Annual Accountability Report

2017

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

Contact: accountability@ucop.edu

University of California
Annual Accountability Report 2017
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Data tables can be found online at www.universityofcalifornia.edu/accountability.

Interactive maps are available at http://arcgis.cisr.ucsc.edu/ucop/.

EXECUTIVE SUMMARY

2017 Accountability Report Executive Summary

INTRODUCTION

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.

This executive summary provides highlights from this year's report and concludes with a dashboard including content used in annual budget hearings between the President and Chancellors, illustrating how this data is used to support both transparency and accountability efforts.

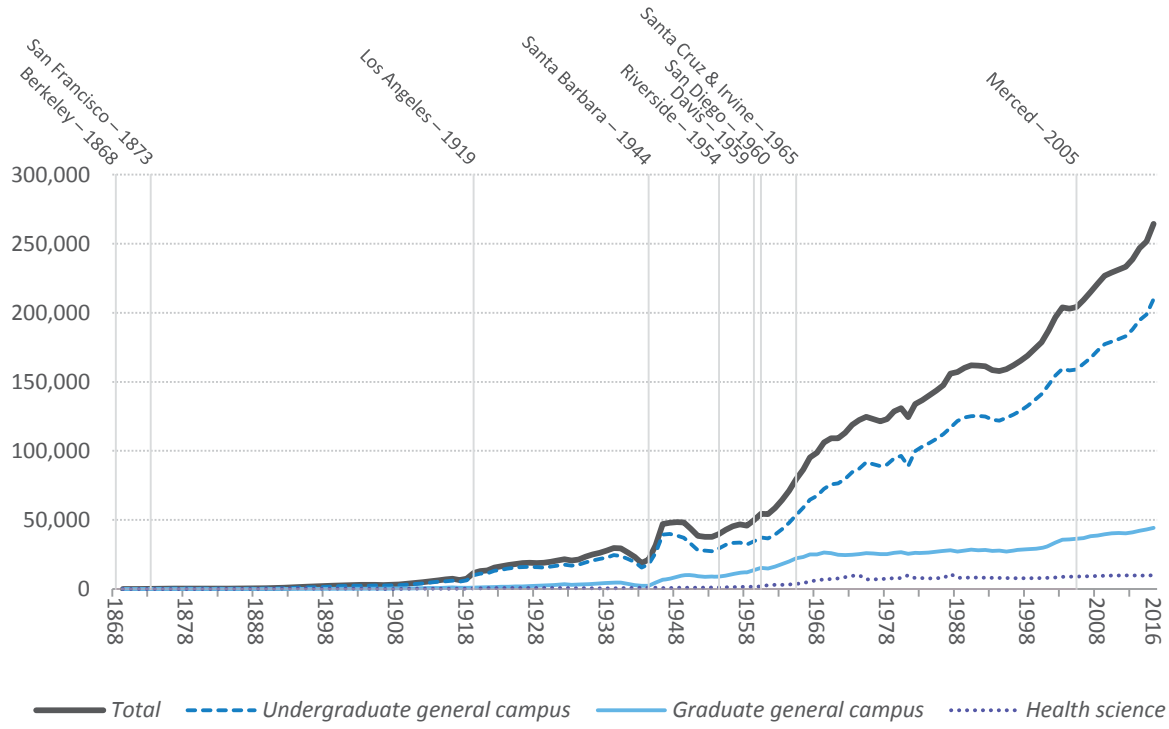
UC at a Glance

- 10 campuses, 5 medical centers and 3 national laboratories
- 264,000 students and 1.8 million alumni
- Fourth largest health care delivery system in California
- Third largest employer in California

TEACHING

Over the last 50 years, enrollment at the University of California has quadrupled, with the majority of growth at the undergraduate level. Last year, UC enrolled the largest incoming class of California undergraduate residents since World War II and the largest cohort of new out-of-state and international undergraduates, producing UC's most diverse incoming undergraduate class.

Undergraduate and graduate student enrollment, with campus opening date
Fall 1868 to 2016



The University has a wide range of college preparatory programs aimed at diverse, low-income high school students to increase their awareness about eligibility for UC. In addition, the Academic Senate has created major-specific Transfer Pathways for 21 of UC's most popular transfer majors, and the University continues to make progress toward its goal of a 2:1 ratio of freshman to transfer entrants. Furthermore, UC received $20 million in one-time funding in 2016—17 to support the admission, enrollment, and success of underrepresented minority and low-income students. These funds supported campus programs serving an estimated 29,000 students, as well as expanded outreach to possible future students.

The University of California is recognized for providing unprecedented access to low-income and first generation students. Through its strong financial aid program, including federal and state support, UC continues to keep the cost of attendance and indebtedness levels low. However, some students have experienced food and housing insecurity. In response, the University has established a UC Basic Needs Leadership team to recommend where to provide future support. Keeping these students in college is critical to advancing economic mobility. Pell Grant recipients have comparable graduation rates to non-Pell Grant recipients, within five years of graduation, and the majority of these students go on to earn more than their families (i.e., upwards of $50,000 per year).

Key Undergraduate Fact Points:

- 41 percent are Pell Grant recipients, compared to 22 percent for non-UC American Association of University (AAU) public and 16 percent AAU private peers
- 47 percent graduate with no debt; UC's average loan debt is just over $21,000, compared to a $30,100 national average
- Nearly 90 percent of freshman and transfer entrants graduate, with the average time to degree at 4.1 years for freshman and 2.2 years for transfers
- Within two to 10 years, freshmen undergraduates see their earnings double

Graduate enrollment growth has not kept pace with undergraduate growth; academic doctoral enrollment has been flat since 2010 and increases have been concentrated in academic masters and graduate professional self-supporting programs.

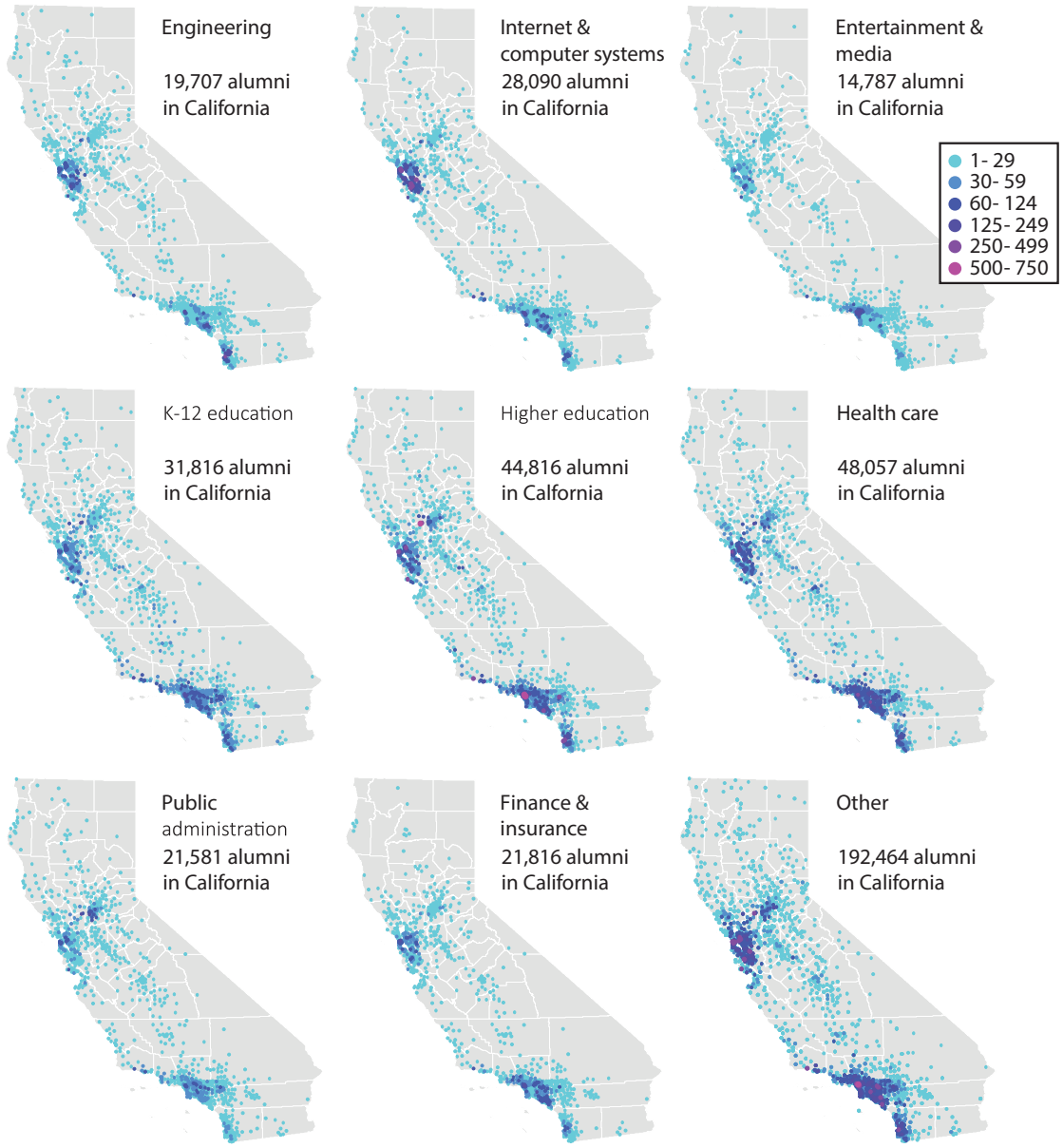
The University is concerned about the affordability of graduate education and graduate student well-being. Graduate fees have continued to increase, particularly for professional degree programs, and UC net stipends remain below competitive offers, though the gap decreased between 2010 and 2013. UC conducts a graduate cost of attendance survey to get a better idea of how to help graduate students finance their education. In addition, UC completed a graduate survey of mental health and well-being that included student feedback on where to prioritize efforts to improve the graduate student experience.

