through 2014–15

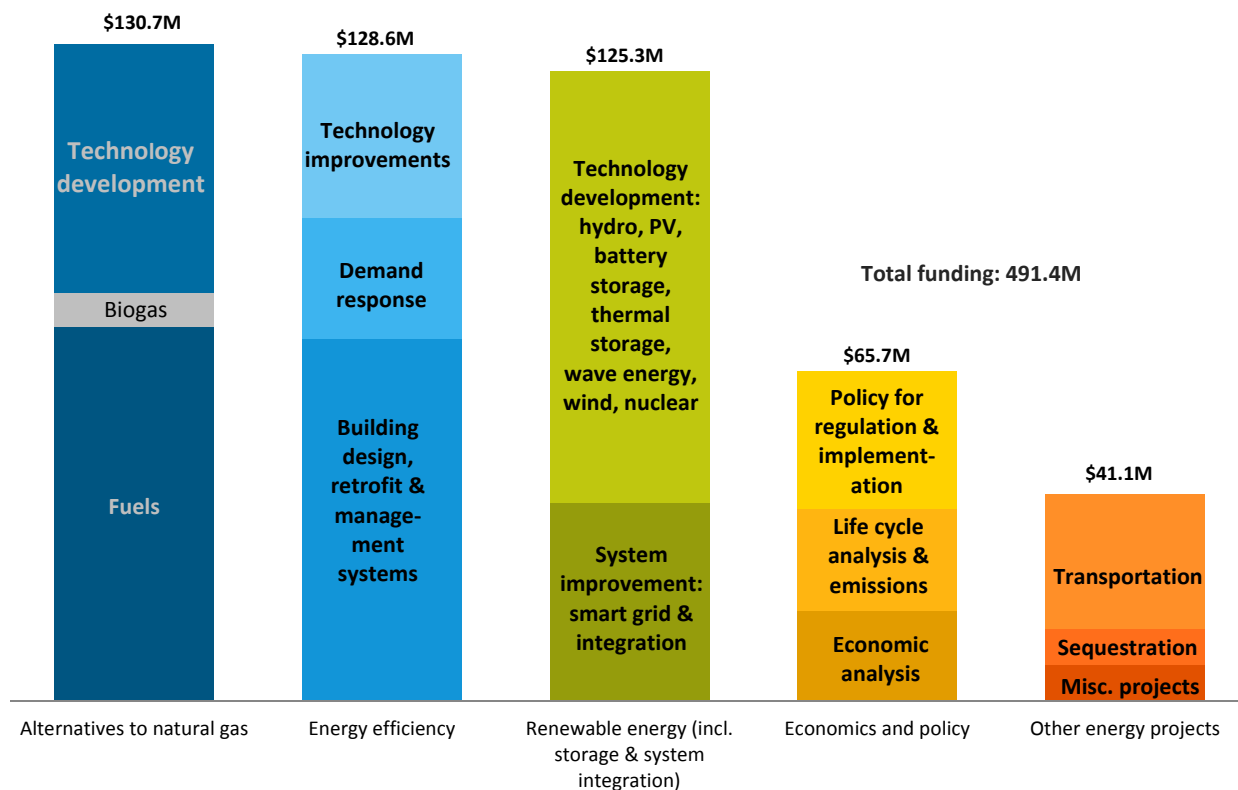


Source: UC Innovation Alliances and Services

9.7 UC RESEARCH SPOTLIGHT ON PRESIDENTIAL INITIATIVES

Over a six-year period, UC researchers secured more than \$491 million to develop technologies and management practices aimed at achieving the goals of UC's Carbon Neutrality Initiative and addressing global climate concerns.

9.7.1 UC strengths in carbon-neutrality research topics Universitywide Q4 2008–9 to Q4 2014–15



Source: UC Contracts & Grants System

In 2007, all ten UC campuses pledged to achieve carbon neutrality by 2050, establishing a timeline that would make UC the first public university to achieve this ambitious goal. In 2013, UC President Janet Napolitano strengthened that commitment by announcing the University of California Carbon Neutrality Initiative and advancing the carbon neutrality goal to 2025. To identify research strengths, gaps and areas where further investment would have the greatest impact, the Office of Research & Graduate Studies at the UC Office of the President compiled an inventory of all research awards to UC over a six-year period on topics relevant to UC's Carbon Neutrality Initiative.

Although the distribution of research activity among the major topic areas appears to be well-balanced, the subcategories within these areas reveal gaps. Most notably, research on the development of biogas from organic waste received relatively low support, with about \$6.1 million total funding over the six-year period. More research in this area will need to be done in coming years, given the need to substitute alternative biogas fuels for the large quantities of natural gas currently used on campuses with large, natural-gas-fired co-generation facilities for heating and on-site electricity generation.





Chapter 10. Public Service

The public service mission

As a service to the state of California and its residents, UC manages an extensive network of world-class museums, libraries, herbaria and other facilities that are open to the public. The University hosts a wide range of performances and events that attract audiences from all parts of the state. But beyond its campus-based resources and services, UC's impact can be seen throughout the state, with a significant presence in nearly every community.

UC contributes significantly to the well-being of the state's population and its economic growth through its public service mission — a fundamental and defining feature of UC throughout its history. The University's origins, and the nature of its public service mission, can be traced to the Morrill Land-Grant Act of 1862, which enabled states to use federal lands to establish colleges “to teach such branches of learning as are related to agriculture and the mechanical arts,” along with scientific and classical studies. UC was chartered in 1868 as California's land-grant university, and since its founding, UC's public service mission and its other two missions of teaching and research have been closely intertwined.

This chapter highlights aspects of life in California where UC's impact has been and continues to be profound: agriculture, environmental stewardship, health, education at all levels and the overall economy.

Agricultural research and extension

Federal legislation subsequent to the Morrill Land-Grant Act expanded the mission of the nation's land-grant institutions to conduct research in Agricultural Experiment Stations (AESs) and to connect that research with local communities throughout each state through Cooperative Extension (CE).

In 1975, UC merged these two divisions, AES and CE, under the leadership of the UC systemwide Division of Agriculture and Natural Resources (ANR). ANR serves as the major land-grant arm for UC and the

state, as part of the nationwide public university system “built on behalf of the people” (Abraham Lincoln).

Through research and education, ANR provides worldwide leadership in sustainable, safe, nutritious food production and delivery; promotes economic success in a global economy; helps sustain a productive natural environment; and encourages youth development. ANR coordinates the Agricultural Experiment Station, a multi-campus organized research unit. While both AES and CE conduct research, CE is also the outreach arm for ANR. CE serves the public in all 58 California counties, bringing UC research to local communities to address real-world problems.

Overseeing nearly 3,700 local partnership programs, ANR maintains and enhances connections that engage UC with the people of California (see indicator 10.1.1 in this chapter). The ANR network develops and delivers science-based solutions for healthier food systems, healthier environments, and healthier Californians.

Across all campuses and divisions, the University operates at least 23,000 community-based programs (a conservative estimate).

COMMUNITY PROGRAMS	UC total	Campus	ANR
Agriculture, Environment and Natural Resources	2,998	1,094	1,904
Nutrition/Health Services	2,377	589	1,788
Community/Social Services	1,958	1,958	
Cultural Resources/Arts	648	648	
University Extension	735	735	
Business/Economic Dev.	219	219	
Public Policy	364	364	
Teacher Professional Dev.	8,563	8,563	
Teacher Preparation	190	190	
K - 12 Student Services	4,625	4,625	
Community College Student Services	524	524	
	23,201	19,509	3,692

UCOP produces an interactive map, “UC in California: Impact Beyond Campus Borders,” which highlights UC-operated community-based programs across the state and by legislative district. Find the map at: <http://ucal.us/maps>.

Agricultural sustainability

ANR serves as the bridge between local agricultural and environmental issues and the power of UC. ANR scientists are one of the driving forces behind California’s \$54 billion agriculture sector, a major contributor to the food supply of not just the state but also the nation and the world. California’s continued success in agriculture depends on adopting scientific and technological innovations derived from the results of research in agriculture and nutrition. ANR works with communities and industry to enhance California’s agricultural economy; to improve water quality, quantity and security; to increase science literacy; to secure food supplies; to manage pests and diseases; and to improve energy security and green technologies. For example, ANR’s response to the invasive Asian citrus psyllid involves a wide-ranging program of research and education including informing the public about how to manage backyard citrus trees as well as helping the citrus industry.

Environmental stewardship

While UC’s public service mission has evolved well beyond its 19th-century agricultural origins, UC’s extensive portfolio of environmental stewardship activities is a natural outgrowth of this history. Today, ANR manages a wide network of conservation and sustainability programs addressing critical issues such as drought, climate change and invasive species. For example, ANR’s drought research informs policy, decision-making and water management. One AES study on drip irrigation has influenced state policy to provide incentives for this method of water conservation and has helped to increase its adoption.

The public service impact of ANR’s academic researchers is greatly extended by a statewide network of UC-trained volunteers. ANR’s California Naturalist program uses a hands-on science

curriculum and citizen science to foster a diverse cadre of volunteers all over the state through federal, state, local and non-profit organizations.

The University of California directly manages lands representing most of the state’s ecosystems, which are utilized for research, teaching and public service. The UC Natural Reserve System comprises 39 sites with more than 756,000 acres across California. These lands provide undisturbed environments to conduct research, enhance students’ educational experiences and provide sites for public service programs. The latest addition is the Merced Vernal Pools and Grasslands reserve, next to UC Merced.

ANR’s nine Research and Extension Centers (RECs) serve as a premier research management organization, providing land, labor, facilities and equipment that deliver services to academics and the public. The centers are also focal points for community participation and for active involvement in current agricultural and natural resource challenges.

Health and nutrition programs

UC’s research activities, particularly clinical trials, help improve health outcomes by understanding diseases and finding effective treatments (see Chapter 9: Research). Chapter 11 (UC Health) describes UC’s role in training California’s health care workforce and providing direct care to residents.

UC’s five medical centers serve as the state’s fourth-largest health care delivery system, and engage in a wide range of activities to address the needs of specific populations. For example, the five medical centers maintain long-term institutional partnerships with regional Veterans Affairs Health Care systems. In addition to conducting research on health issues of concern to veterans, such as traumatic brain injury and post-traumatic stress disorder, UC faculty and medical students provide quality care for several thousand veterans annually through the VA.

UC also expands its health outreach through telemedicine, providing care for patients living in rural areas or in areas where specialty experts are not available. Telemedicine activities include real-

time video and phone consultations between UC health care specialists and staff in clinics, hospitals, emergency rooms and intensive care units.

Both on campus and in communities throughout the state, promoting healthy outcomes for all Californians is an important element of UC's public service mission. ANR delivers community partnership programs statewide to address childhood obesity, healthy choices and food insecurity. For California, ANR directs the national Expanded Food and Nutrition Education Program (EFNEP) and the Supplemental Nutrition Assistance Program-Education Connection (SNAP-Ed), known as UC CalFresh in California. These programs assist limited-resource families to develop knowledge, skills, attitudes and behaviors that help them tackle social and health disparities associated with hunger, malnutrition, poverty and obesity. Through these programs, families change the way they eat, practice food safety and food budgeting, and become more physically active.

ANR also informs statewide and national nutrition policy. For example, research on childcare nutrition practices is changing food environments for California preschoolers through multiple state laws. In addition, studies have contributed to changes in nutrition standards in school foods nationwide by informing the 2010 Healthy, Hunger-Free Kids Act. Beginning in 2015, students may only have "smart snacks" that meet nutrition standards in cafeterias, in vending machines and through school fundraisers.

Education partnerships

For more than 40 years, the University of California's Student Academic Preparation and Educational Partnerships (SAPEP) programs have helped prepare California students for higher education. SAPEP programs such as the Early Academic Outreach Program (EAOP), Mathematics, Engineering, Science Achievement (MESA) and The Puente Project are designed to improve academic preparation for students by focusing on specific areas of college readiness.

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 programs each year for educators at schools throughout the state. 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.

UC's economic impact

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 (science, technology, engineering and mathematics) represent a major component of California's economy. UC awards half of the state's bachelor's degrees in STEM fields.

UC's operations also add significantly to the state's economy, as it is one of California's largest employers. 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 and attracts over \$8 billion in annual funding from outside the state.

True to its land-grant mission, the UC system touches most aspects of society. The UC public service mission has evolved in tandem with the changing needs of our state and our local communities, and has developed programs and partnerships that improve the lives of all Californians.

For more information

Interactive map application: includes legislative districts and campus info: <http://ucal.us/maps>

Division of Agriculture and Natural Resources:
<http://ucanr.edu>

Natural Reserve System: <http://ucnrs.org>

MESA Programs: <http://mesa.ucop.edu>

CalTeach: <http://calteach.universityofcalifornia.edu/>

Early Academic Outreach Program (EAOP):
<http://www.eaop.org/>

The Puente Project: <http://puente.berkeley.edu/>

California Subject Matter Project:
<http://csmj.ucop.edu/>

UC Information Center dashboards:

UC's role in educating California's workforce:
www.universityofcalifornia.edu/infocenter/degrees-awarded-glance

Stem degree pipeline:
www.universityofcalifornia.edu/infocenter/uc-stem-degree-pipeline

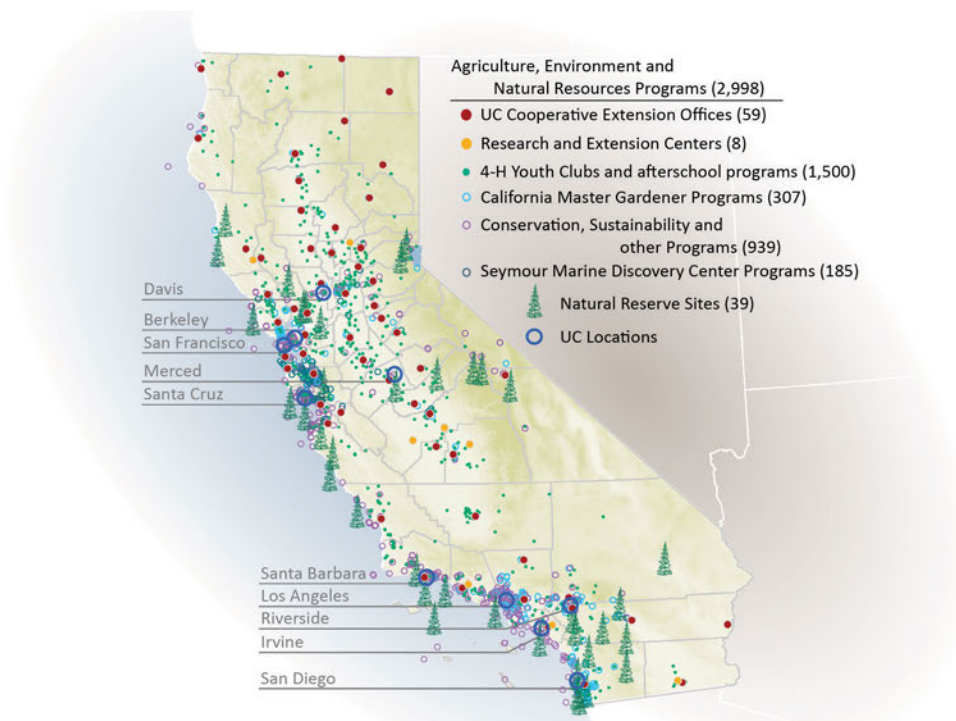
UC's alumni employment outcomes:
www.universityofcalifornia.edu/infocenter/uc-undergraduate-alumni-outcomes

UC's faculty and staff:
www.universityofcalifornia.edu/infocenter/personnel-data

10.1 COMMUNITY SERVICE PROGRAMS

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 agriculture, environment and natural resources programs, and UC natural reserve sites Fall 2015



Source: UC campuses

UC's Division of Agriculture and Natural Resources (ANR) serves as the state's land-grant arm, bringing the power of UC research to all counties and helping to solve local agricultural and natural resource issues. ANR operates a vast statewide network of researchers and educators collaborating to develop and provide science-based information.

ANR includes 115 Cooperative Extension Specialists and about 650 affiliated Agricultural Experiment Station researchers. These academics are located in 40 departments on the Berkeley, Davis, Riverside and, more recently, Merced campuses.

Cooperative Extension has over 175 academic advisors conducting research, outreach and education from 60 locally based Cooperative Extension offices and nine Research and Extension Centers (RECs). The statewide network of local CE sites is often the face of UC to Californians with no other connection to the University. In 2015, CE had contact with nearly 950,000 adults and over 400,000 youth.

The RECs are situated throughout California's varied crop production areas and climatic zones. They offer researchers places to conduct field experiments and educational opportunities for the public. In addition, ANR operates eight statewide programs and two institutes with multidisciplinary approaches to complex issues.

In 2015, ANR conducted around 500 agricultural research projects and disseminated its research results through roughly 700 workshops, demonstrations and field trips. This enabled growers, both small farmers and allied industry professionals, to adopt best practices resulting in increased yield, reduced inputs, increased efficiency, increased economic return and conservation of resources. In addition to other outreach materials, ANR maintains approximately 75 unique, agriculture-specific websites.

During 2015, naturalists trained and certified by ANR's California Naturalist program contributed over 22,000 hours of public service, conducting scientific research, environmental monitoring, restoration and conservation and public education.

The UC Master Gardener Statewide Program, managed by ANR, extends research-based information about home horticulture and pest management to the public. The program provides training to volunteers who in turn contribute services and outreach to the public in more than 50 of California's 58 counties. Last year, 6,055 active UC Master Gardener volunteers donated 398,150 hours — the equivalent of 191 full-time employees, which would have cost \$11 million if the time had not been donated. Since the program's inception in 1981, volunteers have contributed more than 4.6 million hours.

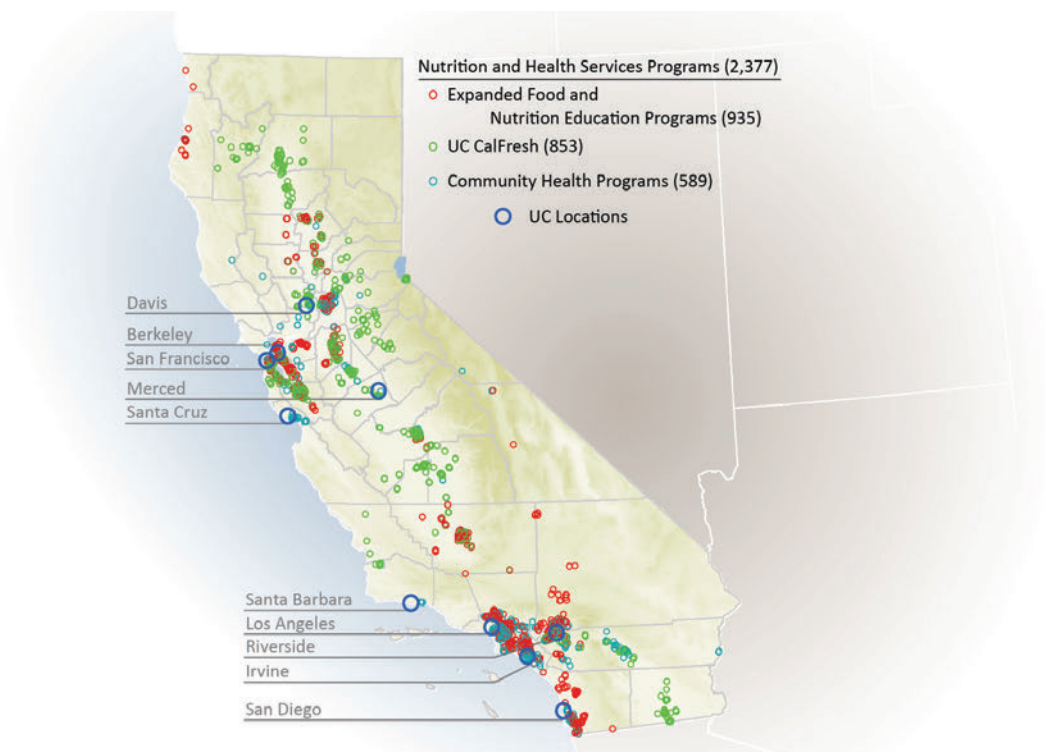
The 4-H Youth Development Statewide Program, managed by ANR, engages California youth from ages 5 through 19 using a positive youth development framework and combining experiential, hands-on education and inquiry-based science learning in areas that include environmental, plant and animal sciences. In 2015, 300,000 youth participated in 4-H. Youth who participate have been shown to be 3.4 times more likely to contribute to their communities. Girls in 4-H are twice as likely to plan to pursue science careers.

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 39 sites include more than 756,000 acres, making it the largest university-administered reserve system in the world.

10.1 COMMUNITY SERVICE PROGRAMS

UC promotes healthy outcomes across the state by leveraging partnerships with local communities.

10.1.2 UC nutrition and health programs Fall 2015



Source: UC campuses

Through some 2,400 nutrition and health community partnership programs, UC nutrition educators present the Dietary Guidelines for Americans and share strategies for meal planning, food shopping, food preparation and food safety. ANR manages nutrition education activities throughout the state, focusing on obesity and food insecurity challenges. ANR nutrition research and education programs annually receive support of nearly \$30 million from USDA and nonfederal sources.

ANR's two main nutrition education programs are the UC Expanded Food and Nutrition Education Program (EFNEP), in 24 California counties, and the UC CalFresh Program, in 15 counties. Over the past four years, EFNEP enrollment has increased by 17%, averaging 9,400 low-income families, with 90%

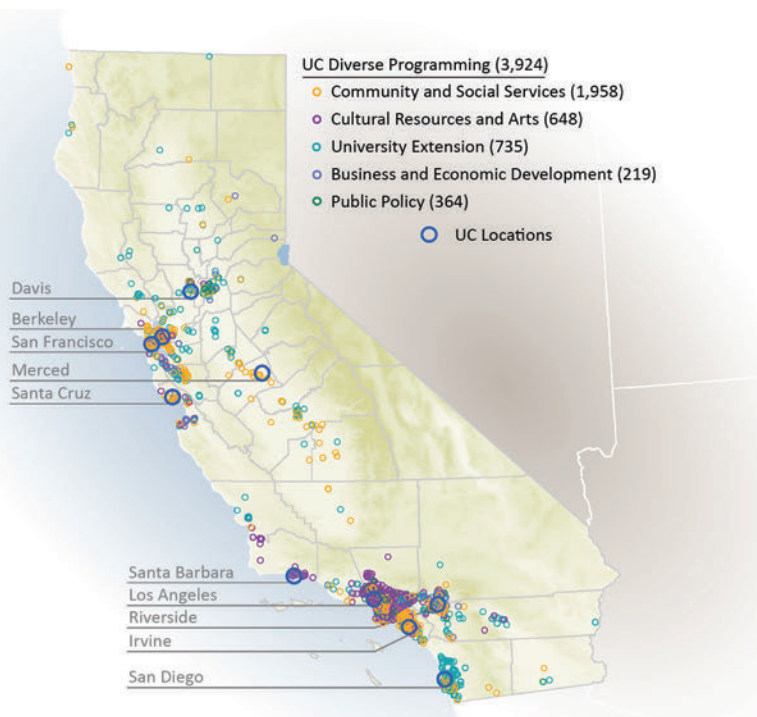
improving nutrition practices and 85% improving their skills managing a food budget. The UC CalFresh Program focuses on youth, utilizing schools as the hub for community engagement. In 2015, the program was delivered in 361 K–12 schools, 171 preschools, 40 afterschool programs and 65 other sites statewide.