Key Graduate Fact Points:

- 20 percent of enrollment at UC is graduate students, compared to 27 percent for non-UC AAU public and 54 percent of AAU private peers
- 20 percent of California's graduate academic masters, 63 percent of academic doctorates, 26 percent of graduate professional doctorates and 60 percent of graduate medical professional practice degrees
- Over 70 percent Ph.D. completion rates, with an average time to degree of 5.7 years
- 63 percent of domestic and 50 percent of international Ph.D. degree recipients plan to stay in California

The series of maps on the following page illustrate where UC alumni live, along with the economic industries where they are employed. Over 48,000 alumni work in health care, more than 44,800 in higher education, almost 32,000 in K-12 education, and over 28,000 in internet and computer systems industries.

University of California Alumni by Economic Sector



Other includes industries such as retail & wholesale, manufacturing, transportation, construction, legal services and others.

RESEARCH

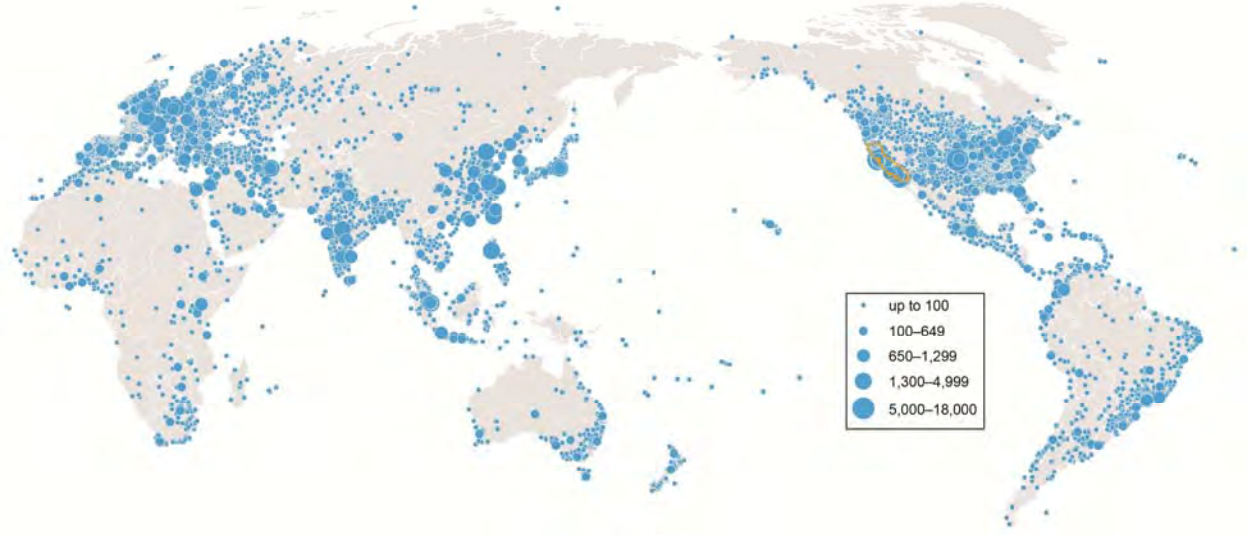
UC faculty and other research personnel attract billions of dollars and talent to California resulting in job creation, local spend, and discoveries that benefit the state and beyond. Of the $4.4 billion in 2015—16 research expenditures, 55 percent started as federal funds — three-quarters of it from the National Institutes of Health and the National Science Foundation.

Key Research Fact Points:

- Nearly one-tenth of all academic research and development in the United States is at UC
- $516,000 in research expenditures per tenured and tenure-track faculty, compared to $413,000 for AAU private and $283,000 for AAU public peers
- Over 1,000 startup companies since 1976 founded around UC inventions, 85 percent in California

UC's Open Access policies help ensure that research findings become public by enabling UC authors to make their articles available through UC's California Digital Library eScholarship repository. Since 2012, there have been more than 45,000 publications deposited and nearly one million article downloads worldwide.

Open Access Project Initiative
March 2013 to March 2017



PUBLIC SERVICE

UC's impact can be seen throughout California, with a significant presence in nearly every community. In addition to managing an extensive network of world-class museums, libraries, herbaria and other facilities that are open to the public, UC promotes the agriculture industry, health care, environmental stewardship and education at all levels.

UC's Student Academic Preparation and Educational Partnerships (SAPEP) has helped nearly 200,000 K-12 students at more than 1,100 public schools prepare for college and more than 25,000 California students develop math and science skills through the Mathematics, Engineering, Science Achievement (MESA) programs. UC also manages more than 7,800 teacher professional development programs and 65 teacher preparation programs. UC's Natural Reserve System comprises 39 sites with more than 756,000 acres in the state, protecting environments for research, education and public service.

Key Agriculture and Natural Resources Fact Points:

- All 58 California counties are served by Cooperative Extension that brings UC research for use in local communities
- Manages all 4-H programs throughout California

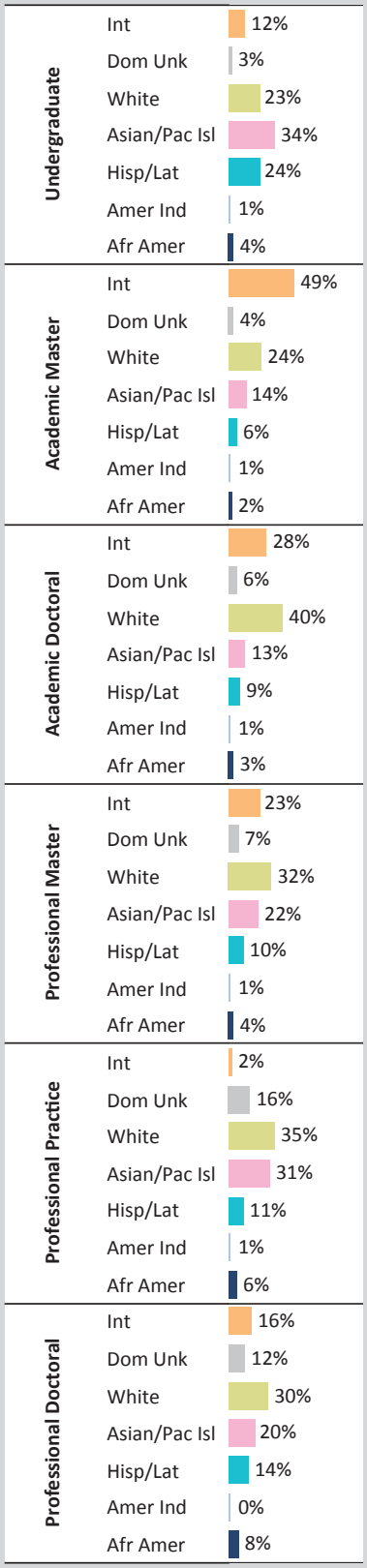
Key UC Health Fact Points:

- Operates five major trauma centers that provide half of all transplants and one-fourth of extensive burn care in the state
- More than 167,000 inpatient admissions, 368,000 emergency room visits and nearly 4.9 million outpatient visits a year
- More than 60 percent of UC patients are covered by Medicare or Medi-Cal or lack health insurance

ADDITIONAL RESOURCES

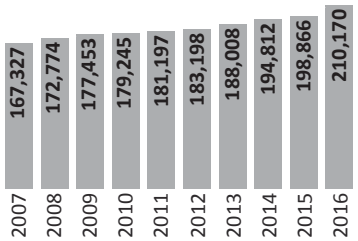
The full report, data and visualization can be downloaded at http://accountability.universityofcalifornia.edu. The UC Information Center provides additional detail at https://www.universityofcalifornia.edu/infocenter. Additional UC in California maps can be found at http://arcgis.cisr.ucsc.edu/ucop/

Student Race/Ethnicity, Fall 2016



Additional years of race/ethnicity data are available on the UC Information Center.

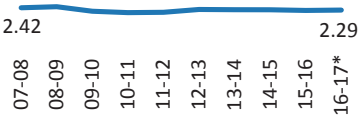
Undergrad Fall Enrollment



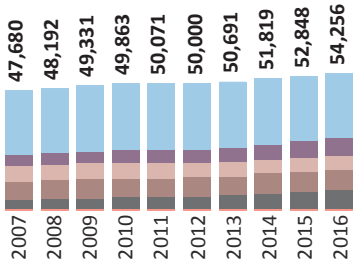
Undergrad % Nonresident

F'15 UC Nonres: **15.5%**
F'15 AAU Pub Nonres: **27.9%**

New CA Frosh to Transf Ratio *2016-17 is estimate (Excluding Merced, Ratio is 2.20)



Graduate Fall Enrollment

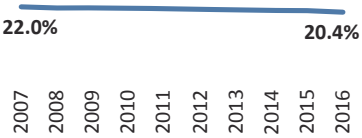


Degree Program

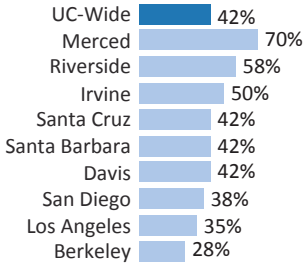
- Academic Doctor
- Academic Master
- Professional Master
- Professional Practice
- Professional Self-Supp
- Professional Doctor
- Postbacculaureates

Acad Doc Share of All Enrollment, Fall '07 to '16

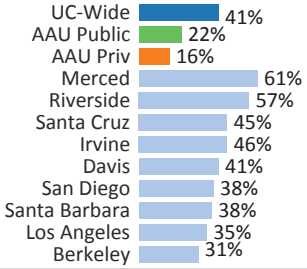
Graduate Share of All Enrollment, Fall '07 to '16



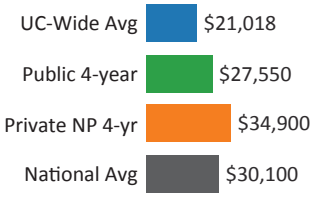
First-Gen Undergraduate Share, Fall '16



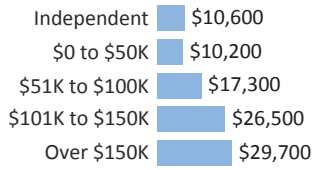
Undergrad Pell Grant Share, 2014-15



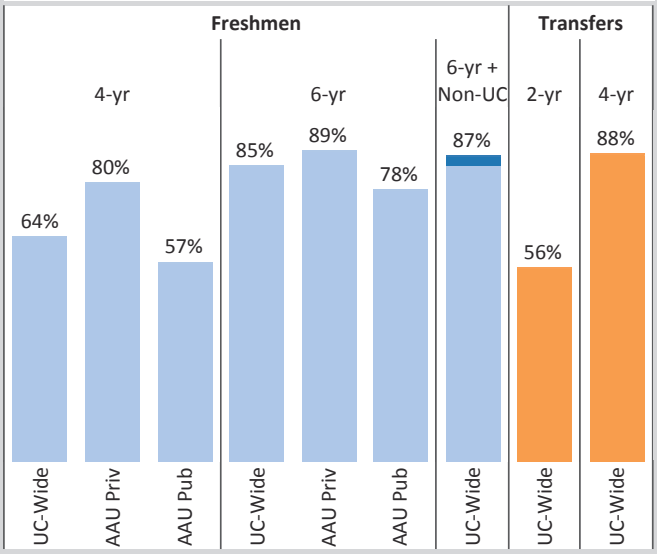
Avg Undergraduate Debt, 2014-15 Graduates



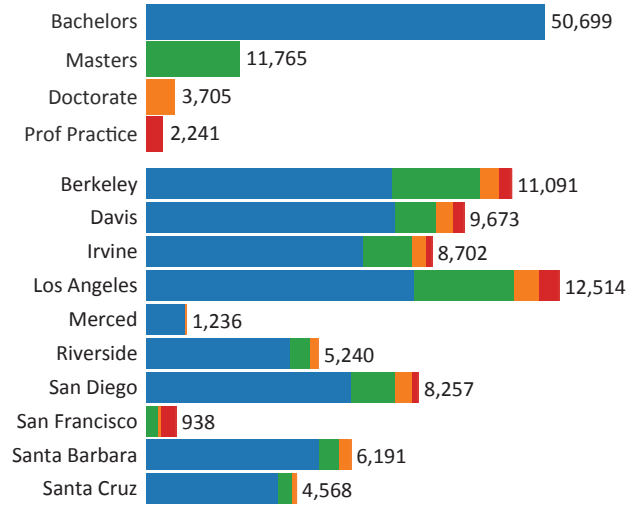
Avg Net Cost by Family Income, 15-16 CA Res Undergrads



Graduation Rates (Most Recent)



2015-16 Degrees Awarded

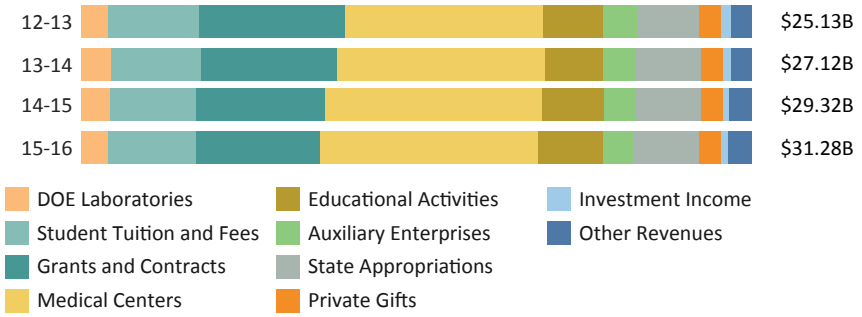


Staff and Academic Diversity, Fall 2016

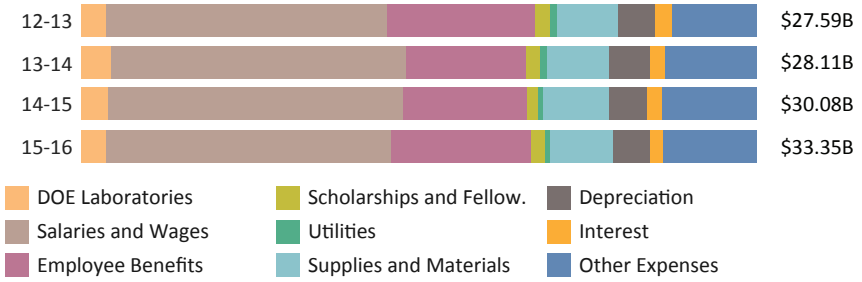
Professional and Support Staff (nonstudent)	International	11%
	2 or more/Other	4%
	White	38%
	Asian/Pac Isl	20%
	Hispanic/Latino(a)	18%
	American Indian	1%
	African American	8%
Senior Professionals (MSP)	International	8%
	2 or more/Other	4%
	White	57%
	Asian/Pac Isl	20%
	Hispanic/Latino(a)	6%
	American Indian	1%
	African American	4%
Managers (MSP)	International	5%
	2 or more/Other	3%
	White	63%
	Asian/Pac Isl	15%
	Hispanic/Latino(a)	8%
	American Indian	1%
	African American	6%
Senior Management Group	International	4%
	2 or more/Other	7%
	White	66%
	Asian/Pac Isl	8%
	Hispanic/Latino(a)	4%
	African American	11%
Lecturers (faculty)	International	14%
	2 or more/Other	8%
	White	60%
	Asian/Pac Isl	9%
	Hispanic/Latino(a)	5%
	American Indian	0%
	African American	2%
Clinical/In-Residence Faculty	International	16%
	2 or more/Other	3%
	White	53%
	Asian/Pac Isl	22%
	Hispanic/Latino(a)	4%
	American Indian	0%
	African American	2%
Other Academic Employees	International	33%
	2 or more/Other	5%
	White	40%
	Asian/Pac Isl	15%
	Hispanic/Latino(a)	4%
	American Indian	0%
	African American	2%
Ladder-rank Faculty and Equivalent	International	24%
	2 or more/Other	2%
	White	58%
	Asian/Pac Isl	9%
	Hispanic/Latino(a)	4%
	American Indian	1%
	African American	3%

International includes all non-domestic staff and academics.

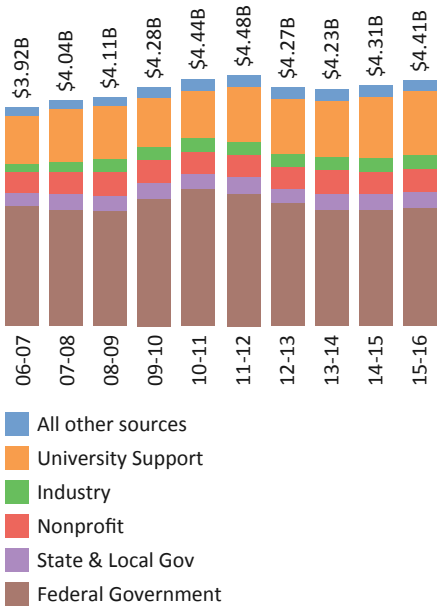
Revenues, not inflation-adjusted



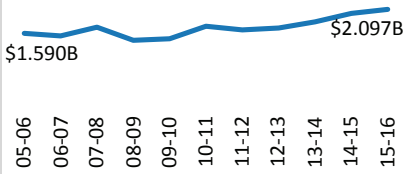
Expenses, not inflation-adjusted



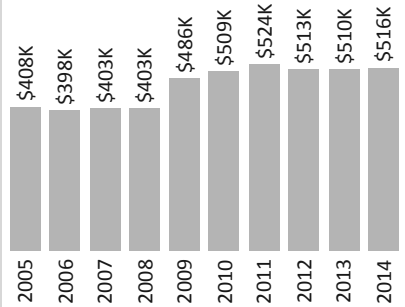
Research Expenditures, inflation-adjusted



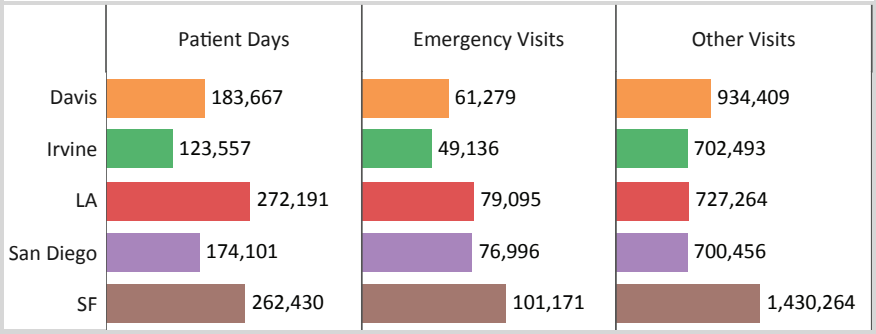
Total Private Giving, inflation-adjusted



Research Expenditures per Ladder-rank Faculty, inflation-adjusted



UC Medical Center Patient Metrics, 2015-16



2017 Accountability Report Executive Summary and Dashboard Data Definitions and Sources

Executive Summary Data Sources

Undergraduate and graduate student enrollment, with campus opening date
Data source: Historical UC Statistical Summaries and the UC Data Warehouse. Health science is primarily graduate but includes a small number of undergraduates, such as nursing undergraduates.

University of California Alumni by Economic Sector
Data sources: UC campuses and the California Employment Development Department.

Open Access Project Initiative
Data source: California Digital Library, eScholarship Open Access repository

Dashboard Notes and Data Sources

Student Race/Ethnicity is fall third week headcount. The full categories, from top to bottom are: International (of any race/ethnicity), Domestic Unknown/Other, White, Asian and Pacific Islander, Hispanic/Latino(a), American Indian/Alaska Native and African American. Additional information on student diversity is in Chapter 7 of the Accountability Report. Source: UC Data Warehouse.

Undergraduate Fall Enrollment excludes postbaccalaureate teaching credential students, who are included in the graduate fall enrollment. Reference indicator 1.1.4. Source: UC Data Warehouse.

Percent UG Nonresident is based on those paying nonresident supplemental tuition for UC, and based on the Common Data Set for the AAU Public average, which excludes UC. Reference indicators 1.4.4, 1.4.1 and 1.4.5. Sources: UC Data Warehouse and Common Data Sets.

The New California Freshmen to New Transfers Ratio is based on full-year counts, with estimates for 2016-17 based on campus submissions. Reference indicator 1.1.3. Sources: UC Data Warehouse and campus submissions.

Graduate Fall Enrollment is fall third week headcount, with postbaccalaureates being teaching credential students. Reference indicator 4.2.1. Source: UC Data Warehouse.

Academic Doctoral % of Enrollment and **Graduate % of enrollment** is based on fall enrollments. Reference indicator 4.2.1. Source: UC Data Warehouse.

First-generation students are those who do not have a parent who graduated with a 4-year college degree. Reference indicator 1.2.1. Source: UC Data Warehouse.

Pell grants are federal awards for low-income undergraduates, generally awarded to those with incomes below 40,000. Reference indicators 1.2.1, 1.2.2 and 2.2.1. Source: UC Data Warehouse; comparative data from IPEDS.

Average undergraduate debt is for graduating students who graduate with debt. Reference indicators 2.5.2 and 2.5.3. Source: UC Data Warehouse, with comparative data is from the National Postsecondary Student Aid Study conducted by the National Center for Education Statistics.

Net cost for California residents by family income is the average annual cost students and their families must cover after aid is taken into account. Reference indicator 2.1.2. Source: UC Data Warehouse

Graduation rates include the trailing summer term and include intercampus UC transfers. Comparative data from IPEDS. “Non-UC” rates include those who started at UC and graduated elsewhere. The rates shown are the most recent available as of June 2017, with 2-year UC rates reflecting the 2014 entering cohort, 4-year UC rates reflecting the 2012 entering cohort and 6-year UC rates reflecting the 2010 cohort. All comparative rates reflect the 2010 entering cohort. A list of AAU public and private institutions can be found in the data glossary of the full Accountability Report. Reference indicators 3.1.1 to 3.1.7. Data sources: UC Data Warehouse, IPEDS, and National Student Clearinghouse.

Degrees Awarded include the leading summer and the full academic year. Reference indicators 3.3.1 and 4.4.1. Data source: UC Data Warehouse.

Staff and Academic Diversity is based on October headcount. Students are excluded from all groups. International is based on citizenship status regardless of race/ethnicity. Reference indicators 7.3.2 and 7.3.3. data source: UC Corporate Personnel System.

Revenues and expenses are from the UC Revenue and Expense Trend Report. Reference indicators 12.1.1 and 12.2.2.

Private giving is from the UC annual report on Private Support. Reference indicator 12.2.1. The inflation adjustment used is the “CA CPI-W” published by the California Department of Finance, calendar year.

Research expenditures exclude indirect cost recovery. Reference 9.1.1 and 9.1.2. Data source: UC Corporate Financial System. The inflation adjustment used is the “CA CPI-W”.