The University recently launched a Global Food Initiative, which seeks to address food insecurity issues and challenges associated with sustainably feeding our growing population. The initiative involves all ten campuses, UC's Division of Agriculture and Natural Resources, and the Lawrence Berkeley National Laboratory. (For more information, see <http://www.ucop.edu/global-food-initiative/>.)

10.1 COMMUNITY SERVICE PROGRAMS

UC is involved in communities across California through a wide range of local-level service programs.

10.1.3 UC community and social services, cultural resources and arts, university extension, business and economic development and public policy programs Fall 2015



Source: UC campuses

UC administers nearly 2,000 programs providing community and social services throughout the state. These programs include internship and field study programs that connect students and alumni with their communities, and volunteer centers working on issues such as domestic violence, fair housing advocacy and employment training.

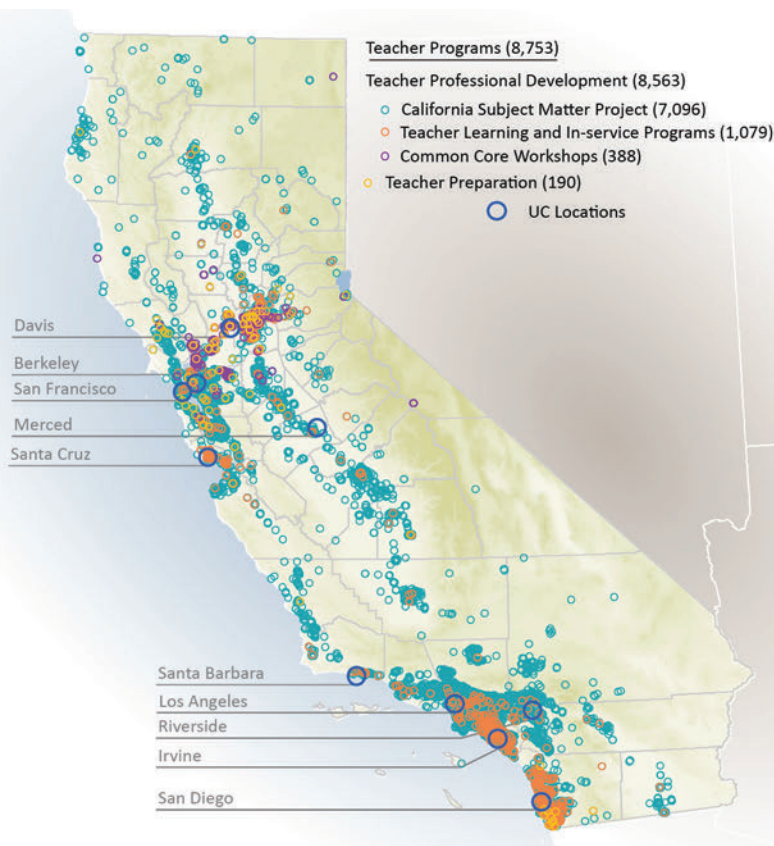
UC manages about 650 arts education and outreach programs that teach art, dance, drama, music and digital arts in the community. These programs expose students and community members to art and culture through performing arts, theater, cultural events and other activities.

UC's public service mission incorporates a focus on local business and economic development. The University operates about 220 business-related programs statewide. These include 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.

Serving about 420,000 course registrants, about 730 UC University Extension programs encourage lifelong learning for all Californians. Additionally, more than 360 public policy programs are dedicated to engaging the community and raising awareness on public policy issues.

UC helps prepare California’s teacher workforce and strengthens the skills of teachers throughout their career.

10.2.1 UC’s teacher professional development and teacher preparation programs Fall 2015



Source: UC campuses

The University of California plays an important role in preparing teachers and providing teacher professional development. UC manages more than 8,500 teacher professional development programs and about 200 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

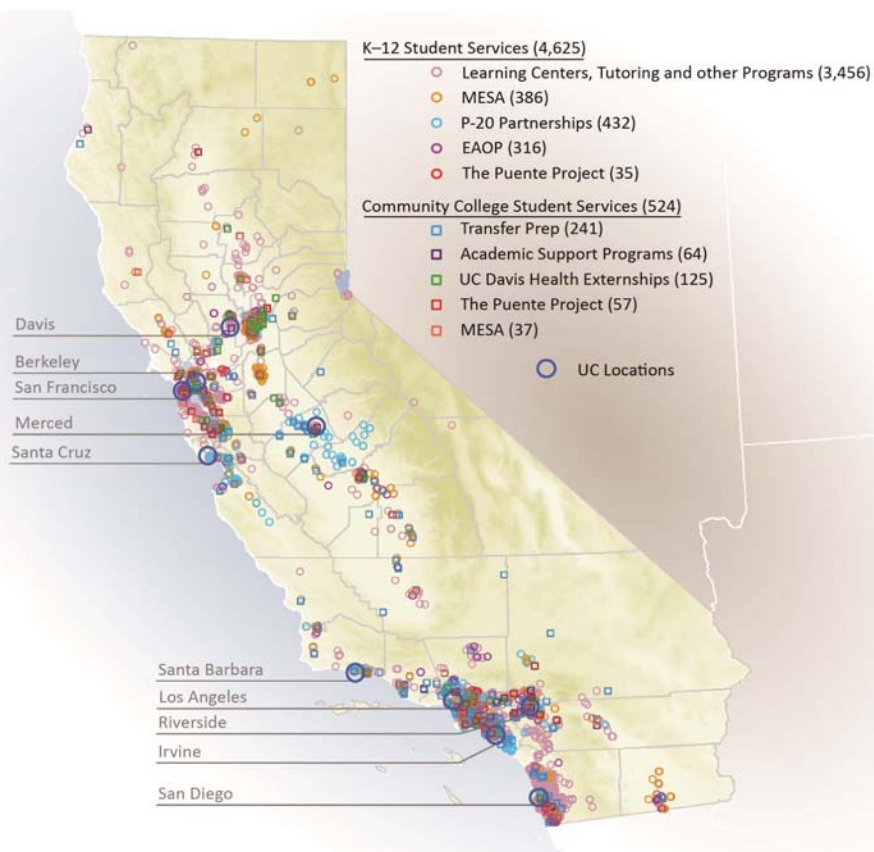
Standards, writing, mathematics and in-service teacher training.

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 10,000 UC undergraduates, many of them now credentialed STEM educators in California public schools.

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

10.2.2 UC's K–12 and community college student services programs

Fall 2015



Source: UC campuses

UC engages K–12 and community college students in California through Student Academic Preparation and Educational Partnership (SAPEP) programs. Activities are centered on student academic preparation, community college articulation support, school and community partnerships, and online and technology-assisted services.

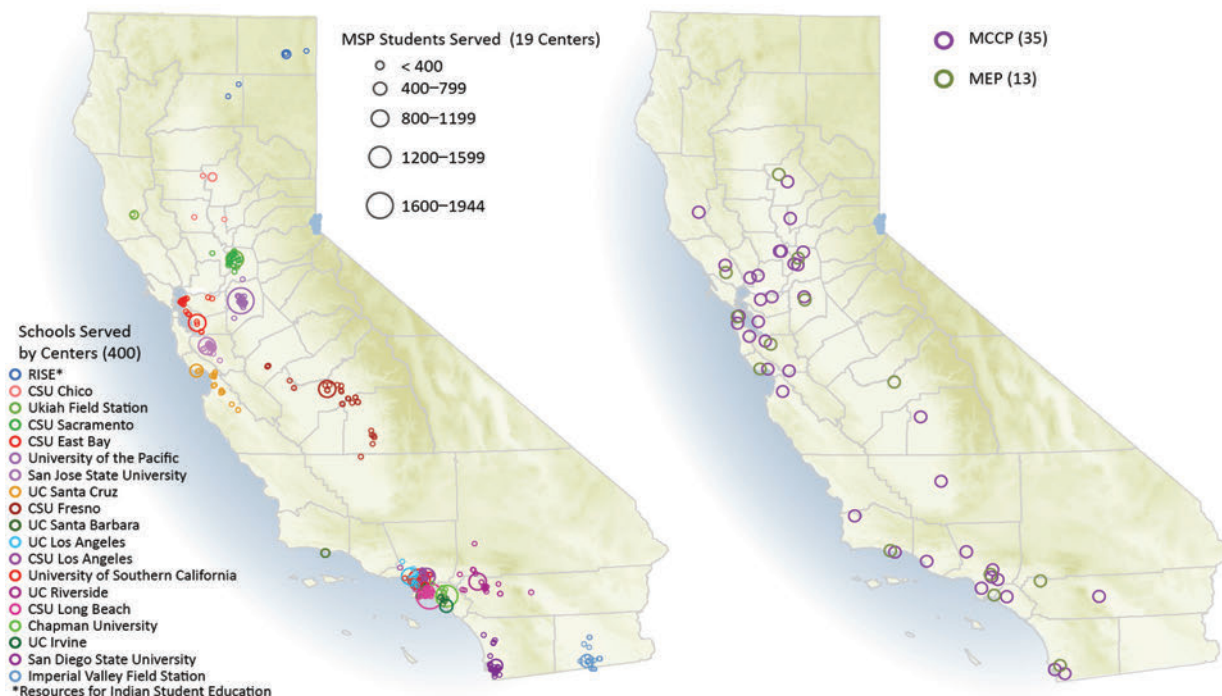
The goal of these programs is to promote student achievement by supporting academic preparation and college readiness. Programs include the Early Academic Outreach Program (EAOP), which focuses on “a–g” course completion (a pre-requisite for admission to UC and CSU); K–20 Regional Intersegmental Alliances (aka P–20), creating ties between campuses, schools, local communities and

business organizations; Mathematics, Engineering, Science Achievement (MESA), focusing on STEM skills development; The Puente Project, focusing on college-preparatory English skill development; and Transfer Prep, focusing on community-college transfer support.

Collectively, SAPEP programs served nearly 200,000 K–12 students at more than 1,100 public schools in 2014–15. Students who participate in SAPEP programs are more likely to complete “a–g” courses (76 percent of SAPEP participants vs. 42 percent of California public high school graduates) and attend California public 2- and 4- year universities (61 percent of SAPEP participants vs. 41 percent of California public high school graduates).

UC helps prepare and train pre-college students in STEM fields at every school level.

10.2.3 Mathematics, Engineering, Science Achievement (MESA) partnership programs
Fall 2015



Source: MESA programs

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 — MESA Schools Program (MSP), MESA Community College Program (MCCA) and MESA Engineering Program (MEP) — MESA serves more than 25,000 California students annually.

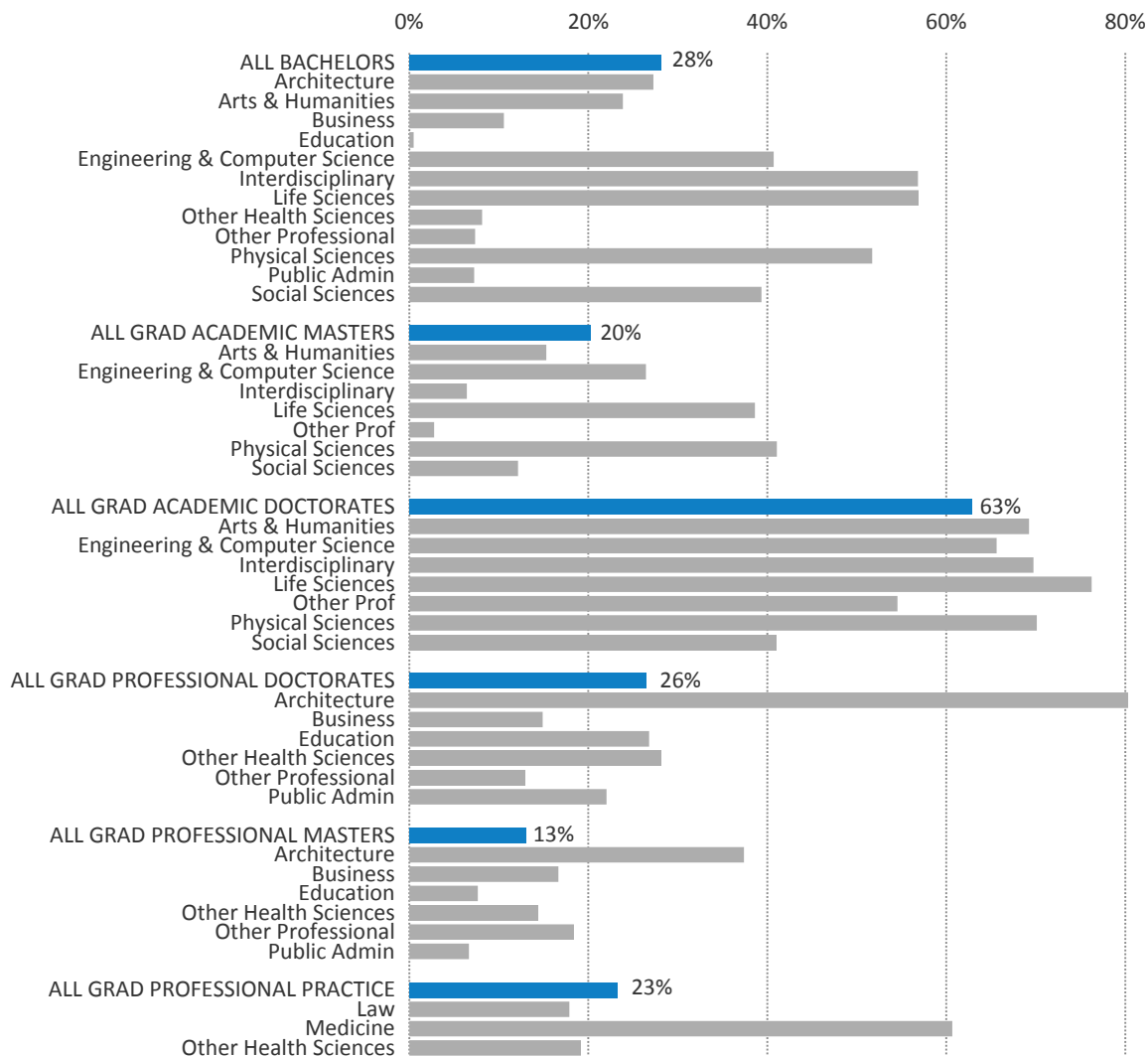
MESA Schools Program (MSP) centers are housed in 19 locations and serve about 400 K–12 schools. Centers offer classes before, during and after school on activities that reinforce math and science content standards. MESA activities include workshops aimed at strengthening students’ study skills and monitoring students’ progress.

MESA Community College Program (MCCA) manages 35 centers at community colleges. These centers provide academic excellence workshops, orientation courses, academic advising and counseling activities dedicated to helping community college students develop multiyear plans to transfer to a four-year university in a timely manner.

MESA Engineering Program (MEP) operates 13 centers located in public (UC and CSU) and private universities across the state. 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.

UC produces nearly a third of all bachelor’s degrees awarded in California each year.

10.3.1 UC’s share of degrees awarded in California by discipline
 Universitywide
 2013–14



Source: IPEDS¹

As California’s economy becomes increasingly dependent on technology-dependent industries, the University of California plays an important role in educating the state’s highly skilled workforce. UC contributes significantly to Science, Technology, Engineering and Mathematics (STEM) degrees, awarding 57 percent of the state’s Life Sciences and 52 percent of the Physical Sciences bachelor’s degrees.

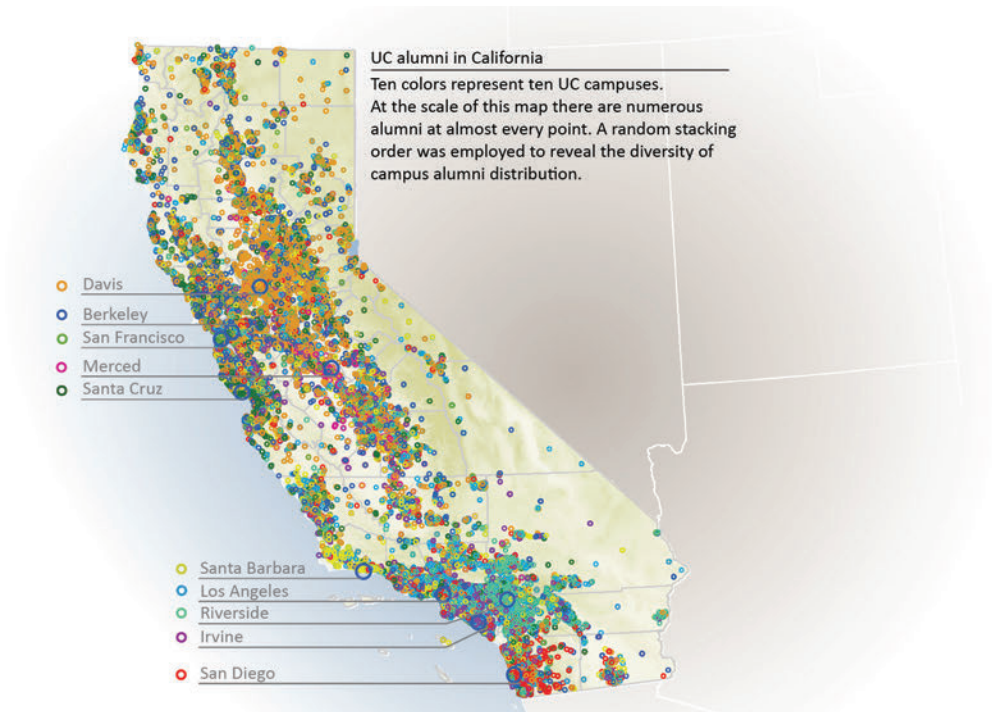
In addition, UC awards more than 60 percent of statewide graduate medical professional practice degrees. Within public higher education, UC has exclusive jurisdiction for doctoral degrees (with the exceptions of CSU’s doctorates of education, nursing practice and physical therapy, and joint doctorates with UC and independent institutions).

¹ Excludes for-profit and specialized institutions.

10.3 ECONOMIC IMPACT

Of UC's more than 1.6 million living alumni, many reside within California.

10.3.2 Home residence of UC alumni Fall 2015



Source: UC campuses

More than 1.2 million UC alumni live and work in California. They are leaders, volunteers and contributors to the vitality of its communities, businesses and culture.

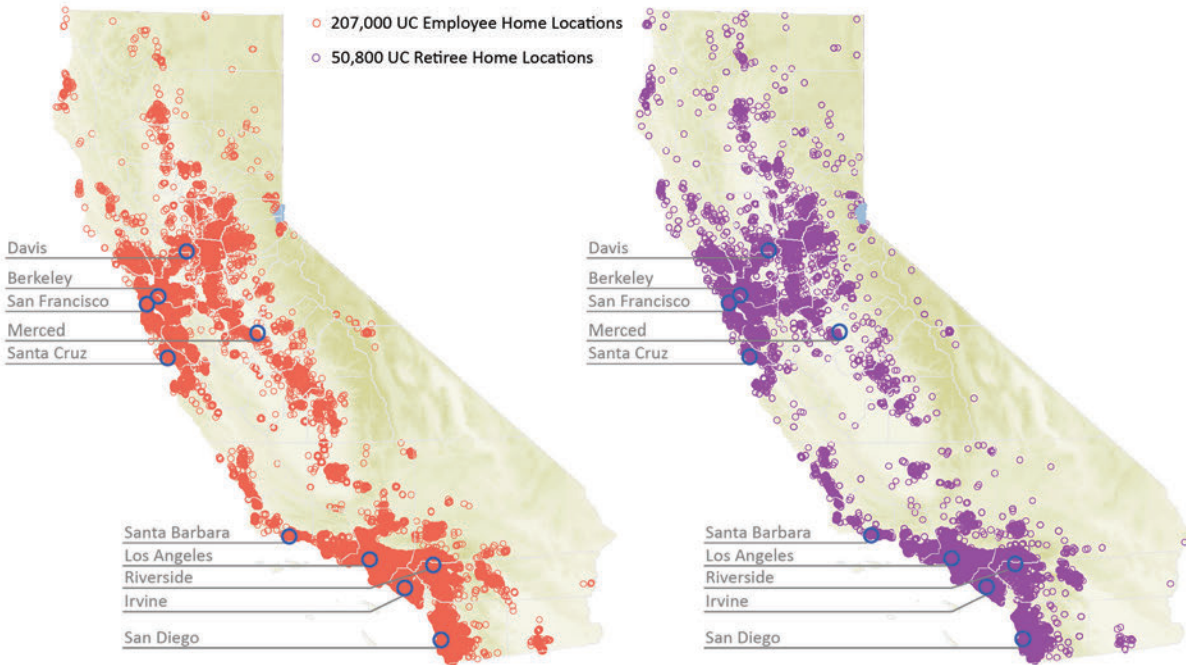
UC alumni are an integral part of the state's workforce. Of the most recent graduating cohort, more than 70 percent of in-state students, about half of domestic nonresidents and one-tenth of international students were found working in California after two years.¹

¹ These data are based on CA Employment Development Department data and exclude federal employees and those who are self-employed.

10.3 ECONOMIC IMPACT

UC is one of California's largest employers, with close to 200,000 employees.

10.3.3 Faculty, academics and staff employees; retirees 2014-15



Sources: UC Corporate Personnel System and UC Retirement System

The University of California employs approximately 200,000 faculty, academics and staff, making it one of the largest employers in California. With its 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, more than 50,000 of UC's retirees reside in California, and their UC pension benefits also contribute to the communities in which they reside.





Chapter 11. UC Health

Goals

Under California’s Master Plan for Higher Education, the University of California is delegated the primary responsibility in public higher education for doctoral education. For the health professions, this means that UC is the only California public institution chartered to grant the following professional degrees: D.D.S. (Doctor of Dental Science), M.D. (Doctor of Medicine), O.D. (Doctor of Optometry), Pharm.D. (Doctor of Pharmacy) and D.V.M. (Doctor of Veterinary Medicine). Along with other private educational institutions, UC also provides doctoral education leading to Ph.D. degrees in Nursing and Public Health, as well as the Dr.PH. (Doctor of Public Health) degree.

UC health sciences programs are national and international leaders in teaching, research and clinical care. In support of these programs, UC provides leadership and strategic direction to advance the missions of the University’s 17 health professional schools and 12 hospitals, referred to collectively as UC Health.¹

A significant portion of UC’s mission of instruction, research and public service, as measured in terms of operating expenditures, occurs under the auspices of UC Health. In 2014–15, operating expenditures for UC Health, including UCSF Benioff Children’s Hospital Oakland, rose to about \$14.8 billion, about half of the University’s total operating expenditures. Of this amount, the largest component was \$7.9 billion expended by the medical centers in the delivery of health care services. Other major components include \$2.5 billion for instructional activities and \$2.1 billion spent on research.

In fall 2015, about 41 percent of all UC faculty worked in health science disciplines. (More information about the health science faculty is presented in Chapter 5 – Faculty and Other Academic Employees.)

¹ Data in this chapter exclude UCSF Benioff Children’s Hospital Oakland except where noted.

In fall 2015, 42 percent of postdoctoral fellows were in health science disciplines.²

Educating health care professionals

The University of California operates the largest health sciences instructional program in the nation, enrolling more than 14,000 students annually. The systemwide instructional program includes six schools of medicine and three smaller medical education programs (located at Berkeley, in Fresno and at the Charles R. Drew University of Medicine and Science in Los Angeles); three schools of nursing (and one program in nursing science at Irvine); two schools each of dentistry, pharmacy and public health; and one school each of optometry and veterinary medicine. The long-standing medical education program that operated jointly between UC Riverside and UCLA for more than 30 years transitioned in 2013 to an independent UC medical school.

A focus on medical research

Health science research expenditures represent the single largest disciplinary focus of UC’s research enterprise. Half of UC’s total research expenditures were for medical research, including related fields such as public health and veterinary medicine. More than half of the funding for this medical research was provided by federal agency awards to UC.

Clinical trial research is an increasingly important component of UC’s medical research enterprise. During 2014–15, there were more than 2,900 clinical trials underway systemwide, and of the \$2.3 billion UC received that year in medical research awards, about 14 percent of the total was targeted for clinical trials. More than 87 percent of these clinical trial projects were sponsored by businesses.

These clinical trials occupy a unique position in UC’s research enterprise. They represent the final stage in

² Statistics are by headcount rather than FTE. Headcount numbers tend to be larger than FTE, especially in the health sciences, because non-ladder-rank health science faculty, such as clinical faculty, are more likely to have joint or partial appointments.

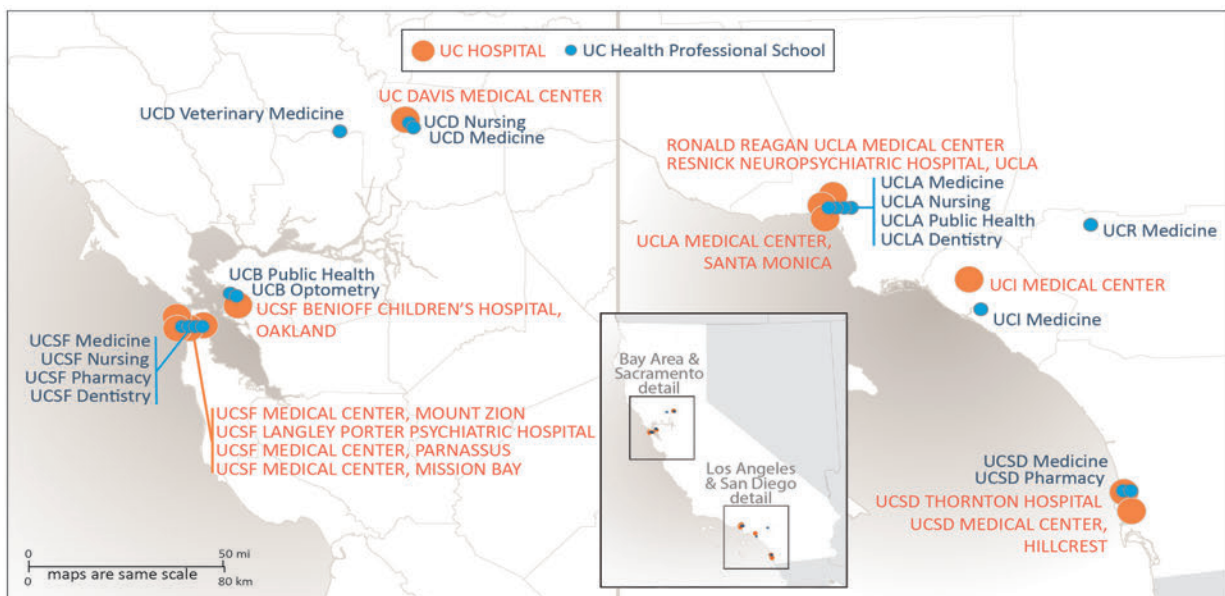
the journey from a scientific discovery or innovation to an effective therapy or treatment that could significantly enhance global health.

Keeping California healthy

The University of California’s five academic medical centers (Davis, Irvine, Los Angeles, San Diego and San Francisco) provide a vast resource for the clinical training programs of UC health professional schools. These centers prepare future generations of health professionals; they catalyze major advances in biomedical and clinical research; and they serve as California’s fourth-largest health care delivery system, with about 41,000 employees, including more than 12,000 nurses. UC operates or staffs five major trauma centers, providing half of all transplants and one-fourth of extensive burn care in the state. UC hospitals are also designated as Ebola treatment centers for the state. UC medical centers manage more than 165,000 inpatient admissions, 356,000 emergency room visits and 4.5 million outpatient visits each year. Nearly 60 percent of patient days at UC medical facilities are for patients covered by Medicare or Medi-Cal, or who lack health insurance. In support of the University’s teaching, research and public service missions, UC health programs also maintain active relationships with more than 100 affiliated Veterans Affairs facilities, as well as county and community-based health facilities located throughout California.

In view of the size and contributions of health-related programs across the UC system, select performance indicators related to students, faculty and research are included both in this chapter and in the respective sections of this report that are devoted to those subject areas. For example, indicators related to students enrolled in UC professional degree programs are also included in Chapter 4 (Graduate Academic and Graduate Professional Students). Chapter 5 (Faculty and Other Academic Employees) includes indicators related to UC faculty appointments, headcounts and conferral of doctoral degrees. Information regarding diversity is found in Chapter 7. Research workforce indicators for medicine and health sciences, as well as indicators for general funding and expenditures, are included in Chapter 9 (Research — Increasing Public Knowledge).

In addition, this chapter includes information and performance indicators for various aspects of the University’s health sciences system, including regarding health professional degree students, health sciences instruction and research expenditures, and the health sciences academic workforce. This section also includes a number of indicators and metrics related to the University’s health care delivery system.



Looking forward

California's population is growing, aging and increasing in diversity. Already the most populous state in the nation, California's population is projected by the Department of Finance to grow 39 percent from 2012 to 2060. Statewide shortages and maldistribution of health care providers already exist in many health professions. These challenges will grow as health care reforms drive increasing demand for quality and accountability in the delivery of health services. At a time of unprecedented budgetary challenges, the financial success of UC medical centers has been an important resource for helping to back-fill diminishing state support for UC schools of medicine. However, the changing environment for health care signals changes that threaten this financial success and the ability of the medical centers to help support the academic mission of UC medical schools. Among these financial challenges are reductions in federal and state spending for programs such as Medicare, Medi-Cal and the National Institutes of Health, and challenges associated with the implementation of health care reform.

Notwithstanding these challenges and the uncertainties related to health care reform, UC Health is working to support new initiatives to help meet current and future health care needs. Within the health professions, these include the opening of the Betty Irene Moore School of Nursing at UC Davis; the creation of new programs at each UC medical school in medical education focusing specifically on the needs of medically underserved communities; and the opening of a new medical school at UC Riverside, concentrating on the needs of California's Inland Empire. This is the first new allopathic (M.D.-granting) medical school to open in California in more than 40 years.

To recognize and accelerate implementation of innovative practices in clinical care, UC Health launched the UC Center for Health Quality and

Innovation in 2010. The center promotes innovations in clinical care that improve patient outcomes and quality of care within the UC system and beyond. These and other activities are among the many initiatives now underway at UC to help improve quality, access and value in the delivery of health services.

Leveraging scale for value

The Leveraging Scale for Value (LSFV) initiative is the systemwide approach to creating value and improving outcomes. LSFV includes work on revenue cycle, supply chain and information technology (IT). The supply chain/procurement teams across UC Health are implementing a strategy of cost reduction and standardization by partnering with the clinical enterprise and other key stakeholders. LSFV delivered \$52 million in savings for FY 2015 and is on track to deliver \$100 million for FY 2016. The supply chain/procurement goal is expected to grow to \$150 million in FY 2017.

New governance model for UC Health

In November 2015, the University of California Board of Regents adopted amendments that streamlined the oversight of UC Health to support the continued growth of UC's academic medical centers. The Regents' governance of UC Health continues through a modified Committee on Health Services, with seven voting regents and eight non-voting advisory members who are leaders in health care delivery, health policy and academic medicine. The committee has primary responsibility for strategic plans and budgets for UC's clinical enterprise; patient care quality, cost and access; certain health care transactions; compensation for certain UC Health senior leaders; and various systemwide UC Health initiatives.

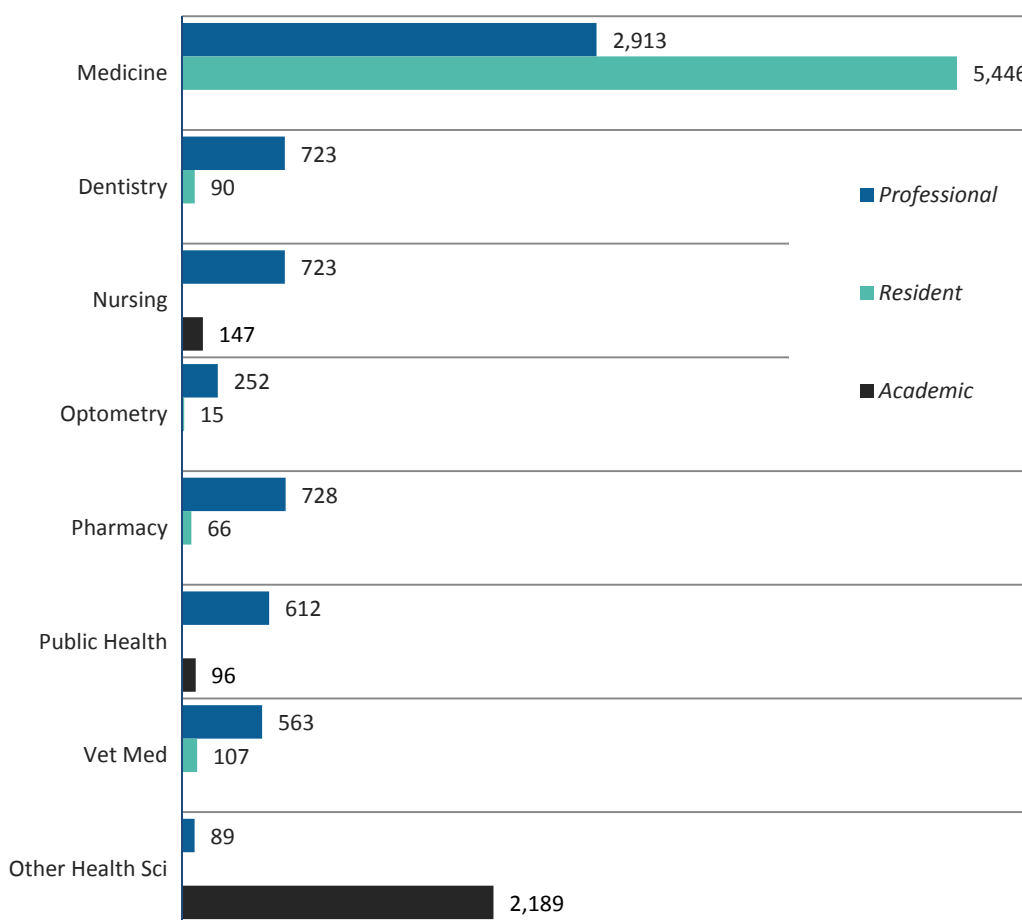
For more information

UC Health:
<http://health.universityofcalifornia.edu>

11.1 UC HEALTH SCIENCES INSTRUCTION

Medicine is by far the largest UC health professional discipline. Medical students and residents together make up roughly two-thirds of all UC health professions students.

11.1.1 State-supported graduate health sciences students, by discipline Universitywide Fall 2015



Source: UC Information Center Data Warehouse

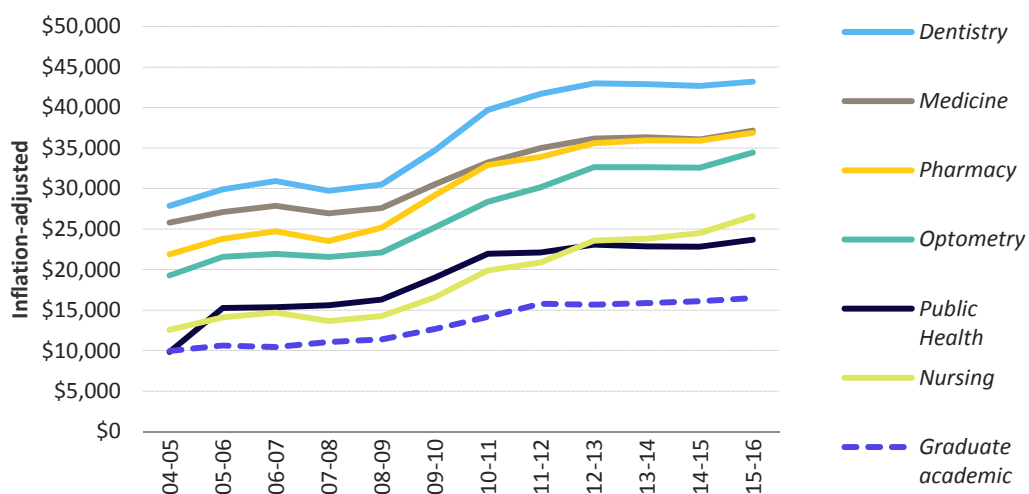
Health sciences students are in one of three program categories: professional degree programs, academic programs or residency programs. Professional degree programs lead to degrees such as M.D., D.D.S and D.V.M. Academic programs lead to a master’s or Ph.D. Residents are professional school graduates (i.e., dental, medical, optometry, pharmacy and veterinary medical schools) who participate in specialty training programs after completing their degree programs.

The other UC health science students shown above are in health-related life science disciplines, such as biomedical science, bioengineering, pharmacology, neuroscience and epidemiology.

11.1 UC HEALTH SCIENCES INSTRUCTION

Health science professional degree fees have leveled off after incurring sharp increases during years of declining state support.

11.1.2 Average total charges¹ for UC health professional degree students Universitywide 2004–05 to 2015–16



Source: UC Budget Office and UC campuses

Student charges include tuition and fees assessed systemwide to all students, along with professional degree supplemental tuition, campus-based fees and health insurance assessed at the campus program level.

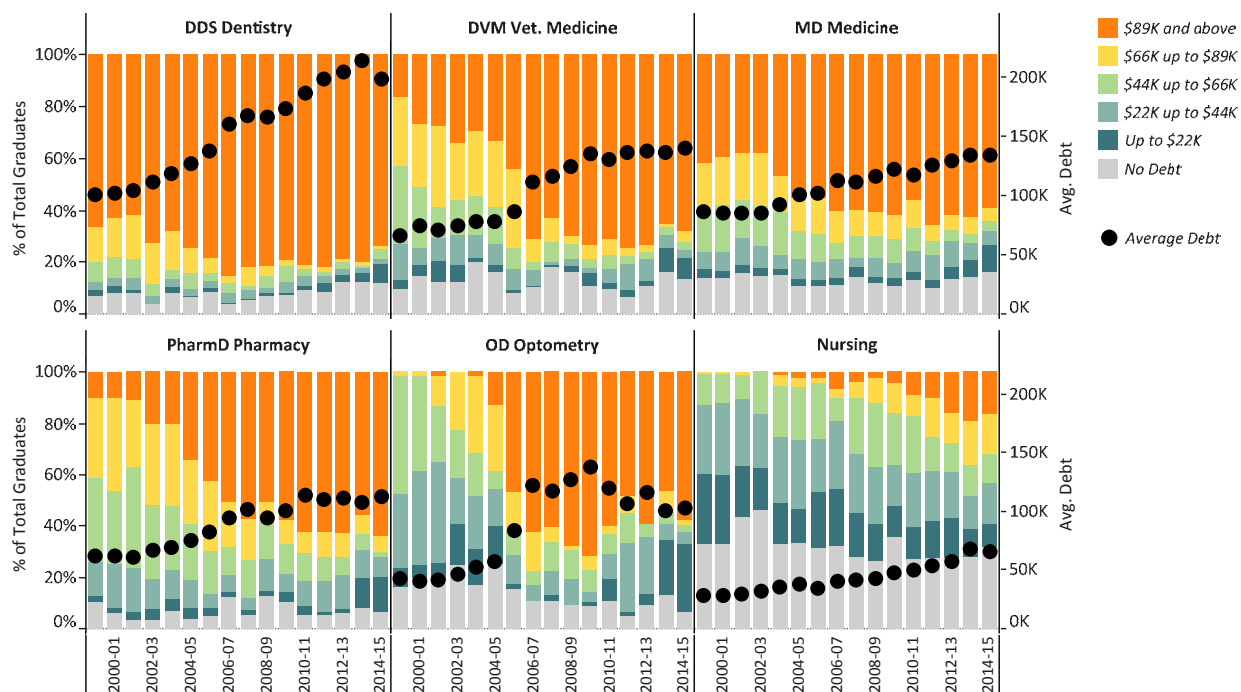
Professional degree fees (now referred to as professional degree supplemental tuition) vary across programs and across campuses; the figures shown above are the averages across all campuses with the associated programs.

State support for UC's professional schools declined significantly during recurring state fiscal crises, resulting in a dramatic increase in professional fees.

¹ Calculated as the mean of total California resident charges at each campus. Includes mandatory tuition and fees (educational and student services), professional degree supplemental tuition, health insurance, campus-based fees and other fees where applicable. Averages are simple averages based on campus amounts; the number of students in each program is not taken into account.

Many UC health professional degree students borrow to help pay for their education and average debt levels are increasing.

11.1.3 UC health student debt at graduation Universitywide 1999–2000 to 2014–15



Source: UC Corporate Student System¹

Increases in tuition over the past decade have coincided with increased debt burdens for UC health professional degree students. Increases in the average student debt of graduates of UC schools of dentistry, veterinary medicine, medicine, pharmacy, optometry and nursing are illustrated in the figure shown above, and are representative of debt patterns for other health science professional programs.

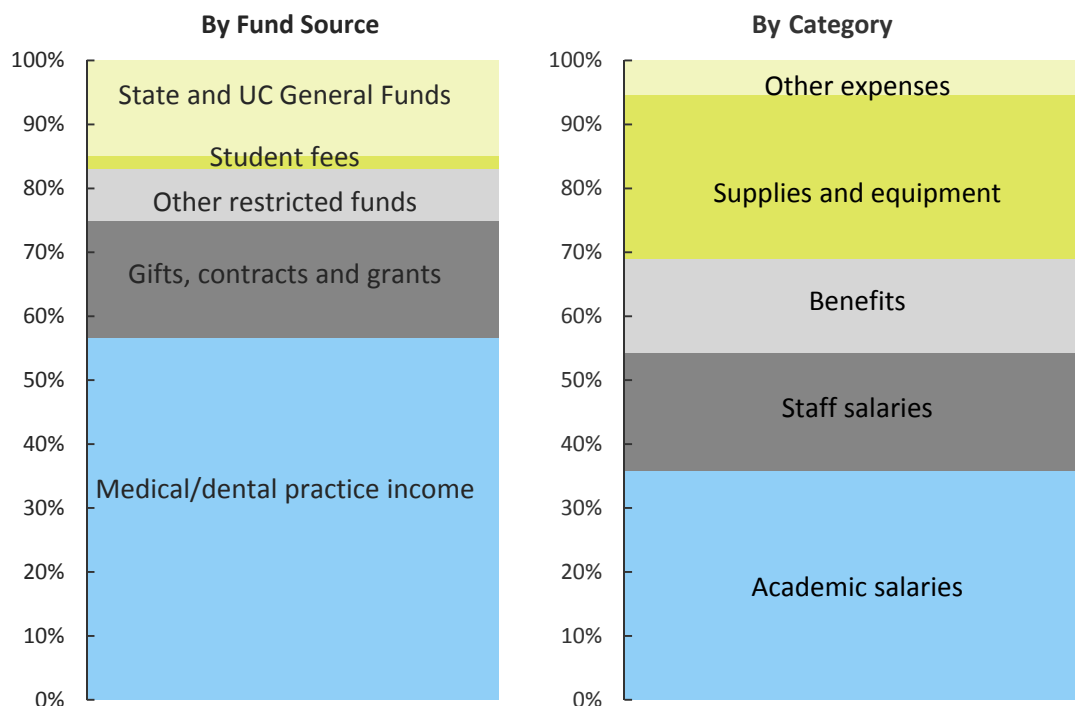
At least one-third of the revenue from professional school fees is used to provide financial aid to help maintain the affordability of a professional school education and provide loan forgiveness for graduates in low-earning positions. Nonetheless, the increasing educational debt burden for graduates of UC’s professional degree health science programs raises concerns about the University’s ability to recruit the most highly qualified students. Anticipated debt levels are also identified as a major concern by students who have previously expressed interest in primary-care careers and/or practicing in a medically underserved community or health professional shortage area.

¹ Average debt is for those with debt.

11.1 UC HEALTH SCIENCES INSTRUCTION

Medical and dental practice income supported over half of the instructional expenditures in the health sciences in 2014–15 (primarily for their respective educational programs).

11.1.4 Health sciences instructional expenditures Universitywide 2014–15



Source: UC 2015–16 Budget for Current Operations and UC Budget Office

The continuing financial success of the medical centers is crucial to the programmatic success of many of the University's health professional schools, especially the schools of medicine. Overall, approximately \$1.2 billion from the medical centers goes to health system support. Roughly 65 percent is in the form of purchased services, such as support for a faculty medical director or director of the residency program, while 35 percent is in the form of cash support for programs, such as the recruitment of a new program director.

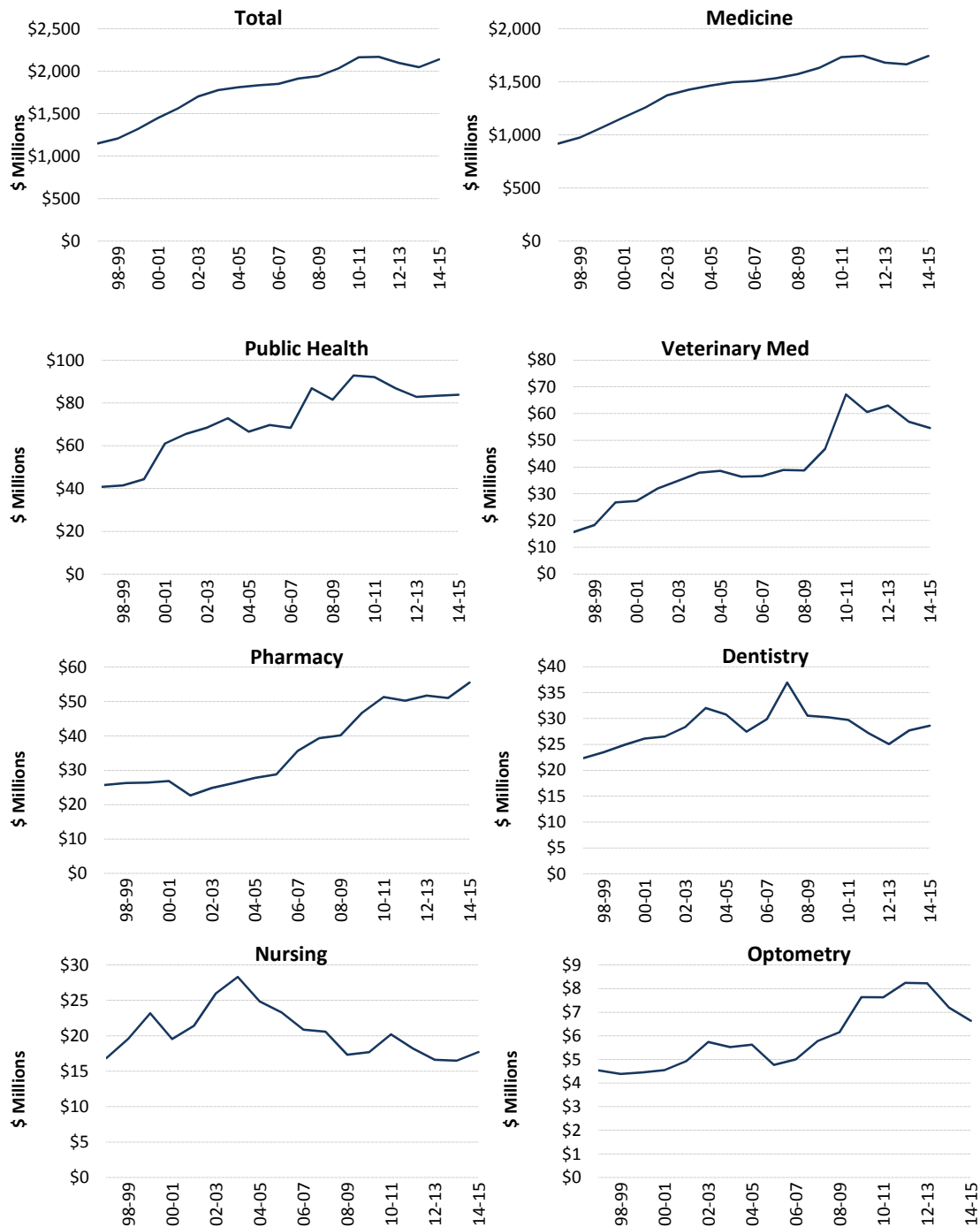
State and UC general funds provided about 15 percent of expenditures in health sciences instruction.