Research expenditures per ladder-rank faculty divide the total research expenditures (which, for IPEDS, include OMP, depreciation and interest expenses) by the number of ladder-rank faculty. Reference indicators 9.3.3 and 9.3.4. Data source: IPEDS.

Medical Center Patient Metrics come from the Medical Center Financial Reports. Reference indicators 11.2.3 and 11.2.4.

The Accountability Report website**: http://accountability.universityofcalifornia.edu**

The UC Information Center**: https://www.universityofcalifornia.edu/infocenter**

CHAPTER ONE
UNDERGRADUATE STUDENTS — ADMISSIONS AND ENROLLMENT

UNDERGRADUATE STUDENTS — ADMISSIONS AND ENROLLMENT

Goals

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

Of over 200,000 applications, nearly 167,000 students applied as freshmen and 40,000 as transfers for fall 2016. Campus admission decisions are based on a comprehensive review of qualifications and establish the incoming California resident class size based on state funding. Increased state support allowed the University to enroll over 7,000 additional California residents (freshmen and transfers) in fall 2016 compared to fall 2015 — the biggest increase since World War II.

The University received $20 million in one-time funding in the 2016–17 state budget to support the admission, enrollment and success of underrepresented minority and low-income students, particularly those from high schools with a high concentration of students who are foster youth, English learners, and/or eligible for free or reduced-price meals. These funds supported campus programs serving an estimated 29,000 students from such high schools already enrolled at UC, as well as expanded outreach to potential future students.

UC's goal is to enroll entering cohorts that are close to a 2:1 ratio of freshman to transfer students. The UC Transfer Pathways program supports this goal by helping community college students prepare for transfer admission to the most popular majors at UC campuses.

Admissions trends — freshmen

Freshman applicants have more than tripled over the past two decades, averaging six percent growth per year. With increases in high school graduation rates, particularly among Hispanic/Latino(a) students, the University expects continued growth in demand. For fall 2016, the number of applicants increased five percent and the number of students admitted went up 15 percent.

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

Although restricted state funding means that certain campuses have admitted a lower percentage of applicants in recent years, the admit rate for freshman applicants increased on all campuses for fall 2016. UC continues to reach its Master Plan goals by guaranteeing admission to applicants from California who are either in the top nine percent of high school graduates statewide or the top nine 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 doubled over the last 20 years, with a record high of almost 40,000 applicants for fall 2016, an 11 percent increase over the prior year. The number of students admitted increased 15 percent to a little over 26,000.

The University has strengthened and streamlined the transfer pathway between CCCs and UC. President Napolitano's Transfer Initiative has begun implementing the recommendations of the Transfer Action Team's 2014 report. For example, the

Academic Senate created major-specific UC Transfer Pathways for 21 of UC's most popular majors. Each Pathway provides a single set of courses community college students can take to prepare for admission to a specific major across any of UC's nine undergraduate campuses. Almost all transfer students enter UC as upper-division juniors. Campus enrollment targets are based on state funding as well as capacity in major programs at the upper-division level.

Enrollments

The University enrolled over 200,000 undergraduates in fall 2016. The University enrolls freshman and transfer students from every county of California, but students tend to enroll in 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.

Undergraduate Enrollment, Fall 2016	
New Freshmen	47,411
New Transfers	19,685
Continuing Students	143,074
TOTAL	210,170

Source: UC Data Warehouse

The Master Plan specifies that the University maintain a 60:40 ratio of upper-division to lower-division students, which corresponds to a 2:1 ratio of new California resident freshmen to new California resident transfers. UC has moved closer to that ratio, from 2.32:1 in 2012–13 to 2.27:1 in 2015–16 (universitywide). The universitywide ratio (excluding Merced) is estimated to rise slightly from 2.16 to 2.20 for 2016-17. This is primarily because UC increased enrollment of California resident freshmen by 17 percent as part of UC's plan to increase access.

As academic qualifications have improved over the last decade, UC has maintained access for populations historically underserved by higher education. In fall 2016, 38 percent of new undergraduates received Pell Grants, a marker for low-income status, and 43 percent did not have parent(s) who completed a four-year college degree.

The number of nonresident domestic and international students has increased in recent years, though their proportion is still much lower than at comparable public research universities. Having California students learn and live alongside students from backgrounds and cultures different from their own is part of a world-class educational experience. California students also benefit from the extra tuition paid by nonresident undergraduates, which is about $27,000 more than the amount paid by residents. That tuition helps to fund faculty hires, instructional technology, student advising and other services that directly benefit California students.

Looking ahead

The University is committed to sustaining access and educating as many California residents as it can. UC plans to increase enrollment of California residents by 10,000 full-time equivalent (FTE) students over the three years from 2016–17 to 2018–19. It began by enrolling more than 7,000 additional California residents (freshman and transfer students) in fall 2016 with plans to enroll 2,500 additional California resident students in each of the next two years.

For more information

Information on admissions:
www.universityofcalifornia.edu/admissions

Transfer Pathways (for transfer applicants) and Transfer Action Team 2014 report:
http://admission.universityofcalifornia.edu/transfer/preparation-paths/
http://ucop.edu/transfer-action-team/transfer-action-team-report-2014.pdf

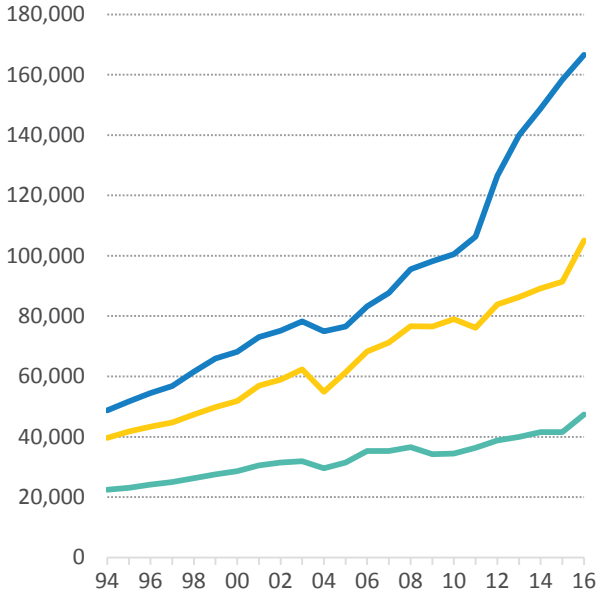
Data on UC admissions:
www.universityofcalifornia.edu/infocenter/admissions-residency-and-ethnicity
www.universityofcalifornia.edu/infocenter/freshman-admissions-summary
www.universityofcalifornia.edu/infocenter/transfer-admissions-summary
www.universityofcalifornia.edu/infocenter/admissions-source-school
www.universityofcalifornia.edu/infocenter/transfers-major

Data table on UC fall enrollment:
www.universityofcalifornia.edu/infocenter/fall-enrollment-headcounts

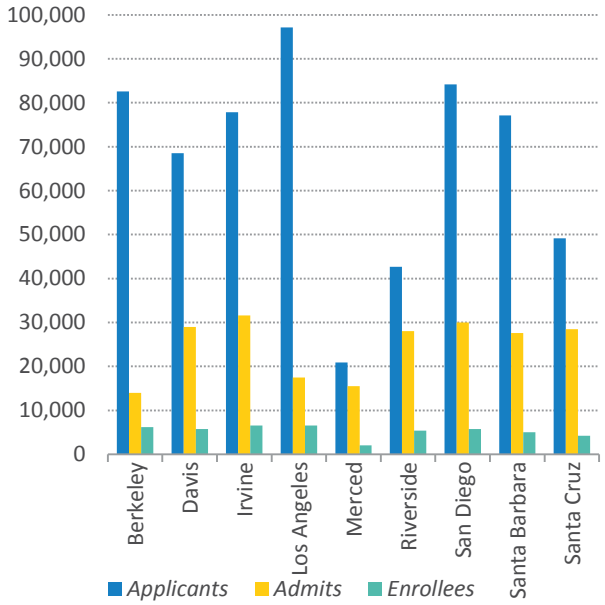
Demand for UC continues to grow.

1.1.1 Freshman applicants, admits and enrollees
Universitywide and UC campuses
Fall 1994 to 2016

Universitywide, unduplicated, 1994 to 2016



By campus, 2016



Source: UC Data Warehouse and UC Corporate Student System [1]

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. UC maintains its obligations under the Master Plan by guaranteeing admission to all qualified students.