Academic and staff salaries and benefits constitute nearly three-quarters of all health sciences instructional expenditures.

11.2 UC HEALTH RESEARCH

Recent increases in federal research funding have resulted in an overall increase in health research activity systemwide.

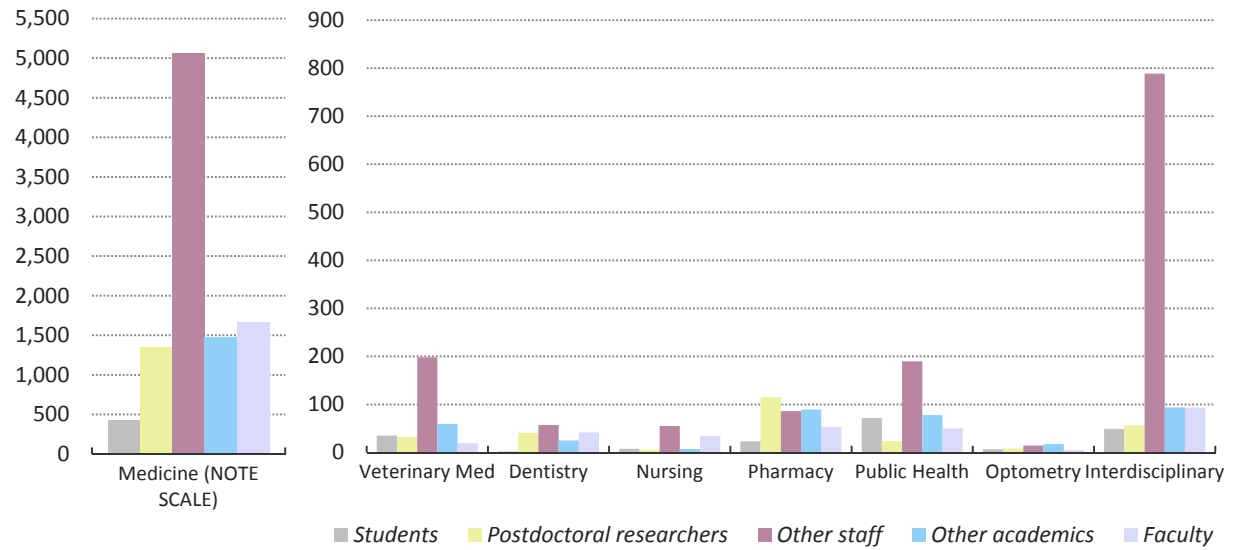
11.2.1 Research expenditures, by health science discipline
Universitywide
1997–98 to 2014–15 [NOTE SCALES]



Source: UC Corporate Financial System. All amounts are adjusted for inflation.

Research in medicine constitutes the bulk of health science research and involves by far the largest number of faculty, staff and students.

11.2.2 Health science research workforce FTE
Universitywide
2014–15 [NOTE SCALES]



The approximately 12,500 FTE shown above represent about 27,000 headcount personnel. Students and staff assistants often have part-time appointments. Faculty and academics, in addition to their research duties, have joint appointments as instructors, administrators and clinical service providers.

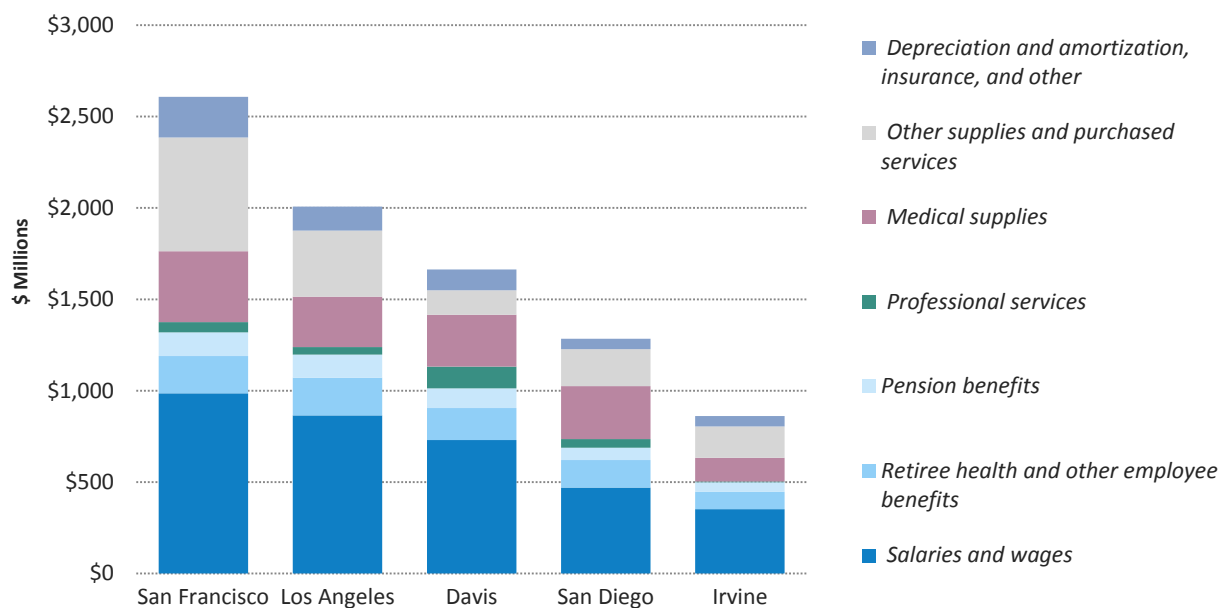
Other academics are primarily project scientists, professional researchers, specialists, and medical interns and residents. Other staff includes research associates, technicians, laboratory services, computer programmers/analysts, social services and administrative support.

Source: UC Corporate Personnel System. Categories are based on UAS discipline assignment.

11.3 UC HEALTH MEDICAL CENTERS

In 2014–15, UC’s five medical centers represented a health care delivery enterprise of about \$8.5 billion.

11.3.1 Medical center operating expenses Universitywide 2014–15



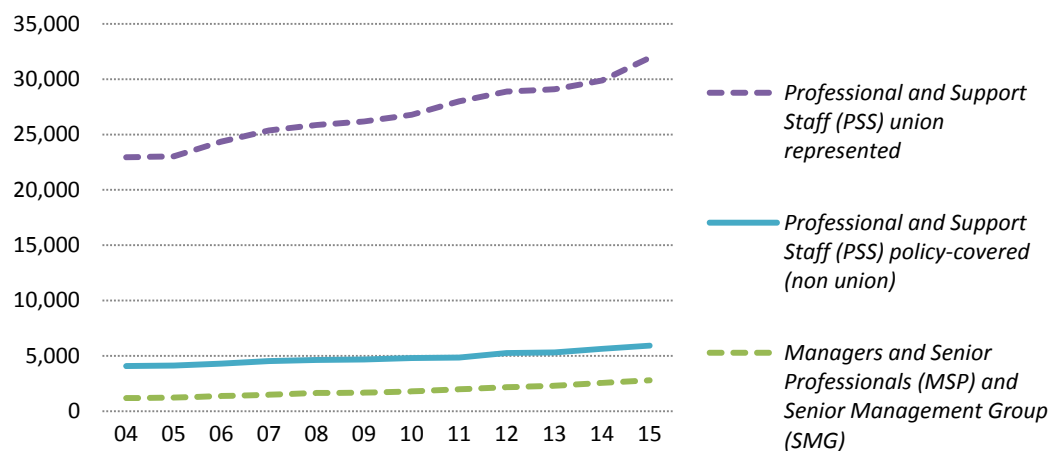
Source: UC Medical Centers Audited Financial Statements.

In 2014–15, operating expenditures for UC’s five medical centers amounted to about \$8.5 billion (including depreciation and amortization). UCSF Benioff Children’s Hospital Oakland operating expenses for medical services, not shown in this chart, represented an additional \$542 million.

11.3 UC HEALTH MEDICAL CENTERS

The majority of medical center staff members are in UC's Professional and Support Staff (PSS) personnel program; the majority of these are unionized.

11.3.2 Medical center staff FTE by personnel program
Universitywide
Fall 2004 to fall 2015



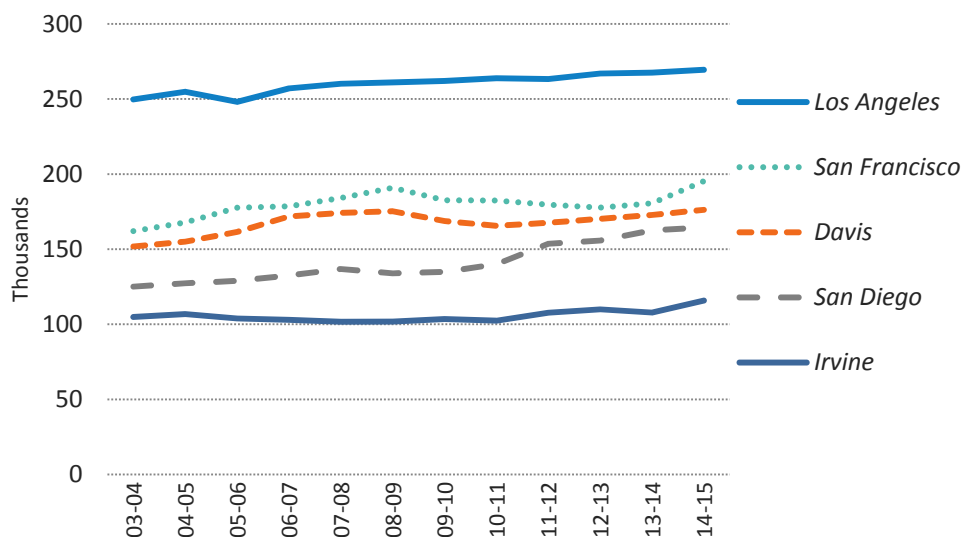
Source: UC Corporate Personnel System

Three unions — AFSCME Patient Care Technical Union, the California Nurses Association and the UPTE Health Care Professionals — represent more than 90 percent of the unionized medical center employees.

11.3 UC HEALTH MEDICAL CENTERS

UC hospitals provide more than 900,000 inpatient days a year and serve a significant number of patients statewide.

11.3.3 Hospital inpatient days UC medical centers 2003–04 to 2014–15



Source: UC Medical Centers' Audited Financial Statements¹

The University's academic medical centers operate in highly dense areas located throughout the state, including Orange, Sacramento, San Diego and Los Angeles counties, as well as the San Francisco Bay Area. Three of the five centers are former county hospitals. Each medical center has several primary care and specialty clinics distributed across the communities it serves.

In addition to providing primary and specialty care, UC medical centers treat critically ill newborns, care for cancer patients, and treat half of all transplant patients and one-quarter of extensive burn cases in California. As tertiary and quaternary care centers, they also treat patients who require highly specialized and intensive care, and who are referred from other hospitals that lack the resources and expertise to care for them.

"Inpatient days" represents the total number of days that all patients spend in a hospital bed. The graph presented here displays the total number of inpatient days at the five UC medical centers.

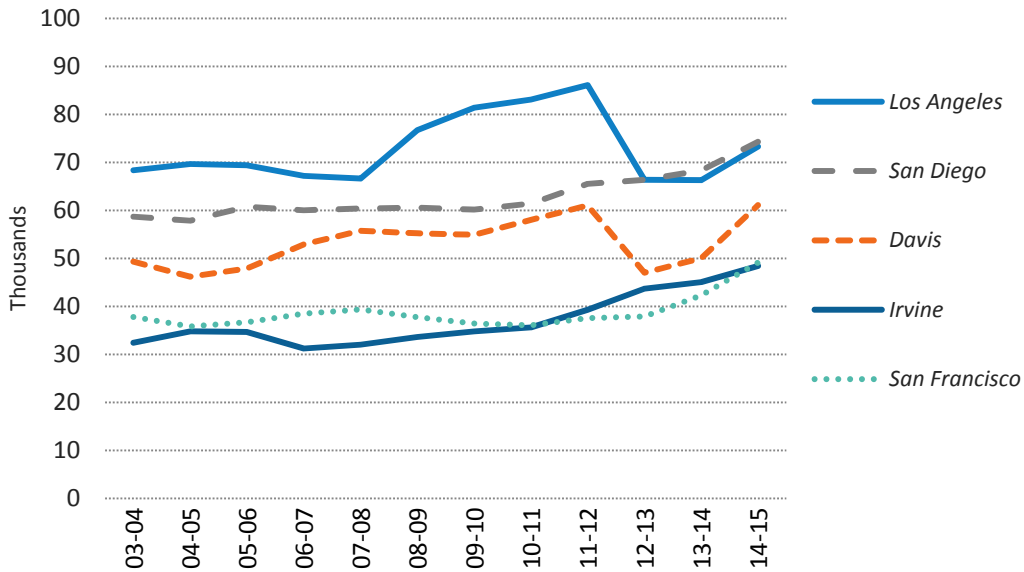
¹ UCLA Medical Center = UCLA Medical Center, Ronald Reagan, Santa Monica and Resnick Neuropsychiatric
UCSD Medical Center = UCSD Medical Center, Hillcrest and Thornton
UCSF Medical Center = UCSF Medical Center, Parnassus and Mount Zion

11.3 UC HEALTH MEDICAL CENTERS

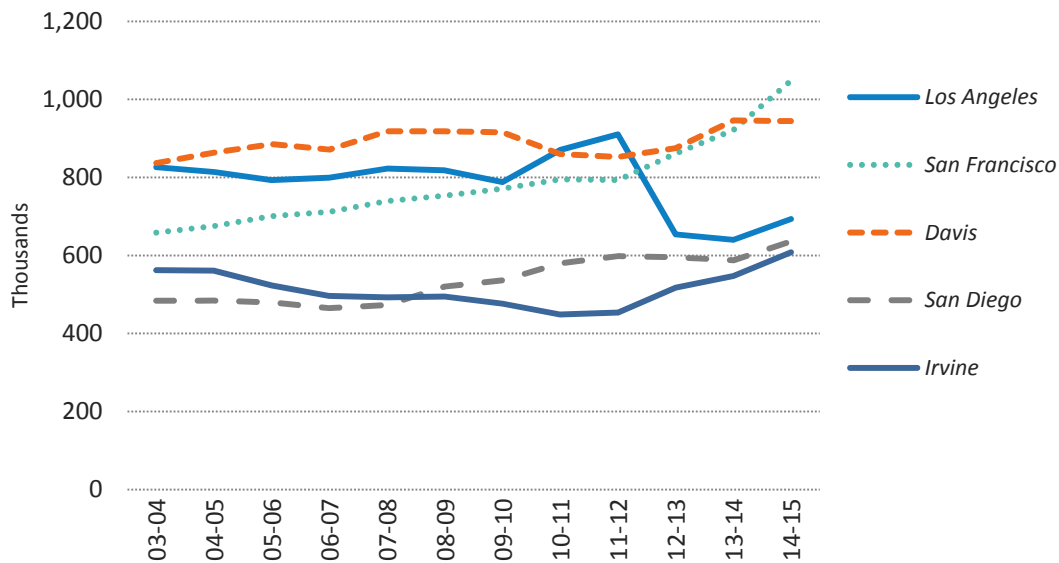
UC medical centers handle almost 4.5 million outpatient visits per year.

11.3.4 Outpatient visits UC medical centers 2003–04 to 2014–15

Emergency visits (SCALE 0 to 100,000)



Other outpatient visits (includes clinic, primary care, home health and other visits) (SCALE 0 to 1.2 million)



Source: UC Medical Centers Audited Financial Statements. Note that year-over-year comparisons are problematic due to methodology changes at Los Angeles as well as a major facility going temporarily offline.

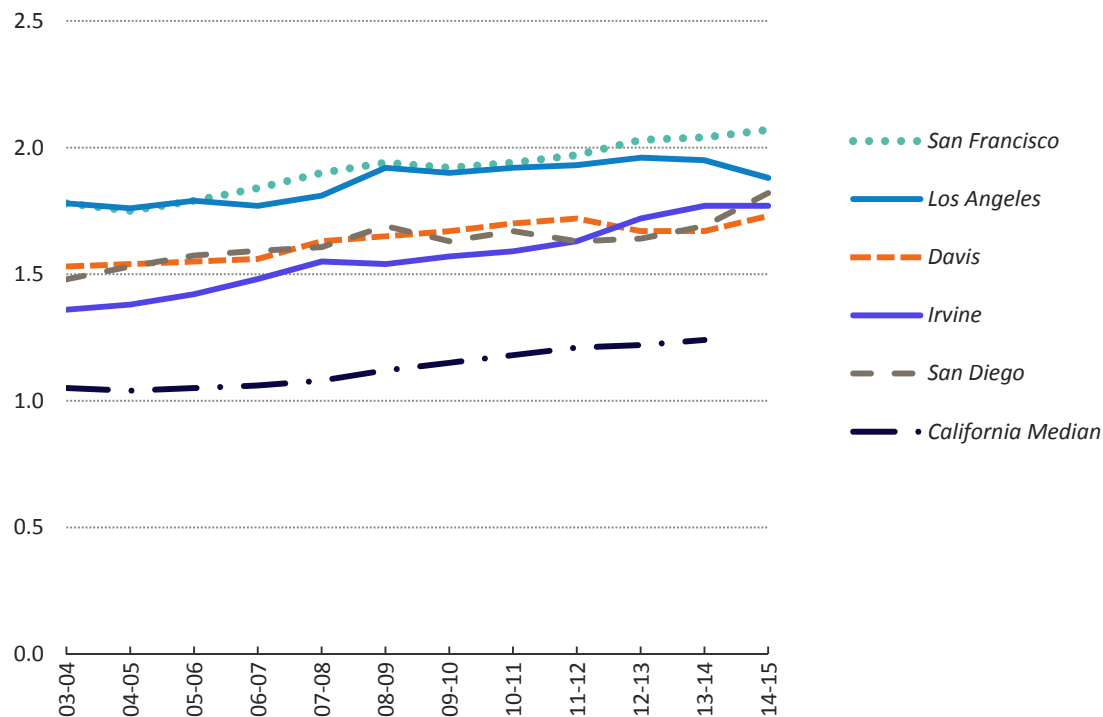
Outpatient visits are defined as visits during which patients see either a physician or a nurse practitioner in a clinic. Visits to other units, such as radiology, laboratory and physical therapy, are not counted as outpatient visits.

The medical centers provide a full range of health care services and are sites for testing the application of new knowledge and the development of new diagnostic and therapeutic techniques.

11.3 UC HEALTH MEDICAL CENTERS

The cases treated by UC medical centers tend to be more complicated than is typical for medical centers and hospitals in California.

11.3.5 Patient complexity UC medical centers and California median 2003–04 to 2014–15



Source: UC Medical Centers' Audited Financial Statements and the CA Office of Statewide Health Planning and Development

The Case Mix Index (CMI) is a standard hospital metric for addressing the question: “How sick are our patients?” Hospitals with patients who tend to be more seriously ill score higher on the index, which translates into more resources used per patient by the hospital and into higher costs. A patient of average complexity scores 1.0 on the index. The index has been rising at each of the medical centers, reflecting growth in highly complex care, including complex surgical cases and transplants.

The patient mix at the UC medical centers reflects the role of these centers as tertiary referral hospitals that often serve sicker patients and those with the most complex cases. As noted earlier, they treat critically ill newborns, care for cancer patients and treat half of all transplant patients and one-quarter of extensive burn cases in California.





Chapter 12. University Finances and Private Giving

Background

The University of California seeks to develop reliable sources of revenues, including a significant investment from the state, and to use these revenues in a strategic manner to sustain its tripartite mission of teaching, research and public service.

This chapter summarizes the financial status of the University through the 2014–15 fiscal year. Revenue and expenditure data show changes in both the amounts generated (or expended) over time and their distribution across areas of activity. Trends in private support are also shown.

Funding trends

Totaling about \$28.7 billion in 2014–15, the University’s revenues fund its core mission and a wide range of support activities, including academic medical centers, the Lawrence Berkeley National Laboratory, UC Extension, and housing and dining services.

Prior to 2010–11, state funding was the largest single source of support for the education function of the University. Over the past ten years, state educational appropriations have fallen more than \$1 billion in inflation-adjusted dollars despite UC’s enrollment growth. State educational appropriations constituted only 10 percent of UC’s revenues in 2014–15 compared to 23 percent in 2001–02.

Tracking expenditures

To help mitigate declines in state funding, the University has sought to increase revenues from other sources, such as student tuition and fees, indirect cost recovery and private giving. The University also has moved aggressively to reduce operating costs and identify new sources of revenues. Chapter 13 identifies some of these cost savings. Even under the most optimistic assumptions, however, efficiency improvements and alternative revenue generation can offset only a portion of the budgetary needs projected over the next few years.

What this means for students and families

Although the actual, inflation-adjusted cost of educating a student at UC has dropped by 22 percent since 1990, the state’s share of expenditures has fallen even more steeply. As a result, students and their families bear a growing proportion of the cost of education. Increases in student fees have not made up for all of the reductions in state support, meaning that total per-student expenditures have fallen.

Looking forward

Improvements in the California economy, combined with the November 2012 passage of Proposition 30 by California voters, have brought some stability to the state budget and thus to the UC budget.

In addition, the University has made comprehensive changes in the way funds flow within the University. Historically, certain revenues were collected centrally by the UC Office of the President and redistributed across campuses. Following lengthy consultation with campus leadership, beginning in 2011–12, nearly all campus-generated funds — tuition and fees, research indirect cost recovery, and patent and investment income — have been retained by or returned to the source campus. The University has established a broad-based, flat assessment on campus funds to support the Office of the President and systemwide initiatives. These changes — referred to as the Funding Streams Initiative — have simplified budgetary planning, improved transparency and motivated campuses to maximize revenue.

In addition, by 2016–17, the University will complete an initiative known as “Rebenching,” which will ensure that state funds are distributed on an equal per-weighted-student basis across the campuses, ensuring that all students are supported equally by the state regardless of the campus they attend.

Even with the stabilization of support from the state, UC will face additional financial challenges in the years to come. The University has adopted a series of measures designed to preserve the long-term viability of its pension plan while still providing attractive post-employment benefits for employees. However, given that the population in the United States is aging and living longer, retiree health benefits costs are rising rapidly.

Similarly, as health care costs and insurance premiums continue to rise, UC will encounter mounting costs in providing subsidized health care coverage for its students, employees and retirees.

The Affordable Care Act is having a profound effect on the finances of UC medical centers. At the same time that larger numbers of individuals with coverage are requesting health care services, certain reimbursements for Medicaid patients have been reduced. These changes are affecting all of American society, and UC, as a major employer and provider of health care services in the state of California, is not exempt.

In addition, chronic shortfalls in priority areas of the budget – such as graduate student support, faculty salaries, the ratio of students to faculty, growing deferred maintenance backlogs and the need to update outdated information systems – are major issues that will present significant financial challenges for the University in the coming years.

[For more information](#)

UC's operating budget:

<http://www.ucop.edu/operating-budget/budgets-and-reports/current-operations-budgets/index.html>

Revenues and Expenses Data Table:

<http://universityofcalifornia.edu/infocenter/revenue-and-expense-data>

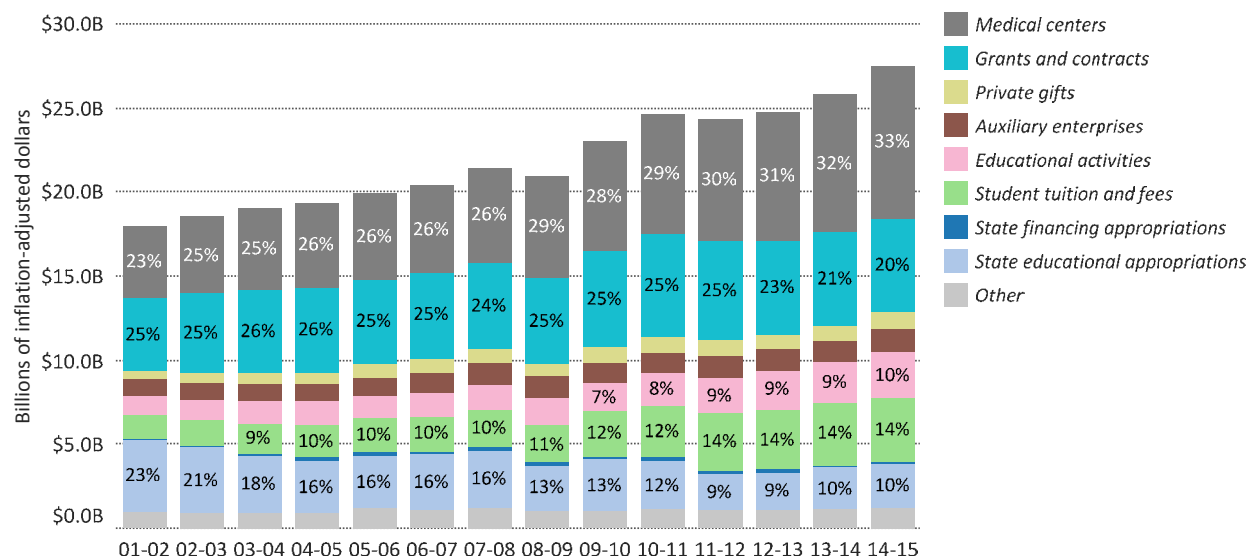
Annual reports on University private support:

www.ucop.edu/institutional-advancement

12.1 REVENUES

Between 2001–02 and 2014–15, state educational appropriations decreased from 23 percent of UC revenues to 10 percent.

12.1.1 Revenues by source Universitywide 2001–02 to 2014–15



Source: UC Revenues and Expense Trend Report

The steep decline in state educational appropriations as a proportion of UC’s total revenues over the past decade is a function of two trends: first, a long-term decline in state support from \$4.1 billion to \$2.8 billion in inflation-adjusted dollars; second, an increase in revenues from other sources, such as medical centers, contracts and grants, and student tuition and fees.

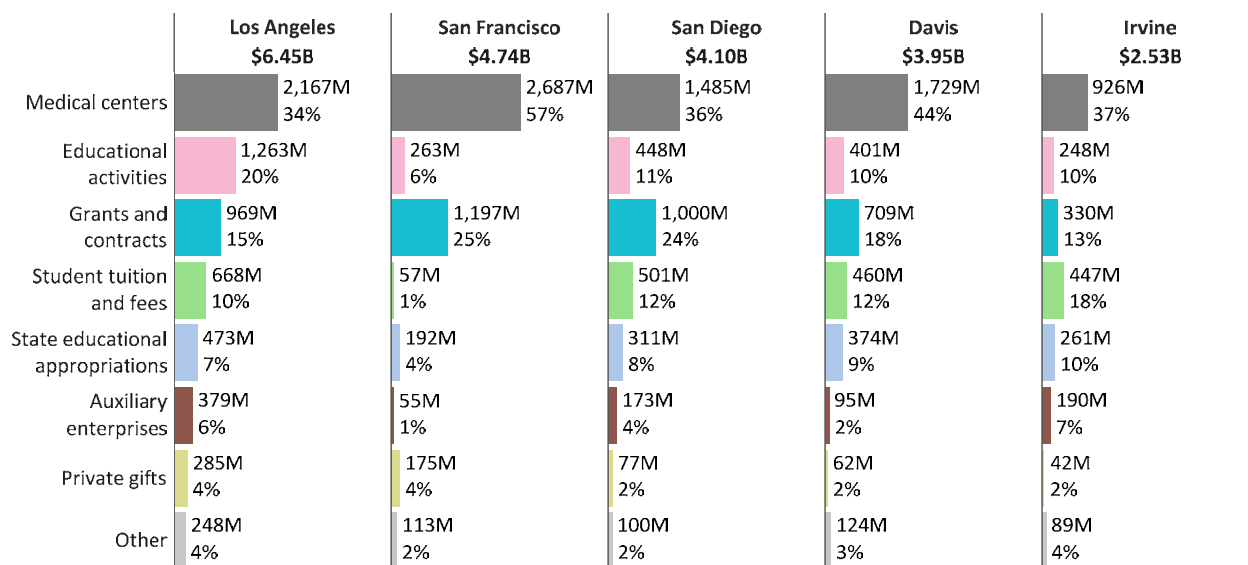
State educational appropriations are for educational and other specific operating purposes, whereas state financing appropriations provide principal and interest payments for lease-purchase agreements. Educational activities are primarily medical professional fees.

Private gift funding shown in the chart above does not include gifts to UC foundations that are reported in the foundations’ audited financial statements and not in the UC-wide statements. Gifts to campus foundations represent about 55 percent of total private giving to UC.

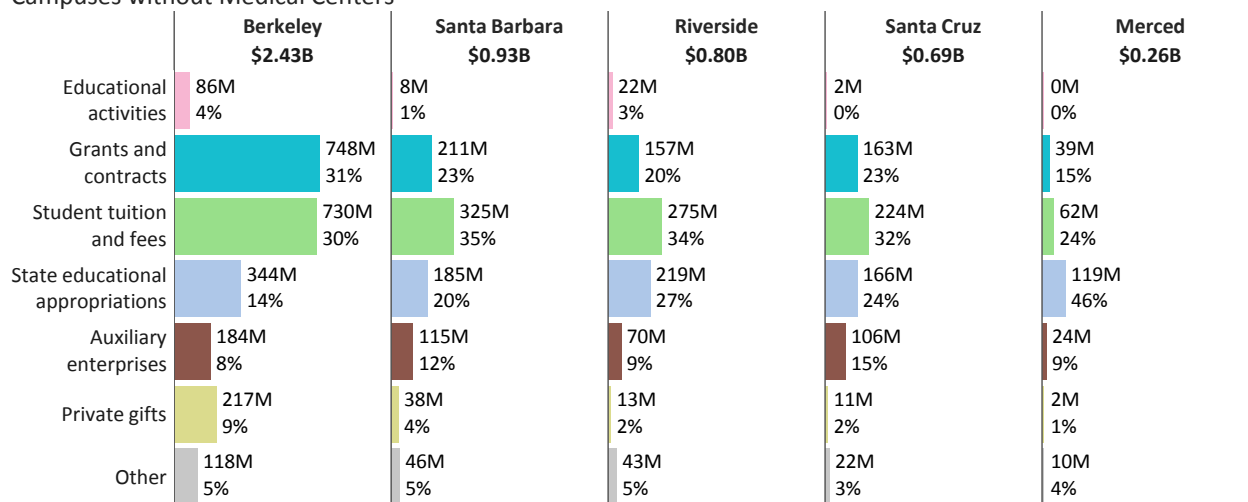
12.1 REVENUES

12.1.2 Revenues by source UC campuses 2014–15

Campuses with Medical Centers



Campuses without Medical Centers



Additional years for campus revenues and expenditures are available at <http://universityofcalifornia.edu/infocenter/revenue-and-expense-data>

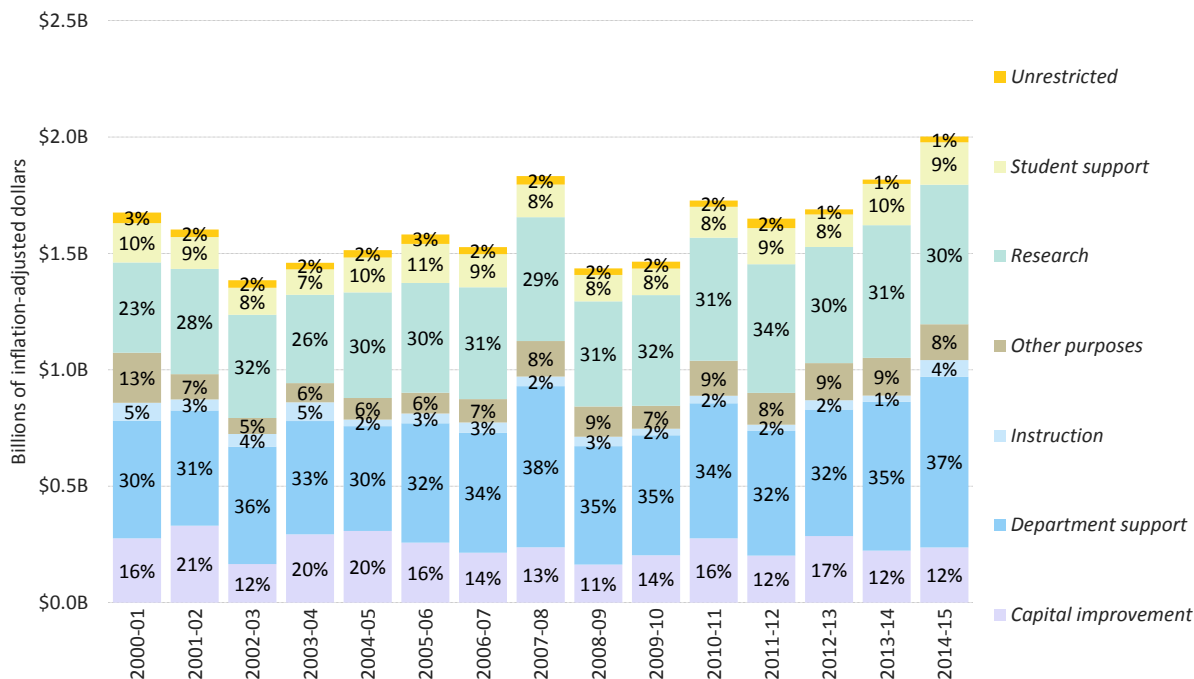
Source: UC Revenue and Expense Trend Report¹

¹ Figures are in billions of inflation-adjusted 2014–15 dollars. The Davis, Irvine, Los Angeles, San Diego and San Francisco campuses operate medical schools and teaching hospitals. In addition to the funds associated with medical school and teaching hospital operations, these programs help campuses attract additional contract and grant revenue.

12.2 DEVELOPMENT

Virtually all gift funds (99 percent) are restricted by donors in how they may be used.

12.2.1 Current giving by purpose Universitywide 2000–01 to 2014–15



Source: UC Institutional Advancement. Figures are adjusted for inflation

In 2014–15, new gifts to the University totaled about \$2 billion. Virtually all of these funds are restricted for specific purposes and are not available to support general operating costs. In addition, approximately \$480 million was designated for endowment, so only the income/payout is available for expenditure.

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, and reflects the high regard in which the University is held by corporations, foundations, its alumni and other supporters.

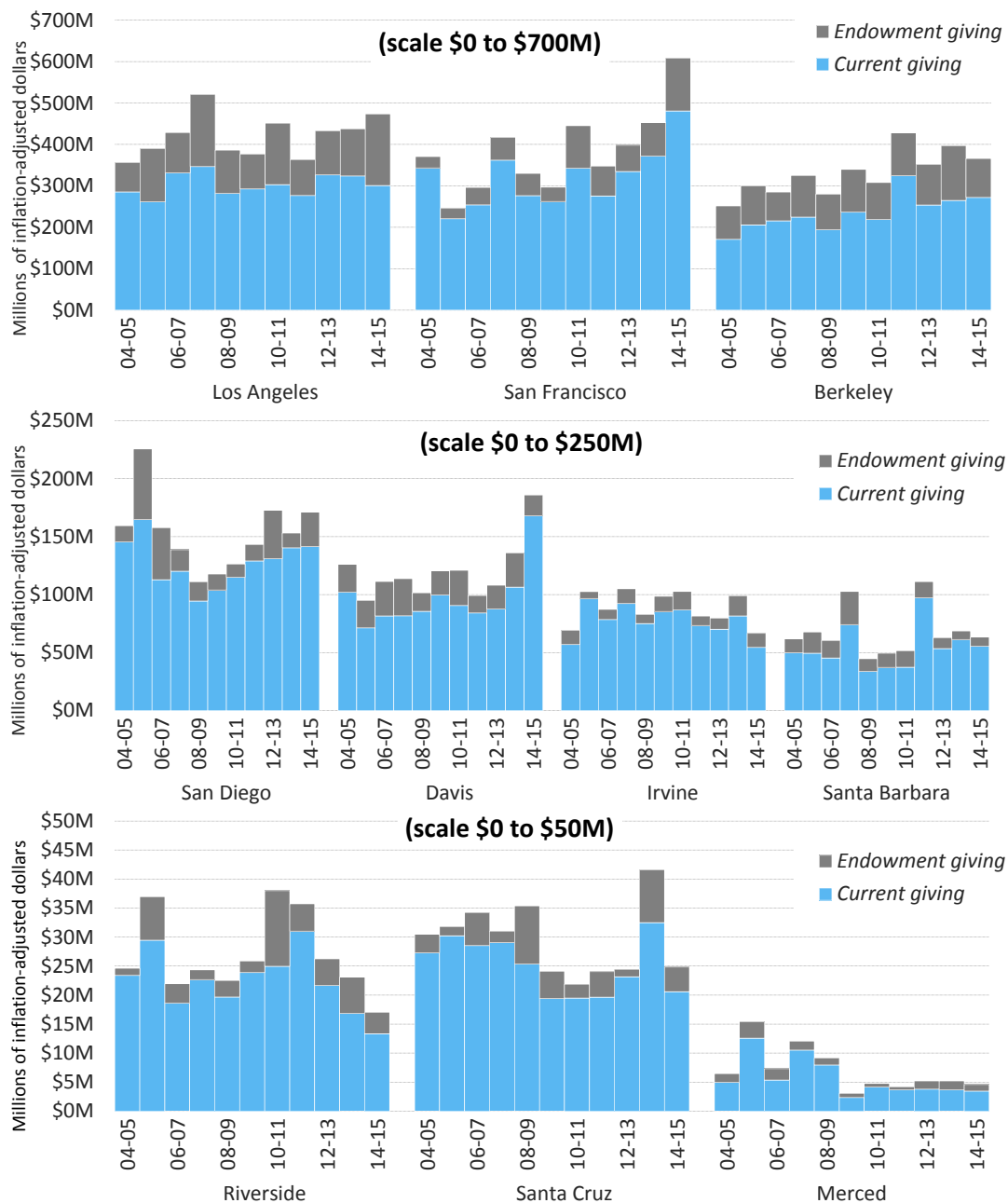
The University is energetically pursuing increased philanthropic giving as a means to help address budget shortfalls and expand student financial aid.

Department support represents gifts in support of a specific department or academic division.

12.2 DEVELOPMENT

A campus's ability to raise money is related to its age, number of alumni and presence of health science programs, which attract nearly half of all private support at UC.

12.2.2 Total giving, by type UC campuses 2004–05 to 2014–15



Source: Council on Aid to Education (CAE). Current giving includes all giving except for endowment giving.

12.3 STATE SUPPORT

The University's share of the state's general fund dropped from 8.1 percent in 1966–67 to 2.6 percent in 2015–16.

12.3.1 UC share of the state budget 1966–67 to 2015–16



Source: UC Budget Office

Historically, state funding has been the largest single source of support for the University's core instructional budget. Together with UC general funds¹ and student fee revenue, state funding provides funding for faculty salaries and benefits, academic and administrative support, student services, facilities operation and maintenance, and student financial aid.

State support has fallen more than \$1 billion in inflation-adjusted dollars since 1990–91. To compensate, the University has raised student tuition and fees, but these increases have only partially compensated for the loss of state support (see indicator 12.3.2).

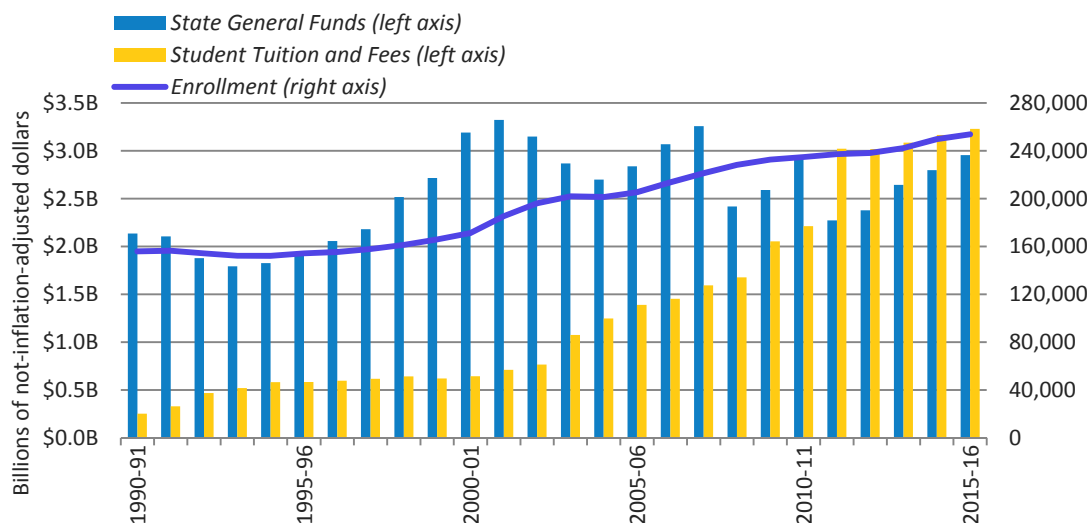
During the recent fiscal crisis, campuses laid off employees, deferred faculty hiring, cut academic programs, eliminated courses, increased class size and cut back vital student services such as library hours in order to address major funding shortfalls. State support is slowly being restored, although it has not yet caught up to pre-recession levels.

¹ UC general funds are composed mostly of nonresident tuition revenue and indirect cost recovery from research grants and contracts.

12.3 STATE SUPPORT

Tuition and fees have risen in response to cuts in state funds.

12.3.2 Revenues and student enrollment over time Universitywide 1990–91 to 2015–16



Source: UC Budget Office

Since 1990–91, student enrollment has increased by over 60 percent, primarily driven by the University’s continuing commitment to accommodate all eligible California resident undergraduates. State support has not kept pace with this growth, with revenue from student tuition and fees partially backfilling the loss of state general funds. However, tuition and fees have remained flat for five consecutive years and will remain so for 2016–17.

During the recession of the early 1990s, the University lost the equivalent of 20 percent of its state support. As the economy recovered, funding increased to provide for enrollment growth, to avoid fee increases and to maintain quality. Another fiscal crisis during the early 2000s resulted in reductions in state support during a time of rapid enrollment growth. Beginning in 2005–06, UC entered a six-year compact with the state. The state’s budget shortfalls and the onset of the most recent financial crisis led the state to renege on the compact and resulted in significant reductions in state support.

After partially restoring earlier cuts in 2010–11, the state reduced support to UC by \$750 million in 2011–12. The University received \$105.9 million in new state funding in 2012–13, including \$89.1 million toward the state’s share of employer contributions to the University’s retirement plan.

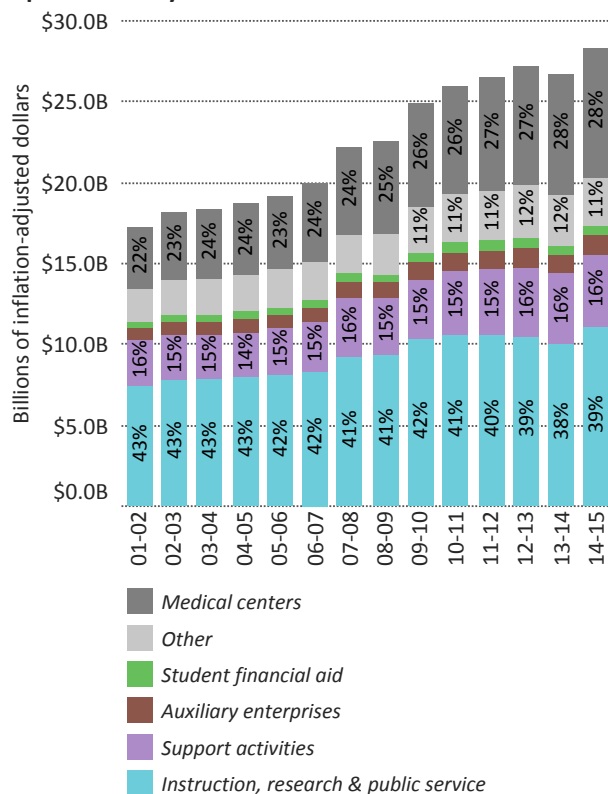
In 2013–14, the University received \$256.5 million in new state funding, including \$125 million for a deferred tuition and fee buy-out for 2012–13. In 2014–15, the state provided a \$142.2 million adjustment, equivalent to 5 percent of the base budget. In 2015–16, the state provided a 4 percent base budget adjustment, as well as \$25 million in one-time funds for deferred maintenance. In addition, the state committed to providing \$436 million over three years to help reduce the unfunded liability associated with the University’s retirement program, contingent on UC adopting a pensionable salary cap. The state also agreed to provide \$25 million if the University took sufficient action to enroll an additional 5,000 California resident undergraduate students by 2016-17 compared to 2014-15.

12.4 EXPENDITURES

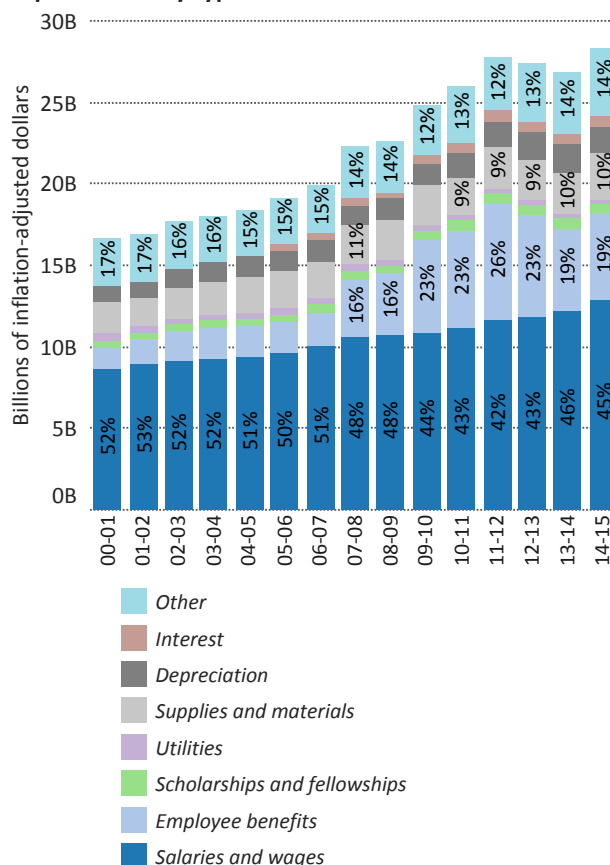
Personnel costs consistently account for over 60 percent of the University's total expenditures.