From 2011 to 2016, unduplicated freshman applicants grew 57 percent (or about nine percent per year) from about 106,000 to about 167,000, compared to a 42 percent increase in the seven-year period between 2004 and 2011 (or about five percent per year) from 75,000 to 106,000. The 57 percent growth represents about 60,000 applicants, split almost evenly between California residents, domestic nonresidents and international students.

Some qualified applicants who are not offered admission at the campus(es) to which they applied to are offered admission 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 an offer.

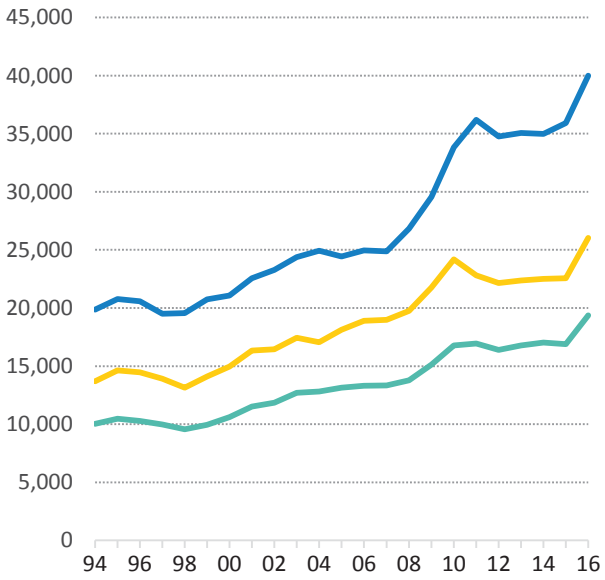
Most campuses admit less than half of applicants. Many applicants apply to more than one UC campus. In fall 2016, each UC applicant applied to an average of 3.6 campuses. Freshman applicants, admits and enrollees increased on all campuses in fall 2016. For data tables on UC freshman applicants, admits and enrollees by campus over time see: www.universityofcalifornia.edu/infocenter/admissions-residency-and-ethnicity.

[1] Admits and enrollees here include applicants guaranteed admission who are not offered admission at a campus to which they applied but who are referred to and admitted by another campus. Some campuses admit fall applicants for a subsequent term (winter or spring). These "rollover" admits and enrollees are excluded in the graphs. Students who apply to multiple UC campuses are counted only once in the Universitywide indicator.

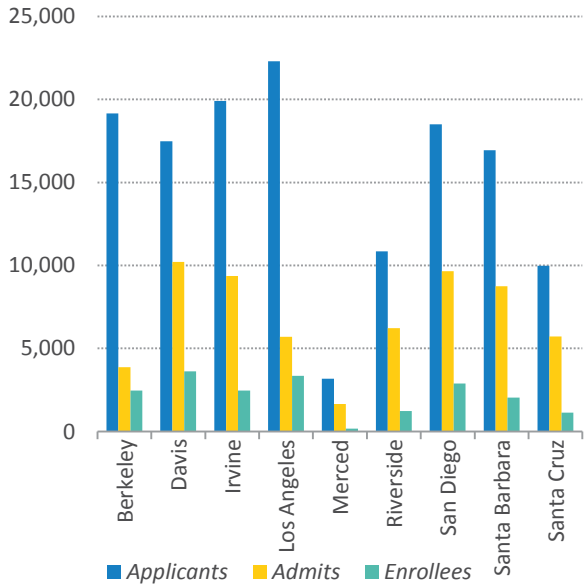
After a few years of fluctuation, transfer applicants, admits and enrollees increased to record levels in 2016.

1.1.2 Transfer applicants, admits and enrollees
Universitywide and UC campuses
Fall 1994 to 2016

Universitywide, unduplicated, 1994 to 2016



By campus, 2016



Source: UC Data Warehouse and UC Corporate Student System[1]

Applications, admits and enrollees surged to record levels in 2016 as the University increased California resident enrollment. Nearly 40,000 transfer students applied, over 26,000 were admitted and over 19,000 enrolled in fall 2016. Consistent with UC's commitment to transfer students from California Community Colleges (CCCs), the fall enrollment of new CCC California resident transfers has increased 83 percent since 1994 (from 8,400 to 15,400).

In June 2012, the UC Academic Senate approved a restructuring plan to clarify the transfer process for students from CCCs and also improve their readiness for UC, laying the foundation for the Transfer Action Team's recommendations, which the University has begun implementing.

A key recommendation was the creation of the UC Transfer Pathways, which provide an outline of CCC courses in order for students to be prepared for admission to one of the 21 most popular majors at any UC campus: [1]

TRANSFER PATHWAYS MAJORS

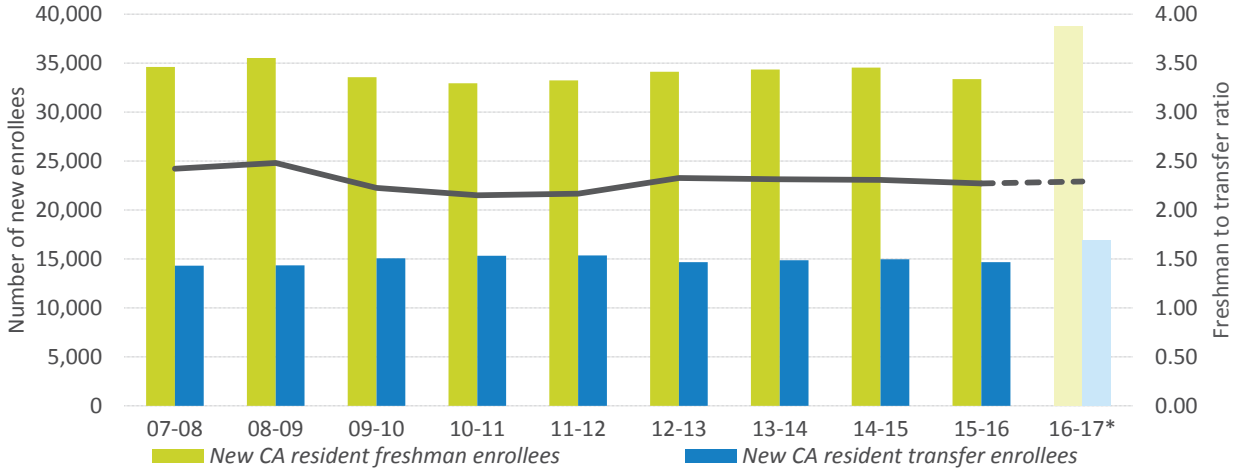
Anthropology	Economics	Philosophy
Biochemistry	Electrical engineering	Physics
Biology	English	Political science
Business administration	Film and media studies	Psychology
Cell biology	History	Sociology
Chemistry	Mathematics	
Communication	Mechanical engineering	
Computer science	Molecular biology	

Data on transfer pathways usage in fall 2017 will be available next year. For data tables on UC transfer applicants, admits and enrollees by campus see: www.universityofcalifornia.edu/infocenter/admissions-residency-and-ethnicity.