12.4.1 Expenditures by function and type Universitywide 2001–02 to 2014–15

Expenditures by function



Expenditures by type



Source: UC Revenue and Expense Trends Report and UC Corporate Financial System¹

Instruction, research and public service accounted for 39 percent of total expenditures during 2014–15, and medical centers accounted for 28 percent. Libraries and other academic support services, such as instructional technology, student services, administration, and operation and maintenance of plant, accounted for 16 percent of total expenditures.

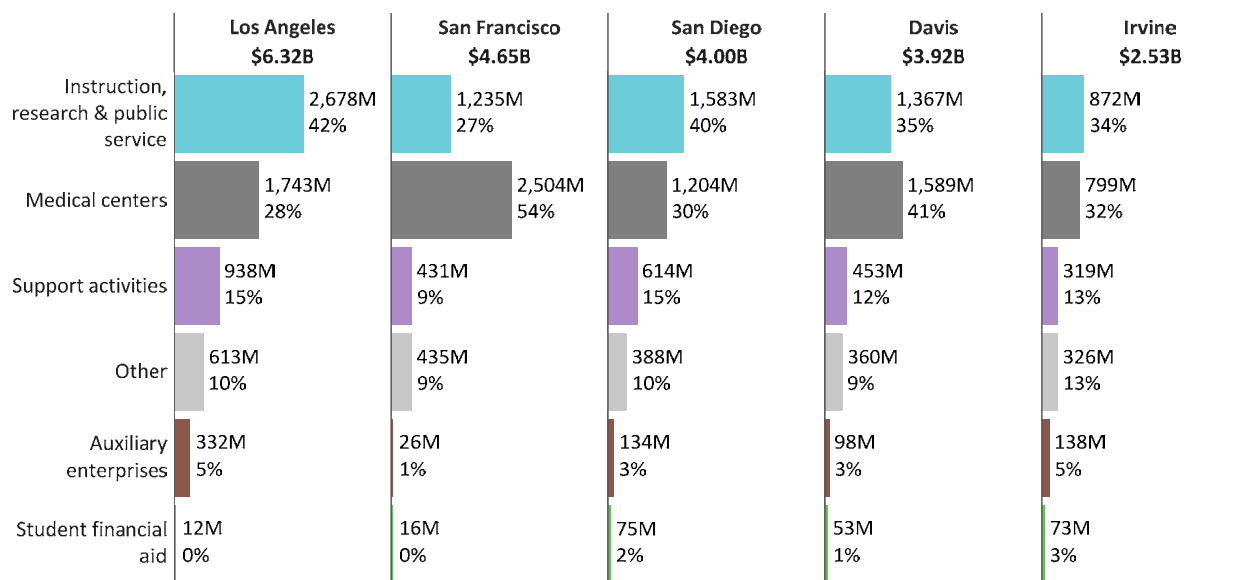
Higher education is a very labor-intensive enterprise. Personnel costs – salaries and wages, and employee benefits – consistently account for over 60 percent of the University's total expenditures. The increase in employee benefit expenses is due to a resumption of contributions to UC's retirement after a review of the retirement plan.

¹ Inflation adjusted to 2014–15 dollars using CCPI-W. Medical centers refer to UC's teaching hospitals; auxiliaries include student housing and dining, and parking garages; other expenses include interest, depreciation and other miscellaneous expenses. Support activities include student services, institutional support and academic support. Excludes Department of Energy laboratories, including the Lawrence Berkeley National Laboratory.

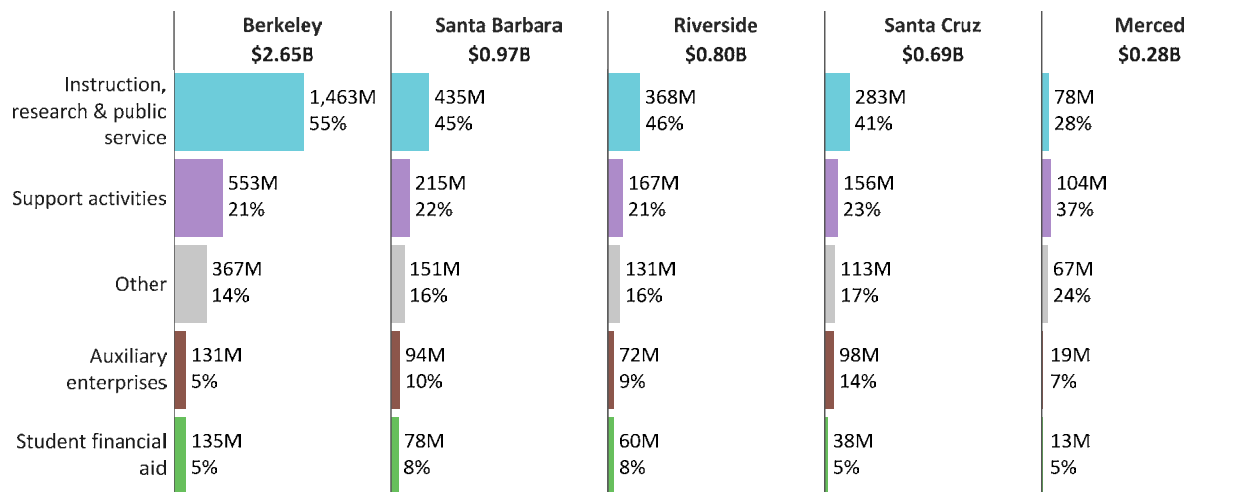
12.4 EXPENDITURES

12.4.2 Expenditures, by function UC campuses 2014–15

Campuses with Medical Centers



Campuses without Medical Centers



Source: UC Revenue and Expense Trends Report¹

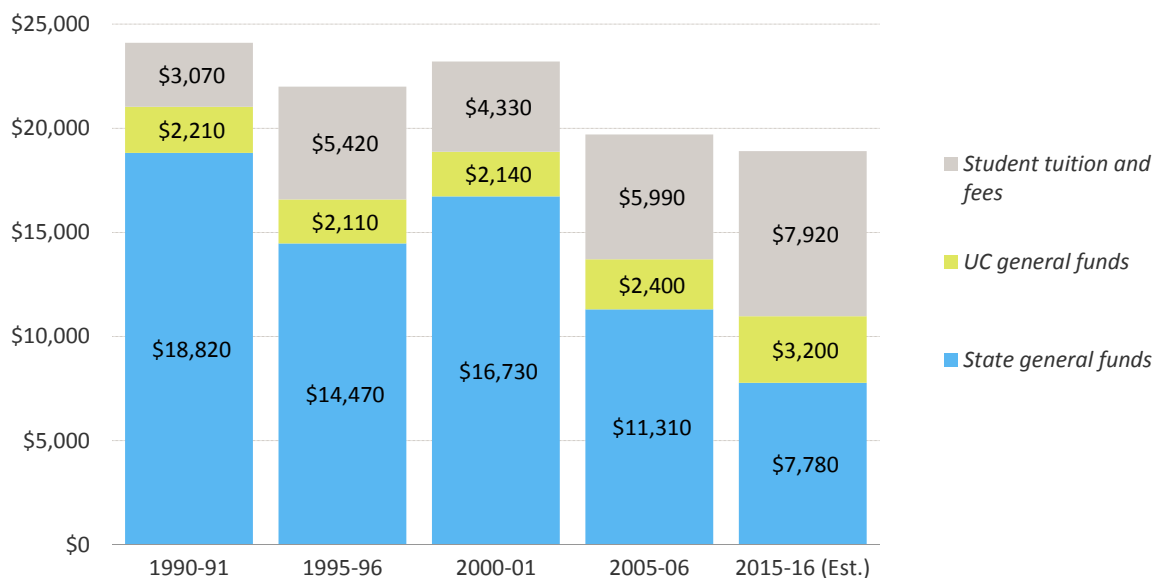
Additional years of campus revenues and expenditures are available at <http://universityofcalifornia.edu/infocenter/revenue-and-expense-data>

¹ Figures are in billions of inflation-adjusted 2014–15 dollars. The Davis, Irvine, Los Angeles, San Diego and San Francisco campuses operate medical schools and teaching hospitals. In addition to the funds associated with medical school and teaching hospital operations, these programs help campuses attract additional contract and grant revenue.

12.5 EXPENDITURES PER STUDENT

Since 1990–91, the total cost per student of a UC education has declined by 22 percent. However, students and their families have borne an ever-increasing share of that cost.

12.5.1 General campus per-student average expenditures for education Universitywide 1990–1991 to 2015–16, selected years



Source: UC Budget Office

Since 1990–91, average inflation-adjusted expenditures for educating UC students have declined 22 percent. During the same period, the state’s share of expenditures has fallen even more steeply, by 59 percent. The share of expenditures borne by students in the form of fees has more than tripled, from 13 percent to 42 percent.

In other words, students and their families are bearing a growing proportion of the cost of their education. Increases in student fees have made up some (but not all) of the reductions in state support.



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Chapter 13. Capital Program and Sustainability

UC's capital program

The University maintains more than 5,900 buildings enclosing 133 million 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.

Sources of capital funding

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 general obligation bonds playing a declining role in the University's capital program over the past decade, the University has been forced to rely on other resources to fund capital projects. In the past decade, non-state funds made up of gifts, grants, bonds and other sources, have accounted for 85 percent of UC's capital program funding.

Approved capital expenditures

During FY 2014–15, UC approved capital project budgets totaling \$993 million. Nearly 60 percent of the cost of capital projects approved in 2014–15 was met through debt financing. The remainder of the capital projects are funded by a diverse array of non-state sources. The majority of these projects, as well as those going back to at least 2010–11, were aimed at core academic programs and aging facilities.

An expanding infrastructure

Since 2005, the space available to UC for program uses has increased by 14.2 million square feet. Even more space must be added to accommodate enrollment growth and expanding programs. In addition, UC must maintain and upgrade its facilities, more than half of which are at least 35 years old, and many of which are in need of significant seismic upgrading.

UC's sustainability program

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 to achieve carbon neutrality.

The initiative builds on UC's work on climate and carbon neutrality research (as detailed in Chapter 9) and furthers its leadership in sustainable business practices. UC is improving its energy efficiency, developing new sources of renewable energy and enacting a range of related strategies to cut carbon emissions.

The University's Policy on Sustainable Practices, updated in 2015, has multiple areas of focus: Climate Action, Green Building, Clean Energy, Transportation, Recycling and Waste Management, Environmentally Preferable Procurement and Sustainable Food Services, demonstrating the University's commitment to wise stewardship of its resources and the environment. UC continues to lead higher education in sustainability as demonstrated in the 2015 Annual Report on Sustainable Practices:
http://ucop.edu/sustainability/_files/annual-sustainability-report2015.pdf

Successes noted in this year's report include \$166 million in cumulative avoided energy costs via Energy Efficiency Partnership projects, 30.7 megawatts of on-site renewable electrical generation installed and 225 LEED certifications, the most of any higher education institution in the country.

The University has formed an Energy Services Unit (ESU) to implement large systemwide renewable energy strategies using the University's capability to finance projects at favorable rates. The ESU is pursuing four strategies to achieve carbon neutrality:

1. Expand the highly successful statewide Energy Efficiency Partnership program.
2. Develop a wholesale power procurement strategy that provides a steadily increasing amount of renewable power.
3. Procure biomethane (biogas) in lieu of natural gas.
4. Proactively manage UC's carbon allowances and offsets in compliance with California's cap-and-trade program.

For more information

Additional information about UC's capital program is on the Capital Projects Portal: www.ucop.edu/capital-resources-management/capital-projects-portal/index.html

Information on UC's sustainability:

www.ucop.edu/sustainability/

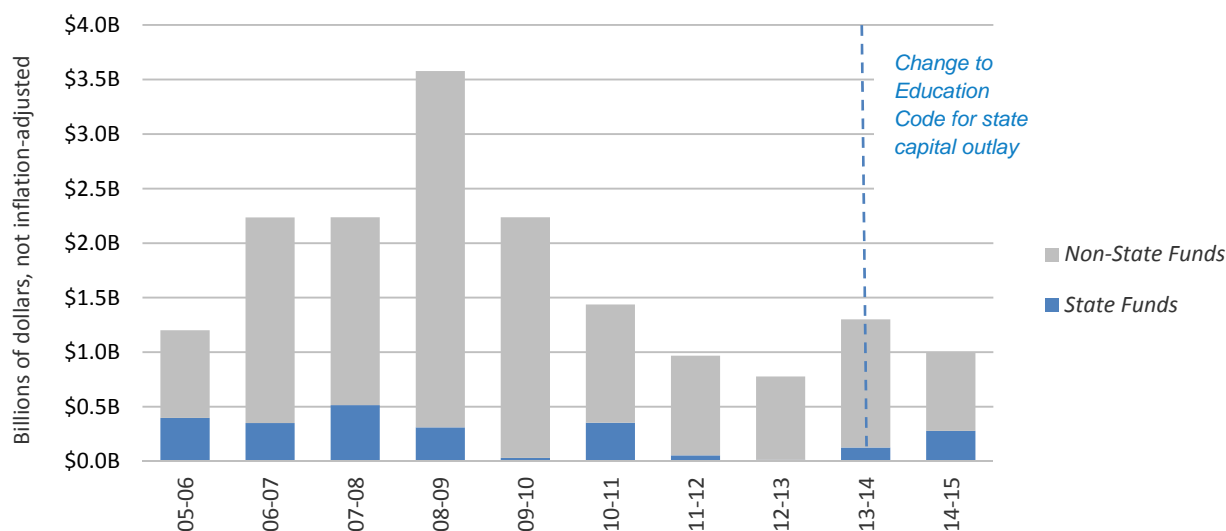
The UC Capital Resources Management office provides an annual report on major capital projects implementation: http://www.ucop.edu/design-services/_files/major-cap-reports/majcap1314.pdf

The office also develops the Capital Financial Plan, which outlines each campus's capital plan, lists proposed projects and their budgets and provides background on campus strategic goals and priorities. www.ucop.edu/capital-planning/resources/2013-23-capital-financial-plan.html

13.1 CAPITAL PROJECTS

The majority of UC’s capital project funding over the last ten years continues to be derived from non-state fund sources; changes to the Education Code for state capital outlay in 2013 allowed an increase of funding to be directed to state capital projects.

13.1.1 Sources of capital spending Universitywide, based on budgets approved by year 2005–06 to 2014–15



Source: UC Capital Programs

UC’s capital program is funded by a combination of state and non-state funds. State funds were historically the primary source of funding for core academic facilities and seismic compliance for acute care hospitals (Senate Bill 1953). Non-state sources fund self-supporting enterprises, such as housing, parking, athletics and medical enterprises, which are generally not eligible for state funding. In the past decade, non-state funds made up of gifts, grants, bonds and other sources, have accounted for 85 percent of UC’s capital program funding.

As illustrated in indicator 13.1.1, state funding for the University’s capital improvement projects varies year to year. With the last general obligation bond measure passing in November 2006 and the fact that the state continues to strive to reduce its overall bond debt, the state support for capital outlay has decreased, significantly impacting UC’s capital program.

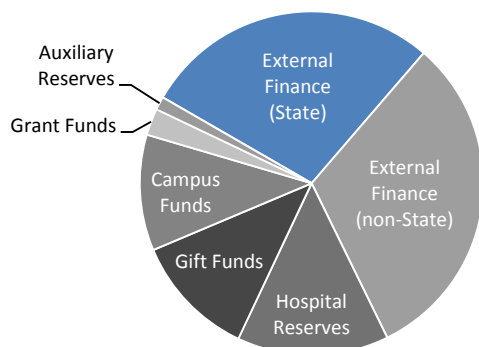
2013–14 legislation (Assembly Bill 94 or AB 94) enacted a major change in how UC could fund its debt service on capital outlay. This legislation provides flexibility to UC by allowing the University, under certain conditions, to use its state General Fund allocation to finance a variety of capital needs: designing, constructing and equipping academic facilities; addressing seismic and life safety needs; accommodating enrollment growth; modernizing out-of-date facilities; and expanding infrastructure to serve academic programs. The Education Code stipulates that UC manage its program so that not more than 15 percent of its annual state General Fund allocation is used for debt service for capital expenditures, pay-as-you-go capital outlay projects, and previously approved general obligation bond and State Public Works Board rental payments.

A total of 19 projects have been approved through this process for 2013–14 and 2014–15 and those projects are in various stages of implementation.

13.1 CAPITAL PROJECTS

Nearly 60 percent of the cost of capital projects approved in 2014–15 was met through financing.

13.1.2 Sources of capital spending detail Universitywide Budgets approved in 2014–15



2014-15 Fund Sources (thousands)

State Funds (AB 94)	\$277,812	28.0%
External Finance	\$312,299	31.4%
Hospital Reserves	\$141,696	14.3%
Gift Funds	\$115,624	11.6%
Campus Funds	\$108,277	10.9%
Grant Funds	\$25,000	2.5%
Auxiliary Reserves	\$12,415	1.3%
Total	\$993,123	

Source: UC Capital Programs

Financial challenges require each campus to consider carefully how to deploy resources to optimize the benefits to academic programs and the campus mission as a whole. In the absence of significant state funding, campuses must make urgent funding decisions for critical projects that cannot be delayed. In some cases, campuses redirect non-state funds to projects that otherwise would have been funded with state resources. 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.

With state general obligation bonds playing a declining role in the University's capital program over the past decade, the University has been forced to rely on other resources to fund capital projects. In

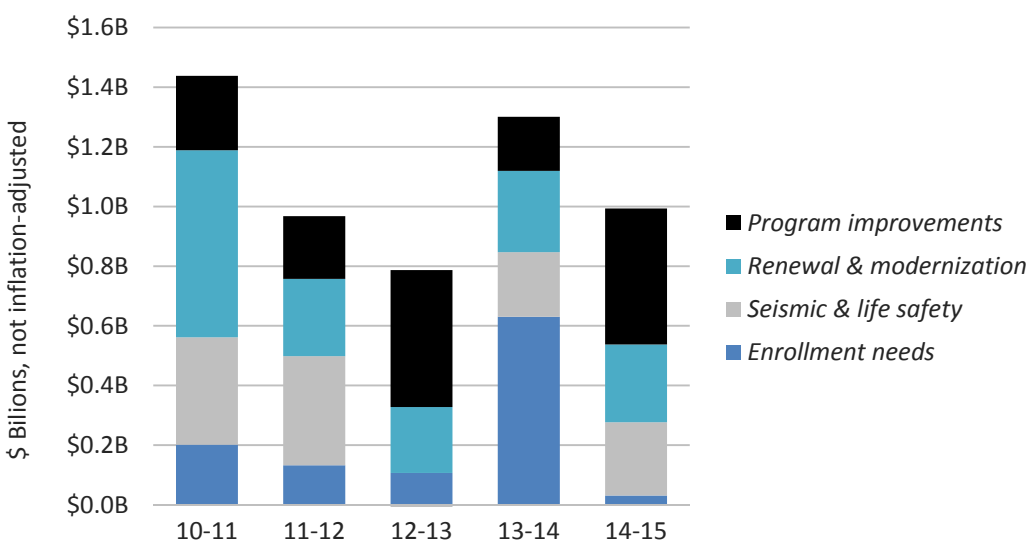
particular, external financing that utilizes non-state sources to service the debt has played a greater role in funding capital needs. In response, a new debt service model has emerged; as noted in indicator 13.1.1, the approved state-supportable capital projects in 2014–15 employ University financing that utilizes state General Funds to service the debt. Funding for these state projects represents close to half of the approved UC financing in 2014–15.

As shown in indicator 13.1.2, nearly 60 percent of the cost of capital projects approved in 2014–15 was met through financing. The remainder is funded by a diverse array of non-state sources. Gift funds represent close to 12 percent of the funding while capital reserves (hospital, campus, and auxiliary reserves) represent about 26 percent.

13.1 CAPITAL PROJECTS

The majority of capital funds approved for expenditure between 2010–11 and 2014–15 supported projects addressing core academic programs and aging facilities.

13.1.3 Types of capital projects
Universitywide, based on budgets approved by year
2010–11 to 2014–15



Source: UC Capital Programs

Capital projects may address several objectives. indicator 13.1.3 illustrates the funding of types of capital projects by their primary objective.

UC has research centers, institutes and laboratories spanning the full spectrum of academic and research disciplines. In addition, UC Health includes 17 health professional schools and 11 hospitals. Modern program initiatives require state-of-the-art space, necessitating the repurposing of existing facilities or construction of new space. From 2010–11 to 2014–15, UC devoted nearly \$1.6 billion to program improvements to address changes in its academic, research and clinical priorities.

As campus facilities age, they 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, \$1.6 billion has been

approved for projects that address facility renewal and modernization.

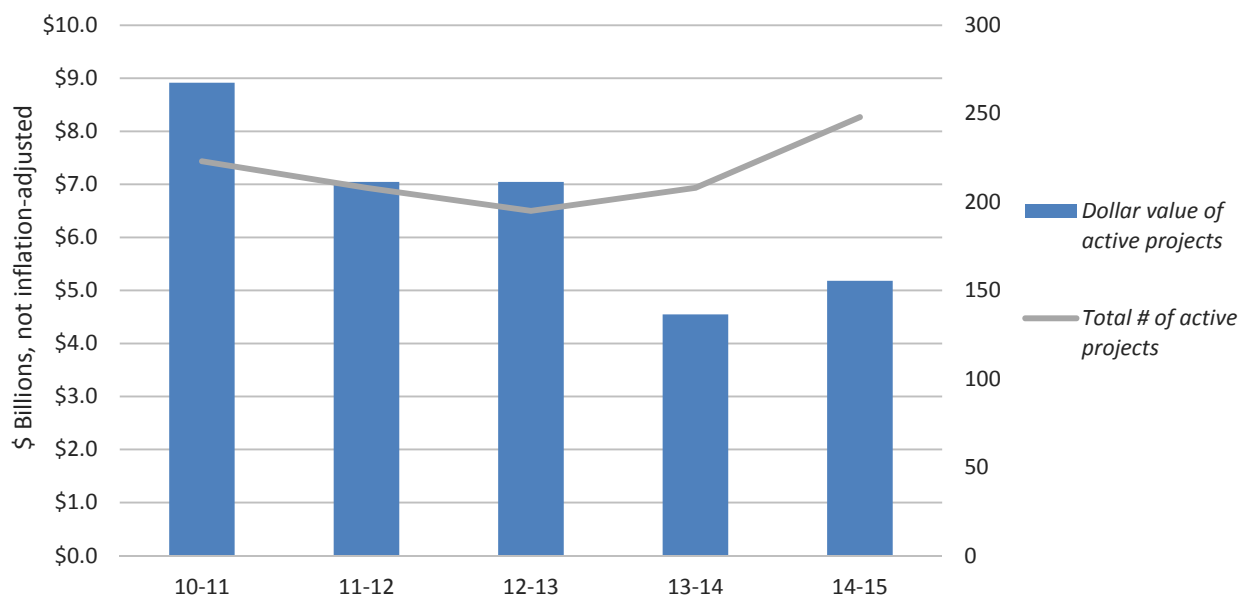
The University continues to review the seismic safety of its facilities, prioritize buildings for remediation and implement seismic upgrades. From 2010–11 to 2014–15, UC devoted \$1.2 billion to seismic and life-safety corrections to buildings.

Continuing enrollment growth has largely driven the University's requirement for new teaching laboratories, classrooms, student housing and recreational facilities. In 2013–14, UC experienced a dramatic increase of funding for enrollment-driven projects. These projects were part of the first wave of projects approved using the new funding mechanism for state capital projects under the provisions of the amended California Education Code; they represent a backlog of critical projects. In the past five years, UC has approved \$1.1 billion for projects that address enrollment needs.

13.1 CAPITAL PROJECTS

Ongoing investment in new and existing facilities is critical to support the University’s mission; the active capital portfolio has increased from last year to \$5 billion and is trending toward a higher volume of lower-cost projects.

13.1.4 Active projects Universitywide 2010–11 to 2014–15



Source: UC Capital Programs

Active projects are those with approved budgets and that are under design or construction at the end of each fiscal year. Because capital projects typically take three to five years to design and construct, the data for any single year represents a snapshot of a process that occurs over several years.

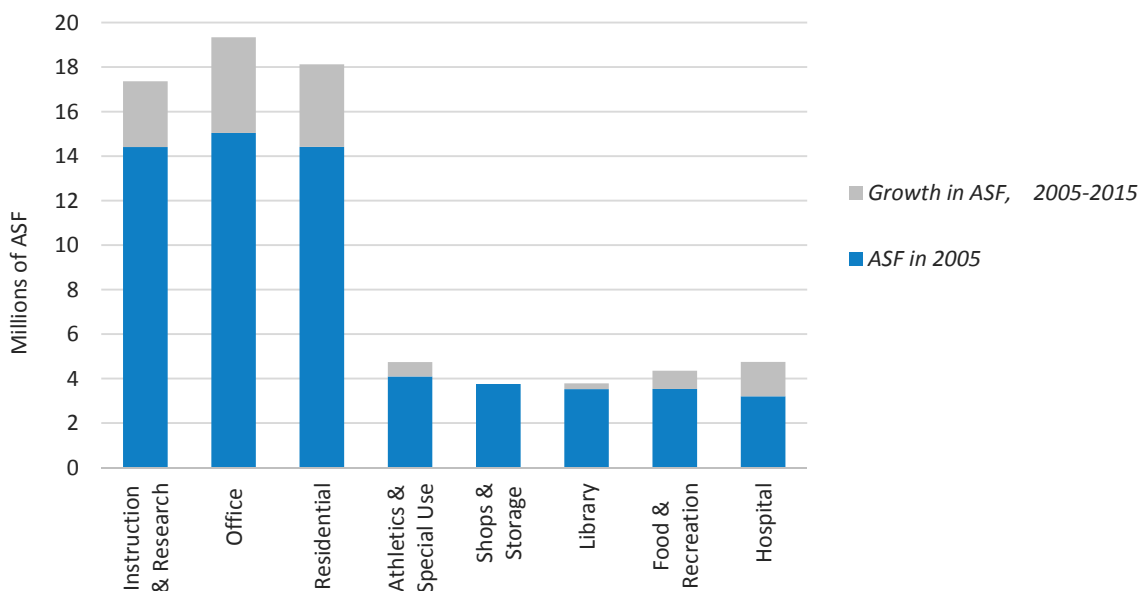
Indicator 13.1.4 shows budget totals and the number of active capital projects at fiscal year-end for the past five years. The cumulative budget of the portfolio of 248 active projects was \$5.2 billion for 2014–15. While the total number of active projects in 2014–15 increased by 19 percent over the

previous year, the dollar value of active projects increased only 6 percent, indicating that the more recent projects have smaller budgets.

The University takes steps to mitigate the impact of fluctuating construction markets on project costs. These measures include matching specific project needs with the contract type and delivery method that will yield the most efficient project budget and schedule. Additionally, the University actively creates opportunities for best practices to be shared among campuses.

In the past decade, UC space has increased by over 20 percent, with most of the growth targeted for instruction and research, offices and residential uses.

13.1.5 Assignable square footage (ASF)
Universitywide
2005–2015



Source: UC Capital Programs

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 13.1.5 illustrates the growth in space over the last decade, according to categories for assignable space. Systemwide space has increased by 14.2 million ASF since 2005, representing an increase of 23 percent. This space increase is proportional to the increase in enrollment for the same period.¹

Within this total, instructional, research and office space has increased by 51 percent or 7.2 million ASF. Increases in the student population have also required significant additions to athletic, recreational and food service space. 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. On-campus housing can be especially important for first-year students, many of whom are the first in their families to attend college. In January 2016, President Napolitano announced the Student Housing Initiative. The goal of the Initiative is to provide an addition 14,000 affordable beds for undergraduate and graduate students across the system by 2020.

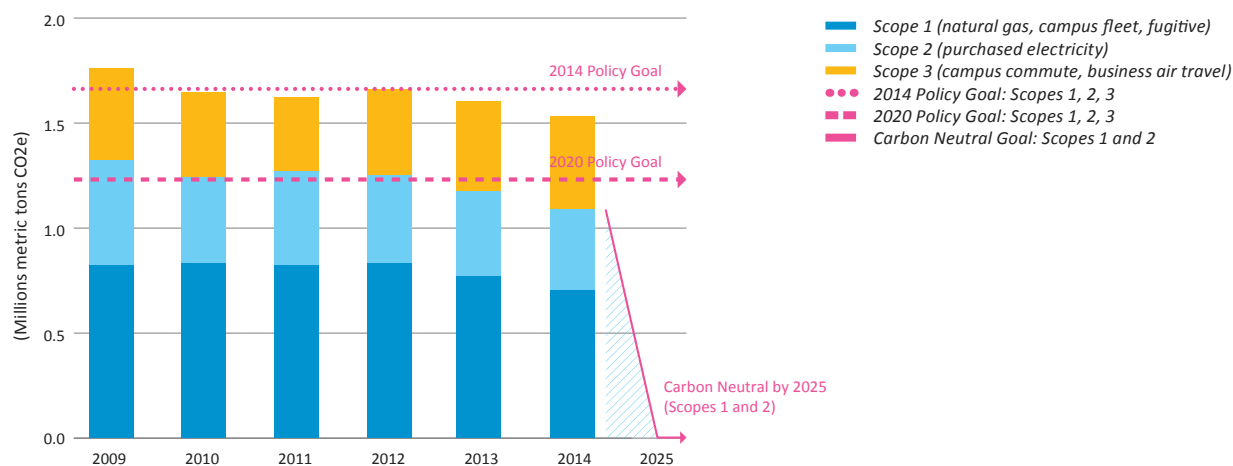
Hospital space significantly grew in the past decade. All medical centers experienced growth; however, most of the growth in hospital space can be attributed to the Ronald Regan UCLA Medical Center (2008), and UCSF Medical Center at Mission Bay and Ron Conway Family Gateway Medical Building (2015).

¹ *Budget for Current Operations, 2016–17, Appendix Display 8: Enrollment History, 1980–81 Through 2014–15.*

13.2 SUSTAINABILITY

UC has made consistent progress toward its greenhouse gas emission goals.

13.2.1 Greenhouse gas emissions Universitywide compared to climate goals 2009–2014



Source: UCOP Energy and Sustainability Office¹

The University’s greenhouse gas (GHG) emissions totaled 1.5 million metric tons CO₂e (carbon dioxide equivalent) in 2014. Forty-five percent of the total emissions came from Scope 1 sources — natural gas, campus fleet and fugitive emissions (such as refrigerants or certain gases used in research). Twenty-four percent came from Scope 2 sources — purchased electricity and steam. The final 27 percent came from Scope 3 emissions — campus commute and business air travel. Despite continued growth in building space, total emissions have been declining over the past two years. The University’s total

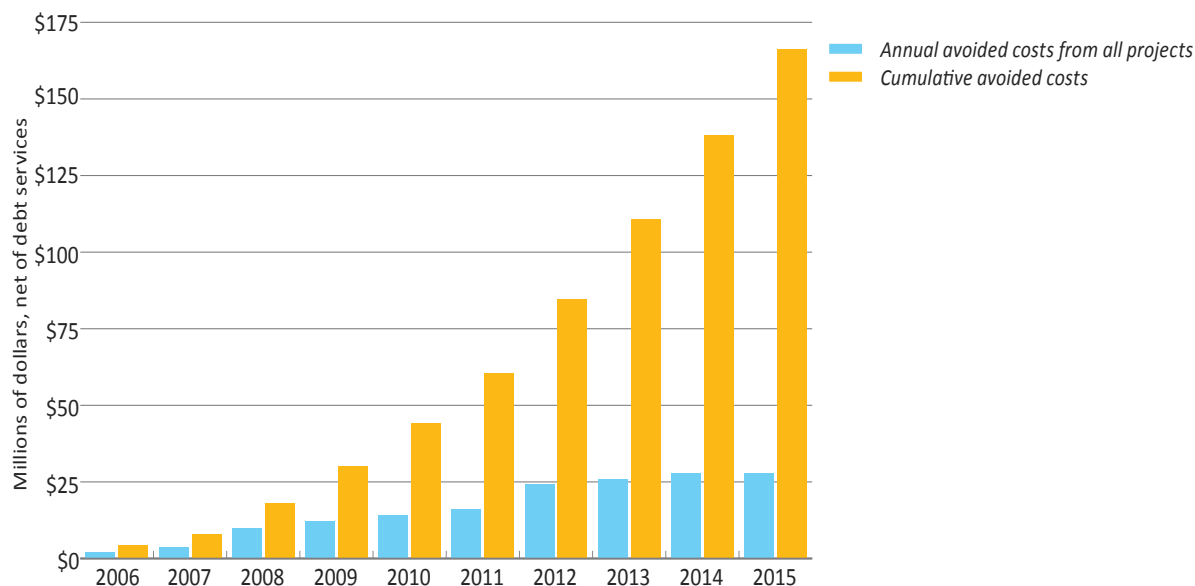
emissions fell below 2000 levels at the close of calendar year 2014, meeting the UC policy goal for that year.

In 2014, six campuses met or exceeded the 2014 policy target. Santa Barbara and Los Angeles joined Berkeley in reducing emissions below 1990 levels, surpassing the 2020 policy goal five years early. All campuses have a climate action plan identifying measures to reduce GHG emissions. Campuses are currently in the process of updating these plans to include the 2025 carbon neutrality goal.

¹ Emissions in the graph above account for Scope 1 and Scope 2 emissions, consistent with the President’s Carbon Neutrality Initiative. Scope 1 encompasses emissions that result directly from campus activities, primarily fossil fuel combustion. Scope 2 covers emissions associated with electricity and steam generated by a third party and sold to a campus.

Energy efficiency upgrades will result in cumulative net avoided costs for the University of \$166 million by the end of 2015.

13.2.2 Energy efficiency cost avoidance Universitywide 2005–2015



Source: UCOP Energy and Sustainability Office

In 2004, the University formed a unique statewide Energy Efficiency Partnership program with the California State University system and the state’s four investor-owned utilities to improve the energy performance of higher-education facilities. The partnership provides funding for energy system monitoring, equipment retrofits, and training and education as components of a continuous building efficiency improvement process.

In 2015, the University received approximately \$6.7 million in incentives from the Partnership to implement 72 projects. Those projects are projected to save approximately 23 million kilowatt-hours (kwh) of electricity and 1.2 million therms of natural gas annually.

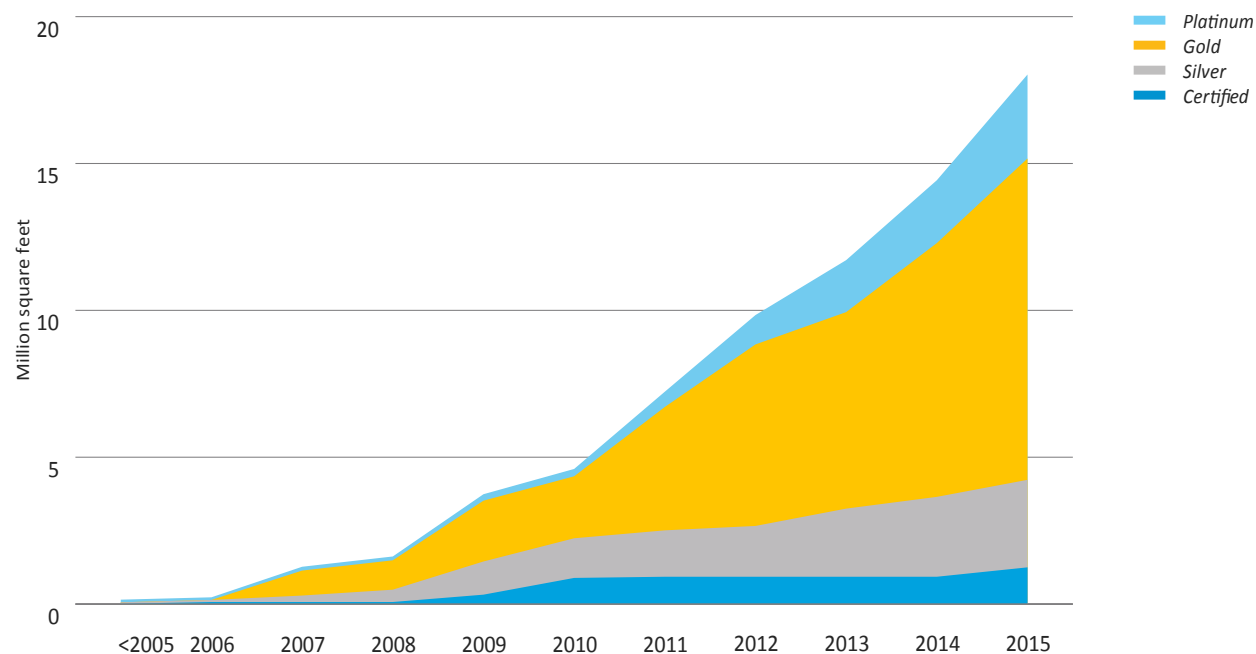
Energy efficiency projects since the program began in 2004 allow the University to avoid approximately \$28 million in additional energy costs annually, and the program’s cumulative avoided costs should exceed \$166 million by the end of 2015.

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.

13.2 SUSTAINABILITY

By the end of 2015, UC had achieved 225 LEED® certifications, more than any other university in the country.

13.2.3 LEED® certifications Universitywide 2000–2015 (cumulative)



Source: UCOP Capital Resources Management

UC's sustainability policy requires all new construction projects and renovation projects over \$5 million to achieve a minimum of Leadership in Energy and Environmental Design (LEED®) Silver certification.

By the end of 2015, the University of California had 225 LEED®-certified projects, representing more than 18 million gross square feet of building space (new construction, renovation, homes and existing building certifications). In 2015, six projects earned LEED-Platinum certifications, 14 earned Gold, three earned Silver, and two earned Certified.

UC LEED® certifications are listed at <http://ucop.edu/sustainability/programs-initiatives/green-building/uc-leed-certified-projects.html>.

Beyond sustainability in new construction, UC has also adopted LEED® for Existing Buildings, Operations and Maintenance (LEED®-EBOM), to “green” the day-to-day, ongoing environmental performance of its existing facilities. UC buildings have received 28 LEED®-EBOM certifications. Seven UC campuses have initiated certification for campus-wide LEED®-EBOM credits and prerequisites. The campus-wide certification option was pioneered by UC, resulting in streamlined documentation for individual projects.





Chapter 14. Honors and Rankings

Over the past several decades, a growing number of organizations have created ranking systems aiming to measure the quality of higher education institutions, with the goal of providing information to students and their families as they make their college decisions. Ranking systems differ significantly in the factors they consider, and the emphasis they place on these factors, not only among ranking systems but also in the way each of them ranks institutions every year. In many cases, methodology changes make it impossible to make ranking comparisons for the same institution over time.

As described in this chapter, UC campuses are well represented in the various ranking systems, with many of them near or at the top of public institutions. For example, in this year's College Access Index from the New York Times, six UC campuses are among the top seven colleges that are doing the most for low-income students. After evaluating these students' graduation rates and the net cost students pay for a college education, the Times called the UC system "California's upward-mobility machine" for providing a "top-flight education for the masses."

In addition to the College Access Index, this chapter also provides information across a sample of other national and international ranking systems and describes how each of these uses a different combination of factors to signal aspects of quality across colleges and universities. For example, two organizations — U.S. News and World Report (USNWR) and the Washington Monthly — both rank undergraduate institutions, but they define education quality and value very differently.

USNWR focuses on academic reputation, graduation rates, student selectivity and financial resources to create its list of America's Best Colleges; in contrast, the Washington Monthly defines academic quality in terms of an institution's contribution to the public good. One ranking system, USNWR, looks at the quality of graduate and professional education in the U.S. Two other ranking systems — the Shanghai Academic Ranking of World Universities and the Times Higher Education World University Rankings — rank institutions around the globe, primarily using measures of faculty research productivity.

In May 2016, The Washington Post also produced its first ranking of institutions based on an analysis of transfer student data, with UCLA as the national leader among top-tier schools for the number of transfer students accepted each year.

Importantly, while we recognize that all of these rankings may be sources of information for students, UC does not endorse any particular ranking system nor does it have specific goals with respect to any of them. In fact, over the past few years, UC has strongly supported the development of the College Scorecard, a single source of national data and metrics that provide key information about college opportunity, cost of attendance and value of a degree available to the general public.

In September of 2015, after several years of continued efforts, the Department of Education unveiled a revamped version of the College Scorecard, an interactive tool that allows students, parents and counselors to search and compare institutions using their own academic, career and financial goals preferences. The College Scorecard includes information about student outcomes such as graduation rates, former student earnings, graduates' student debt and borrowers' repayment rates, with some of these data also available for various subgroups, such as first-generation and Pell students.

Analyses of the College Scorecard data demonstrate that UC continues to be a good investment for students and their families. Compared to other non-UC AAU public institutions, UC provides greater access for low-income and first-generation students, and underrepresented minorities. UC also demonstrates a strong record of high graduation rates and high median earnings after graduation for all students including those of low-income backgrounds.

Assessing institutional value-added, that is, how much the institutions themselves contribute to the outcomes of the students they enroll, is another interesting development in the ability to compare across higher education institutions. In the report “Beyond College Rankings: A Value-Added Approach to Assessing Two- and Four-Year Schools,” researchers from the Brookings Institution designed a method that takes into account a set of institutional and student characteristics. This makes it possible to determine institutional performance in student economic outcomes that are independent of what can be attributable to the type of students they enroll. Using this approach, UC campuses are among the public institutions offering the highest added value to their students.

One of the points of pride for the University of California is providing undergraduate and graduate students, many of them low-income, with access to an educational and research environment that is comparable to the nation’s finest private institutions but on a significantly larger scale. Each of five UC campuses enrolls more low-income students than all eight Ivy League institutions combined. This high-quality experience comes in large part from the excellence of UC’s faculty. Over the last decade, a UC faculty member has received a Nobel Prize on an almost annual basis, with 61 Nobel recipients in total for the UC system, placing it fourth in comparison to other *countries*. In addition, 600 UC scholars have been elected to the National Academy of Sciences, a recognition that scientists receive for continuing achievements in original research.

Throughout this chapter, rankings of comparison institutions are included.

The rankings selected for this report are as follows:

The New York Times College Access Index

Washington Monthly: National University Rankings

U.S. News: America’s Top National Universities

U.S. News: Graduate Program Rankings

Shanghai Ranking Consultancy: Academic Ranking of World Universities

Times Higher Education: World University Ranking

The Washington Post: Top Transfer Destinations

[For more information](#)

<https://collegescorecard.ed.gov/data/>

Related Topic Briefs:

www.ucop.edu/institutional-research-academic-planning/_files/College%20Scorecard%20Brief.pdf

www.ucop.edu/institutional-research-academic-planning/_files/RankingsBrief_2015.pdf

Six of the top seven universities promoting social mobility in the nation are UC campuses, according to the College Access Index.

In its second year of publication, the College Access Index ranking system is one of the few ranking systems that focuses on colleges that are doing the most for low-income students. With income inequality at the forefront of the national conversation, these rankings are based on three factors: the share of students who receive Pell Grants, the graduation rates of those students and

the prices that colleges charge both low- and middle-income students. In 2014, the index was limited to mostly private and very small selective colleges due to its criterion of only including institutions with 4-year graduation rates of at least 75%. The New York Times modified its criteria to 5-year graduation rates of at least 75% in 2015, resulting in the inclusion of substantially more public universities.

14.1.1 New York Times: College Access Index Rank UC and comparison institutions 2015

	2015
Irvine	1
Davis	2
Santa Barbara	3
San Diego	4
Los Angeles	5
Berkeley	7
Harvard	11
MIT	17
Stanford	19
Yale	26
U of Michigan	48
U of Illinois	49
U of Virginia	102

UC is highly rated in the Washington Monthly rankings, which focus on contributions to the public good. In the 2015 listing, four of the top ten universities are UC campuses.

Washington Monthly developed its ranking system in 2005 as an alternative to U.S. News's America's Best Colleges rankings. Unlike U.S. News, which ranks institutions on their prestige, resources and selectivity, Washington Monthly ranks institutions on their contributions to the public good.

Its rankings are based on three broad factors: how well each institution fosters social mobility (e.g., the percentage of students receiving Pell Grants); furthers research (e.g., faculty awards and Ph.D. production); and serves the country (e.g., student participation in the Reserve Officer's Training Corps (ROTC) and the Peace Corps).

14.2.1 Washington Monthly: National University Rankings 2005–2015

	2005	2006	2007	2008 ¹	2009	2010	2011	2012	2013	2014	2015
San Diego	8	6	4	n/a	2	1	1	1	1	1	1
Riverside	-	22	15	n/a	16	40	5	9	2	2	2
Berkeley	3	2	3	n/a	1	2	3	5	5	3	4
Stanford	5	7	13	n/a	4	4	4	3	6	6	5
Los Angeles	2	4	2	n/a	3	3	2	6	10	5	6
Harvard	16	28	27	n/a	11	9	6	11	8	10	8
U of Michigan	10	18	6	n/a	18	7	10	13	12	13	13
Santa Barbara	-	57	36	n/a	21	11	13	14	22	15	14
MIT	1	1	27	n/a	12	15	11	15	11	14	15
Davis	17	10	8	n/a	10	6	8	17	23	16	16
U of Illinois	13	16	11	n/a	24	27	38	22	19	26	27
Yale	15	12	38	n/a	23	33	39	41	54	57	44
Irvine	-	72	49	n/a	44	50	60	117	84	83	51
U of Virginia	22	20	16	n/a	26	59	53	48	51	60	63
Santa Cruz	-	68	76	n/a	56	93	70	67	65	79	73
Univ. at Buffalo	-	203	111	n/a	101	121	160	202	204	162	153

¹ Washington Monthly did not publish rankings for 2008.

14.3 U.S. NEWS: AMERICA'S TOP UNIVERSITIES

Of the top ten national public universities in the U.S. News and World Report ranking, five are UC campuses.

First published in 1983, the U.S. News and World Report college rankings are the oldest and best known of all college rankings. These rankings are based on seven major factors: peer assessment, graduation rates, retention rates, faculty resources, student selectivity, financial resources and alumni-

giving rates. U.S. News's rankings of top national universities focus on academic reputation, financial resources and selectivity — factors that tend to privilege older, well-established, elite private institutions.