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

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

1.1.3 New freshmen and transfer students
Universitywide
2007–08 to 2016–17



Source: UC Corporate Student System and UC campuses[1]

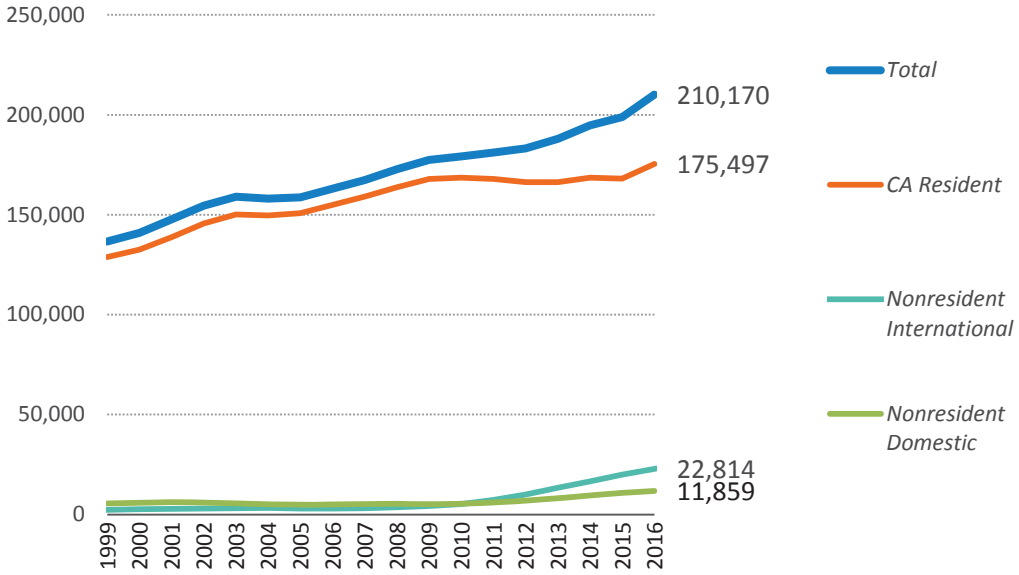
The Master Plan calls for UC to accommodate all qualified resident California Community College (CCC) transfer students. It specifies that the University maintain at least a 60:40 ratio of upper-division (junior- and senior-level) to lower-division (freshman- and sophomore-level) students to ensure adequate upper-division spaces for CCC transfers. To do so, UC aims to enroll one new California resident transfer student for every two new California resident freshmen, or 67 percent new resident freshmen to 33 percent new resident transfer students. UC has moved closer to that ratio, from 2.32:1 in 2012–13 to 2.27:1 in 2015–16 (universitywide). As part of the commitment to add at least 5,000 additional California resident undergraduates in 2016–17, UC enrolled the largest transfer class ever in 2016–17. California resident transfers increased by 15 percent, or over 2,000 students. However, the universitywide ratio (excluding Merced[2]) is estimated to rise slightly from 2.16 to 2.20 for 2016–17. This is because UC increased enrollment of California resident freshmen by 17 percent as part of the plan to increase access. Over nine in ten (92 percent) of California resident transfer students in fall 2016 came from CCCs.

2016-17*	% New CA resident freshmen	% New CA resident transfers	Ratio of new CA freshmen to new CA transfers
Berkeley	67%	33%	2.04
Davis	60%	40%	1.48
Irvine	69%	31%	2.27
Los Angeles	64%	36%	1.76
Merced	91%	9%	9.82
Riverside	82%	18%	4.49
San Diego	66%	34%	1.93
Santa Barbara	71%	29%	2.41
Santa Cruz	77%	23%	3.26
Universitywide all campuses	70%	30%	2.29
Universitywide excl. Merced	69%	31%	2.20

[1] Enrollment numbers include applicants to fall, winter and spring terms. * The actual figures for 2016-17 are not yet available and may differ from the estimated figures shown here.
[2] Merced is excluded from the 2:1 ratio goal that is part of the Budget Framework agreement with the Governor.

UC's fall undergraduate headcount grew by six percent between fall 2015 and fall 2016, mostly due to increased California resident enrollment.

1.1.4 Undergraduate headcount enrollment
Universitywide
Fall 1999 to fall 2016



Source: UC Data Warehouse

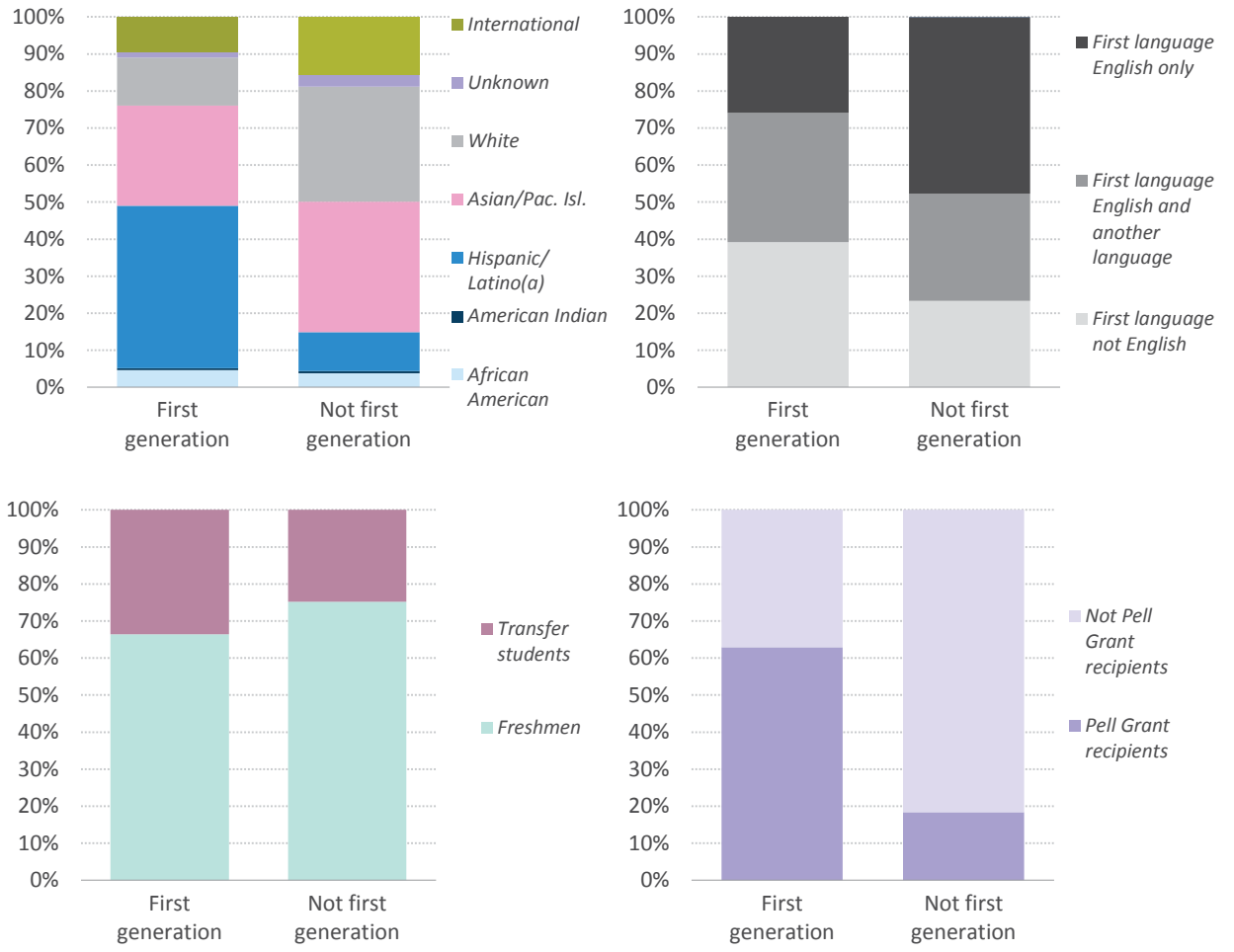
The University and the state share the goal of expanding access to a UC education. Increased state support allowed the University to enroll over 7,000 additional California residents in fall 2016 compared to fall 2015 — the largest one-year increase since the end of the Second World War.

This rapid growth in a single year following years of constrained resources has caused several challenges, including limited resources for instruction, increased demand for advising and other student services, housing shortages, and a growing imbalance between graduate and undergraduate enrollment.

Undergraduate enrollment increased by six percent from fall 2015 to fall 2016, while graduate student enrollment increased by only three percent, the sixth consecutive year of faster growth among undergraduates. This trend is worrisome due to the important roles that graduate students play. Graduate students educate and mentor undergraduate students, attract the most talented faculty members, and contribute to the University's research mission and, upon graduation, to the skill base and economy of the state of California.

UC's entering first-generation students are more likely to be from an underrepresented minority (URM) 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.