14.3.1 U.S. News: America's Top National Universities 2007–2016¹

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Harvard	2	2	1	1	1	1	1	2	2	2
Yale	3	3	3	3	3	3	3	3	3	3
Stanford	4	4	4	4	5	5	6	5	4	4
MIT	4	7	4	4	7	5	6	7	7	7
Berkeley	21	21	21	21	22	21	21	20	20	20
Los Angeles	26	25	25	24	25	25	24	23	23	23
U of Virginia	24	23	23	24	25	25	24	23	23	26
U of Michigan	24	25	26	27	29	28	29	28	29	29
Santa Barbara	47	44	44	42	39	42	41	41	40	37
Irvine	44	44	44	46	41	45	44	49	42	39
San Diego	38	38	35	35	35	37	38	39	37	39
Davis	47	42	44	42	39	38	38	39	38	41
U of Illinois	41	38	40	39	47	45	46	41	42	41
Santa Cruz	76	79	96	71	72	75	77	86	85	82
Univ. at Buffalo	3 rd	3 rd	121	121	120	111	106	109	103	99
Riverside	88	96	89	96	94	97	101	112	113	121

14.3.2 U.S. News: America's Top National Public Universities 2007–2016

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Berkeley	1	1	1	1	1	1	1	1	1	1
Los Angeles	4	3	3	2	2	2	2	2	2	2
U of Virginia	2	2	2	2	2	2	2	2	2	3
U of Michigan	2	3	4	4	3	4	4	4	4	4
Santa Barbara	13	13	12	11	9	10	10	11	10	8
Irvine	12	13	12	14	11	13	12	14	11	9
San Diego	8	8	7	7	7	8	8	9	8	9
Davis	13	11	12	11	9	9	8	9	9	11
U of Illinois	10	8	10	9	15	13	13	11	11	12
Santa Cruz	33	35	45	29	29	31	32	36	35	34
Univ. at Buffalo	-	-	-	-	-	54	51	53	48	45
Riverside	39	45	40	43	41	41	46	55	55	58

¹ U.S. News labels its undergraduate rankings for the prospective year; the 2015 rankings were published August 2014. UC San Francisco is not included in U.S. News' "America's Best Colleges" rankings because it is a graduate health sciences campus; Merced, which opened in 2005, also is not yet included in these rankings. Since 2014, the top-ranked national university has been Princeton University.

14.4 U.S. NEWS: GRADUATE PROGRAM RANKINGS

UC's graduate and professional programs are consistently highly rated in comparison to peer institutions.

U.S. News has ranked American universities' graduate programs in business, education, engineering, law and medicine since 2000. Like its college rankings, USNWR's graduate program rankings are controversial. The absence of an

institution from a top ranking does not necessarily imply that it received a lower ranking: Berkeley, Santa Barbara and Santa Cruz, for example, do not offer M.D. degrees and thus are not ranked in medicine while Riverside's M.D. program is too new to be ranked.

14.4.1 U.S. News: Graduate Program Rankings¹ 2007–2015

	Campus	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Business	Harvard	1	1	1	1	2	1	1	1	2	1
	Stanford	2	1	2	1	1	1	1	1	1	2
	MIT	4	4	4	3	3	4	4	5	5	5
	Berkeley	8	7	7	7	7	7	7	7	7	7
	Yale	14	13	10	11	10	10	13	13	13	8
	U of Virginia	12	14	15	13	13	13	12	11	10	11
	U of Michigan	11	12	13	12	14	13	14	11	11	12
	Los Angeles	16	11	14	15	14	15	14	16	15	15
	U of Illinois	38	38	42	42	37	37	47	35	47	39
	Davis	44	40	42	42	28	36	40	41	48	45
	Irvine	44	nr	36	36	40	49	49	45	53	48
	San Diego							73	60	63	77
Univ. at Buffalo	nr	nr	nr	nr	75	89	75	74	79	81	
Riverside	nr	nr	nr	nr	nr	97	nr	nr	nr	nr	
Education	Stanford	2	1	2	5	4	4	5	4	3	1
	Harvard	3	6	6	3	2	2	3	3	2	2
	Los Angeles	5	3	5	6	6	6	8	11	13	11
	U of Michigan	6	9	14	14	9	12	11	8	11	12
	Berkeley	8	7	7	10	12	13	12	14	17	18
	U of Virginia	31	24	21	21	22	23	22	22	22	21
	U of Illinois	25	48	25	25	23	22	19	26	24	23
	Irvine	nr	nr	nr	nr	48	43	37	36	31	25
	Santa Barbara	nr	nr	nr	nr	58	63	40	64	67	49
	Davis	nr	nr	nr	nr	58	63	60	45	38	51
	Riverside	nr	nr	nr	nr	66	67	74	77	76	62
	San Diego								98	99	74
Engineering	MIT	1	1	1	1	1	1	1	1	1	1
	Stanford	2	2	2	2	2	2	2	2	2	2
	Berkeley	3	3	3	3	3	3	3	3	3	3
	U of Michigan	9	9	9	8	9	8	9	8	6	6
	U of Illinois	5	5	5	5	5	5	5	6	6	7
	Los Angeles	16	13	14	15	14	16	16	16	14	14
	San Diego	13	11	12	13	14	14	14	14	17	17
	Harvard	23	22	18	19	18	19	23	24	20	24
	Santa Barbara	19	19	18	19	21	21	20	19	23	23
	Davis	32	33	32	32	31	31	33	31	33	33
	Irvine	37	35	36	36	39	39	37	38	37	37
	Yale	39	40	39	39	35	34	34	34	35	38
U of Virginia	38	37	39	39	39	39	38	40	39	39	
Univ. at Buffalo	nr	nr	nr	nr	52	54	61	60	59	61	
Riverside	nr	nr	nr	nr	66	64	67	69	71	71	
Santa Cruz	nr	nr	nr	nr	78	87	87	81	88	87	

	Campus	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Law	Yale	1	1	1	1	1	1	1	1	1	1
	Harvard	2	2	2	2	2	2	2	2	2	2
	Stanford	2	3	3	3	3	3	2	3	2	2
	Berkeley	8	6	6	7	9	7	9	9	8	8
	U of Michigan	8	9	9	9	7	10	9	10	11	8
	U of Virginia	10	9	10	10	9	7	7	8	8	8
	Los Angeles	15	16	15	15	16	15	17	16	16	17
	Irvine							nr	nr	30	28
	Davis	44	35	28	28	23	29	38	36	31	30
	U of Illinois	25	27	23	21	23	35	47	40	41	40
	Hastings	38	39	42	42	42	44	48	54	59	50
	Univ. at Buffalo	100	85	third tier	third tier	84	82	86	100	87	100
Medicine: Primary Care	San Francisco	8	6	5	5	4	3	4	4	3	3
	U of Michigan	45	17	7	14	20	8	8	8	5	4
	Los Angeles	18	12	10	14	16	10	11	13	7	6
	Harvard	13	7	15	17	15	15	14	11	12	17
	San Diego	35	26	28	28	33	27	39	38	19	21
	U of Virginia	38	35	29	39	20	19	18	29	40	25
	Davis	26	35	20	20	41	24	19	16	19	37
	Stanford						63	62	38	25	37
	Yale	nr	nr	nr	nr	67	74	72	68	57	37
	Irvine	nr	nr	nr	nr	nr	86	66	61	62	62
	Univ. at Buffalo	nr	nr	nr	nr	86	nr	79	nr	nr	nr
	Medicine: Research	Harvard	1	1	1	1	1	1	1	1	1
Stanford		7	8	6	11	5	4	2	2	2	2
San Francisco		5	5	5	4	5	5	4	4	3	3
Yale		8	9	6	6	5	7	7	7	7	8
U of Michigan		10	11	11	6	10	10	8	12	10	11
Los Angeles		13	9	11	11	13	13	13	12	13	14
San Diego		14	14	15	16	15	16	15	14	17	18
U of Virginia					25	22	25	26	26	26	28
Irvine		43	45	47	47	42	44	42	43	45	44
Davis		48	48	47	47	42	42	42	40	43	47
Univ. at Buffalo	nr	nr	nr	nr	55	57	64	71	nr	nr	

¹ “nr” denotes that the program was not rated in that year. Professional programs are listed here by what U.S. News calls the “edition” year, which is one year after the “ranked in” year. For example, the 2016 rankings above were published as the 2017 edition but ranked in 2015.

In the Academic Rankings of World Universities, only four public universities in the world appear in the top 20, and all four are UC campuses.

The Academic Rankings of World Universities (ARWU) was created by Shanghai Jiao Tong University in China in 2003 to determine the global standing of Chinese research universities. Since 2009, the Shanghai Ranking Consultancy has published these rankings; see www.shanghairanking.com/ARWU2014.html.

The Shanghai Ranking Consultancy ranks the top 1,200 universities worldwide; their 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.

14.5.1 Shanghai Ranking Consultancy: Academic Rankings of World Universities¹ 2006–2014

	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
Harvard	1	1	1	1	1	1	1	1	1	1
Stanford	3	2	2	2	3	2	2	2	2	2
MIT	5	5	5	5	4	3	3	4	3	3
Berkeley	4	3	3	3	2	4	4	3	4	4
Yale	11	11	11	11	11	11	11	11	11	11
Los Angeles	14	13	13	13	13	12	12	12	12	12
San Diego	13	14	14	14	14	15	15	14	14	14
San Francisco	18	18	18	18	18	17	18	18	18	18
U of Michigan	21	21	21	22	22	22	22	23	22	22
U of Illinois	25	26	26	25	25	25	25	25	28	29
Santa Barbara	35	35	36	35	32	33	34	35	41	38
Irvine	44	45	46	46	46	48	45	45	47	50
Davis	42	43	48	49	46	48	47	47	55	57
Santa Cruz	102–150	102–150	102–150	102–150	102–150	102–150	101–150	101–150	93	93
Riverside	102–150	102–150	102–150	102–150	102–150	102–150	101–150	101–150	101–150	101–150
U of Virginia	102–150	102–150	95	91	96	102–150	101–150	101–150	101–150	101–150
Univ. at Buffalo	201–300	203–304	201–302	201–302	201–300	201–300	201–300	201–300	201–300	201–300

¹ Campuses ranked below the top 100 are placed into ranges in lieu of an exact ranking.

The top two public institutions in the Times Higher Education rankings are UC Berkeley and UCLA.

The British-based Times Higher Education (THE) significantly revised its educational rankings in 2011; thus, institutional scores from prior years are not comparable to current rankings. The rankings are based on five “headline” categories: teaching, research, citations, industry income and international outlook.

The 2015-16 edition of THE rankings used a more comprehensive database to measure research productivity, improving coverage of peer-reviewed research not published in English. This change made it possible to obtain a better geographical representation of universities in non-English-speaking countries.

14.6.1 Times Higher Education: World University Rankings¹ 2010–11 to 2014–15

	Reputational Ranking						Overall Ranking					
	2011	2012	2013	2014	2015	2016	2010–11	2011–12	2012–13	2013–14	2014–15	2015-16
Harvard	1	1	1	1	1	1	1	2	4	2	2	6
MIT	2	2	2	2	4	2	3	7	5	5	6	5
Stanford	5	4	6	3	5	3	4	2	2	4	4	3
Berkeley	4	5	5	6	6	6	8	10	9	8	8	13
Yale	9	10	10	8	8	8	10	11	11	11	9	12
Los Angeles	12	9	8	10	13	13	11	13	13	12	12	16
U of Michigan	13	12	12	15	19	14	15	18	20	18	17	21
U of Illinois	21	23	24	23	30	30	33	31	33	29	29	36
San Diego	30	36	34	40	41	35	32	33	38	40	41	39
Davis	38	44	48	51–60	44	45	54	38	44	52	55	44
San Francisco	34	31	40	32	38	42						
Santa Barbara	51–60	51–60	51–60	61–70	61–70	71–80	29	35	35	33	37	39
Irvine							49	86	96	93	88	106
Santa Cruz							68	110	122	136	109	144
U of Virginia							72	135	118	112	130	147
Riverside							117	143	154	148	150	167
Univ. at Buffalo									198	176	191	201–250

¹ A blank denotes not ranked. Campuses in the reputational ranking below the top 50 are placed into ranges in lieu of an exact ranking. The top Overall Ranking for 2015–16 was given to the California Institute of Technology.

14.7 THE WASHINGTON POST: TOP TRANSFER DESTINATIONS

UCLA enrolls more transfer students than any other school in the top 75 on the U.S. News and World Report list of national universities. UC Davis ranks second, and several other UC campuses are also major transfer destinations.

There are many paths to a bachelor’s degree from an elite university. A university’s commitment to enrolling high numbers of transfer students enables students from a larger variety of educational, developmental and socioeconomic backgrounds to earn four-year degrees. When top-tier four-year institutions are accessible to transfer students, the diversity of the populations served by the schools is better reflected in higher education.

In May 2016, The Washington Post released a ranking of the top 75 U.S. universities according to the number of new transfer students enrolling in fall 2014. UC campuses account for six of the top 15 transfer destinations.

14.7.1 The Washington Post: Top 25 Transfer Destinations¹ 2016

		Number of new transfers enrolled	Transfer share of total
Los Angeles	1	3,167	35%
Davis	2	3,138	37%
Ohio State	3	2,606	27%
Rutgers – New Brunswick	4	2,541	28%
Texas A&M U – College Station	5	2,525	19%
San Diego	6	2,461	33%
U Texas – Austin	7	2,325	24%
Berkeley	8	2,187	29%
U Minnesota – Twin Cities	9	2,175	28%
Irvine	10	2,024	27%
U Maryland – College Park	11	2,004	33%
U Florida	12	1,968	23%
U Washington	13	1,730	21%
Michigan State U	14	1,668	17%
Santa Barbara	15	1,592	25%
U Southern California	16	1,435	32%
U Illinois – Urbana Champaign	17	1,331	16%
Clemson U	18	1,293	27%
U Massachusetts – Amherst	19	1,158	20%
U Georgia	20	1,116	18%
U Michigan – Ann Arbor	21	1,041	14%
Virginia Tech	22	958	15%
Indiana U – Bloomington	23	912	11%
U North Carolina – Chapel Hill	24	886	18%
New York U	25	854	13%

¹ The Washington Post analysis is based on the top 75 schools according to the U.S. News and World Report fall 2015 rankings and each institution’s Common Data Set answers for 2014–15.

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.

API — Academic Performance Index. API is the measure of a high school's academic performance and may affect a student's success in college.

ARRA — American Recovery and Reinvestment Act, passed by Congress 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, meals 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. (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 12-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 originally was 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 meet higher admissions criteria and 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. The number and percentage of Pell Grant recipients is frequently used as a measure of an institution's accessibility for low-income students. 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 — A postdoctoral scholar is engaged in further research or training in the field in which they obtained their doctoral degree for the purpose of gaining additional expertise and skills. Postdoctoral scholars may hold concurrent titles in other academic or staff categories.

Retention — Retention is the proportion of students in a cohort who remain enrolled or earn a degree at a specified time, such as after one year.

SCH, student credit hours — Student credit hours are a measure of faculty teaching workload. SCH is defined 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.

Tenure — Tenure is the right to continuous employment until ended by the tenure holder by retirement or resignation. A tenured appointment may not be terminated by the employer except for good cause.

Terminal master's degree — A master's degree that is not intended nor has the capability of leading to a doctoral program of study.

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).

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 Glossary entry below for more information.*

VAI — Visitors, adjuncts and instructional assistants are types of faculty who do not have tenure or security of employment.

VERIP — Voluntary Early Retirement Incentive Program

WASC — Western Association of Schools and Colleges — WASC 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 www.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 www.aaup.org/our-work/research/annual-report-economic-status-profession.

Comparison 8 (Comp 8)

The "Comparison 8" institutions are the eight universities — four public and four private — with which UC regularly compares faculty pay scales and student fees. This group is recognized as appropriate for purposes of comparison by such external agencies as the California Department of Finance. The public universities are University of Illinois, University of Michigan, University of Virginia and University at Buffalo. The private universities are Harvard University, Massachusetts Institute of Technology, Stanford University and Yale University.

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. For more information on the CPI-W (CA), visit www.dof.ca.gov/HTML/FS_DATA/LatestEconData/FS_Price.htm.

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, today CAE also is 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 www.cae.org.

Integrated Postsecondary Education Data System (IPEDS)

IPEDS is a system of interrelated surveys conducted annually by the U.S. Department's National Center for Education Statistics (NCES). IPEDS gathers information from every college, university, and technical and vocational institution that participates in the 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 <http://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 <http://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 <http://www.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 external independent certified public accounting firm reporting to the Regents. UC's audited financial statements can be accessed at www.universityofcalifornia.edu/reportingtransparency.

UC Budget for Current Operations

UC budget documents can be found at www.ucop.edu/operating-budget/budgets-and-reports/index.html.

UC Corporate Contracts and Grants System

The Corporate Contracts and Grants System is a set of databases and processes that provides information about sponsored projects at the University of California.

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's general ledger. More information can be found at data.ucop.edu.

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.

UC Corporate Student System (CSS)

The Corporate Student System (CSS) 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 seven CSS databases contain information about enrollment, undergraduate and graduate admissions, financial support, degrees conferred, and health science resident and postdoctoral fellow appointees. 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.

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 which was not renewed. The 2007 annual report to the Legislature was the last mandated report; it can be found at www.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 www.ucop.edu/student-affairs/data-and-reporting/graduate-student-support/index.html.

UC Information Center Data Warehouse

The Information Center Data Warehouse project, currently ongoing, is developing integrated system wide reporting to support the mission of Institutional Research throughout UC.

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 www.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 <http://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 www.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 <http://studentsurvey.universityofcalifornia.edu/>.

Table 1. UC Student Enrollment Classification Using UC Corporate Student System

Level	UC Degree Level	UC Student Level Code	Disciplines (CIP Categories)		
Graduate Academic			<i>Excludes Post-baccs in discipline breakdowns</i>		
Academic Doctoral	PhD	6, 7, 8	Visual/Performing Arts	Foreign Languages	History
Academic Masters	MA, MS	5 or Post-bacc.	English Literature	Philosophy	Liberal Arts
Professional Doctoral	EdD, DEnv, DPh, DPT, DNS, etc.	6, 7, 8	Engineering	Area Studies	Bio/Life Sciences
			Computer Science	Psychology	Conservation Science
			Math	Social Sciences	Interdisciplinary
			Physical Science	Agricultural Science	Other/Unknown
			Business	Public Admin.	Criminology
			Architecture	Law (non-J.D.)	Health Sciences
			Education	Communications	Library Science
Graduate Professional		<i>Includes self-supporting</i>			
Professional Masters	MBA, MPP, MPH, MSW, MLS, M. City Planning, MA/MS in Education, MEng, MFT, etc.	5	Business	Public Admin.	Criminology
Professional Practice	JD, MD, OD, DDS, PharmD, DVM, AudD, etc.	5 or 6	Architecture	Law (non-J.D.)	Health Sciences
			Education	Communications	Library Science
			Arts (MFT only)		
			Law (JD only)		Other Health Sciences
			Medicine (MD only)		
Health Science Resident	--	R	Health Sciences		
Undergraduate	BA, BS	1-4	All Disciplines, grouped into broad disciplines		

Table 2. UC and Comparative Student Data Classification Using IPEDS Data

Enrollment Level	Degree Classification	IPEDS Degree	Disciplines (CIP Categories)		
Graduate & Professional	Graduate Academic				
	Academic Doctoral	Doctor's Degree (old)	Visual/Perf. Arts	Foreign Languages	History
		Doctor's Degree – research/scholarship (new)	English Literature	Philosophy	Liberal Arts
	Academic Masters	Master	Engineering	Area Studies	Bio/Life Sciences
			Computer Science	Psychology	Conservation Science
	Professional Doctoral	Doctor's Degree (old)	Math	Social Sciences	Interdisciplinary
		Doctor's Degree – research/scholarship (new)	Physical Science	Agricultural Science	Other/Unknown
	Professional Masters	Master	Business	Public Admin.	Criminology
Architecture			Law (non-J.D.)	Health Sciences	
Professional Practice	First Professional (old)	Education	Communications	Library Science	
		Military Science	Parks & Recreation	Theology	
Professional Practice	Doctor's Degree – professional practice (new)	Homeland Security	Agricultural Science		
		Law (J.D. only)		Other Health Sciences	
		Medicine (M.D. only)		Theology	
Undergraduate	Undergraduate	Bachelor	All Disciplines, grouped into broad disciplines		

Table 3. 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

Mapping Developed 1/7/2011

UC Institutional Research and Academic Personnel

Table 4. Inflation Adjustments

Unless otherwise noted, all inflation adjustments are to 2015 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 www.dof.ca.gov/HTML/FS_DATA/LatestEconData/documents/BBFYCPI.XLS.

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)
1993	1993–94	144.7	2001	2001–02	174.7	2009	2009–10	216.3
1994	1994–95	146.6	2002	2002–03	179.0	2010	2010–11	219.7
1995	1995–96	149.1	2003	2003–04	183.8	2011	2011–12	226.4
1996	1996–97	152.0	2004	2004–05	188.9	2012	2012–13	231.6
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			

Table 5. 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 &
Arts & Humanities	Letters		Environmental Design
Arts & Humanities	Theology	Other General Campus Professional	Criminology
Business/Management	Business & Management	Other General Campus Professional	Social Welfare
Education	Education	Other General Campus Professional	Communications
Engineering & Computer Science	Computer & Information Sciences	Other General Campus Professional	Library Science
	Engineering	Other Health Science	Veterinary Medicine
Engineering & Computer Science	Engineering	Other Health Science	Dentistry
Interdisciplinary/Other	Interdisciplinary Studies	Other Health Science	Nursing
Interdisciplinary/Other	Physical Education	Other Health Science	Pharmacy
Interdisciplinary/Other	Military Sciences	Other Health Science	Public Health
Interdisciplinary/Other	Home Economics	Other Health Science	Optometry
Law	Law	Other Health Science	Other Health Professions
Life Sciences	Biological Sciences	Physical Science	Physical Sciences
Life Sciences	Agriculture & Natural Resources	Social Science & Psychology	Psychology
	Mathematics	Social Science & Psychology	Social Sciences
Math		Social Science & Psychology	Area Studies

Table 6. Faculty Categories, Faculty Series and Class Title Outline Codes

Category	Faculty Series Included	Class Title Outline (CTO) Codes¹
Ladder Rank Faculty and Equivalent (LRE)	• Professorial – Tenure, Non-Tenure and Recall ²	010, 011, 012
	• Clinical Prof. of Dentistry – 50% or More	030, 031
	• Supervisor of Physical Education – Tenure, Non-Tenure and Recall	040, 041, 042
	• Acting Professor – Senate and Non-Senate	114, 124
	• Lecturer with Security of Employment and with Potential Security of Employment – 100%, and Recall ³	210, 211, 212
	• Astronomer – Tenure, Non-Tenure and Recall	520, 521, 522
	• Agronomist – Tenure, Non-Tenure and Recall	530, 531, 532
Additional Instruction/Research/Service Faculty	• Professor in Residence	311
	• Professor of Clinical ___ (e.g., Medicine)	317
	• Health Sciences Clinical Professor	341
	• Adjunct Professor	335
	• Visiting Professor	323
Lecturers and Instructional Assistants (Unit 18) ⁴	• Lecturer	225
	• Lecturer with Potential Security of Employment – Part Time	221
	• Instructional Assistant (non-student)	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.

⁴ These Lecturers and Instructional Assistants are often part-time or are hired in temporary assignments. They eligible for union representation; their bargaining unit in the UC system is referred to as “Unit 18”.

Table 7. AAU Member Universities, as of June 2015 (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	

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