1.2.1 Entering students by first-generation status, race/ethnicity, first language spoken at home, Pell Grant receipt and entering level
Universitywide
Fall 2016



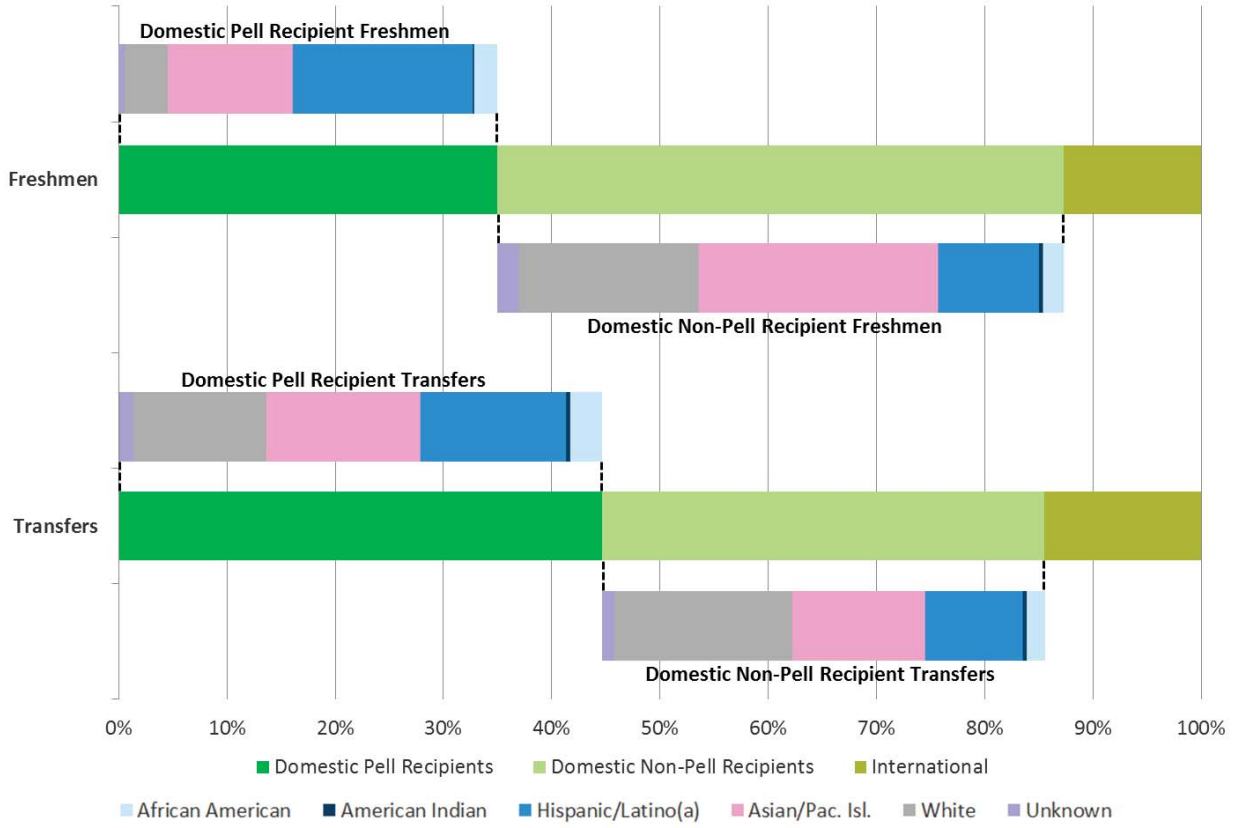
Source: UC Corporate Student System and UC Data Warehouse[1]

Almost half (49%) of entering first generation students in fall 2016 are URMs, compared to 15% of non-first-generation students. Nearly four-tenths (39%) of first-generation students' first language was not English, versus 23% for others. Over one-third (34%) of first-generation students entered as transfers, versus 25% for others. And nearly two-thirds of first-generation students are lower-income Pell Grant recipients, versus 18% for others.

[1] First-generation students are those whose parent(s) did not complete a four-year college degree. Total of first-generation students is 28,705 (42.8%); non-first-generation students total 36,482 (54.4%); and missing/unknown are 1,909 (2.8%). Those with unknown first-generation status are excluded from charts. Pell Grant receipt is used as a proxy for low-income status. Less than .02% of entering students have an unknown first language.

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

1.2.2 Entering undergraduates by Pell Grant status[1] and race/ethnicity, by class level
Universitywide
Fall 2016



Source: UC Corporate Student System

Both the freshman and transfer routes are used by students of all racial/ethnic and income groups.

Students receiving Pell Grants, a marker for low-income status, constitute a larger proportion of the incoming transfer class (45 percent) than of the entering freshman class (35 percent), while the opposite is true for domestic non-Pell recipients (41 percent of transfers vs. 52 percent of freshmen).[1]

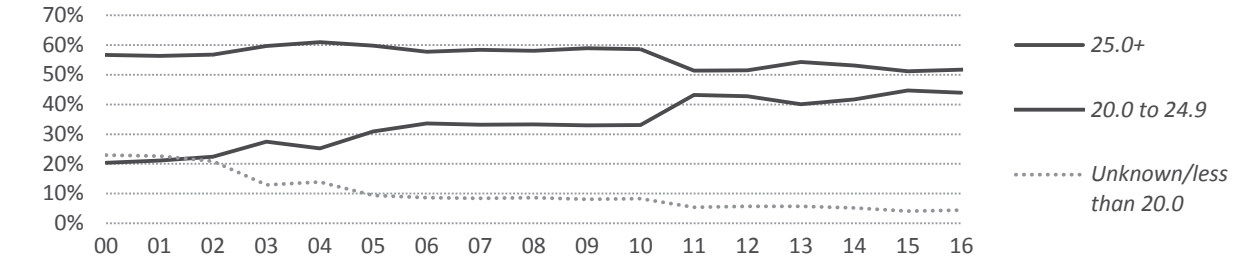
Among Pell recipients, Hispanic/Latino(a) students are more prevalent in the incoming freshman class than in the entering transfer class (48 percent vs. 30 percent), while white students are more prevalent in the transfer class than the freshman class (28 percent vs. 12 percent). Among non-Pell recipients, Asian/Pacific Islander students are more prevalent in the freshman class than in the transfer class (42 percent vs. 30 percent), while for white students, the opposite is true (40 percent vs. 26 percent).

[1] International students cannot receive Pell Grants, so they are shown as a separate category. 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.

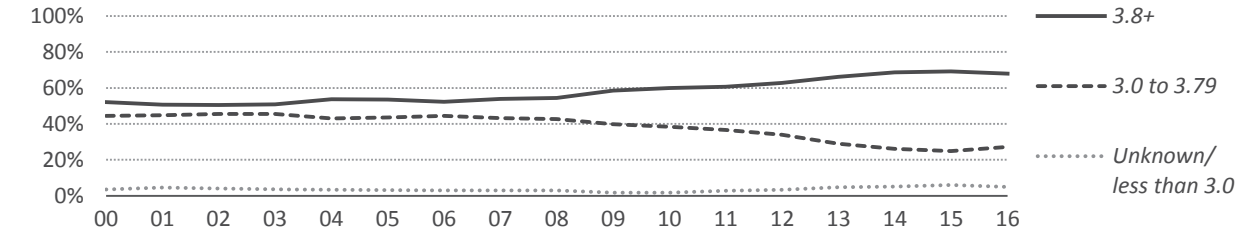
Freshmen entering UC are increasingly well prepared.

1.3.1 A–G (college preparatory)[1] courses; weighted, capped high school grade point average (GPA)[2]; and standardized test scores[3] of entering freshmen, as share of class
Universitywide
Fall 2000 to fall 2016

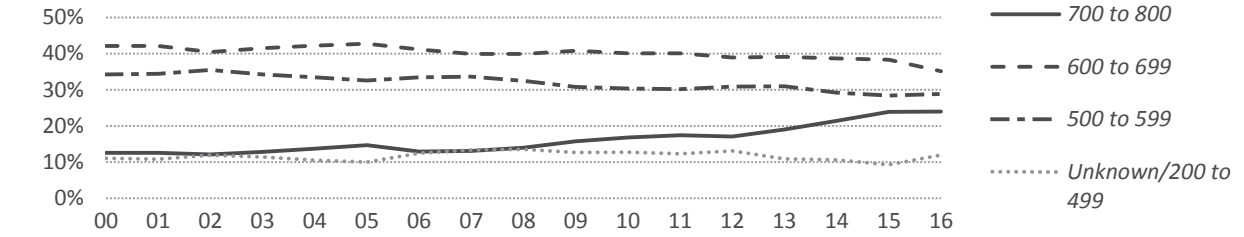
Yearlong "A–G" courses



High school weighted, capped GPA



Test score

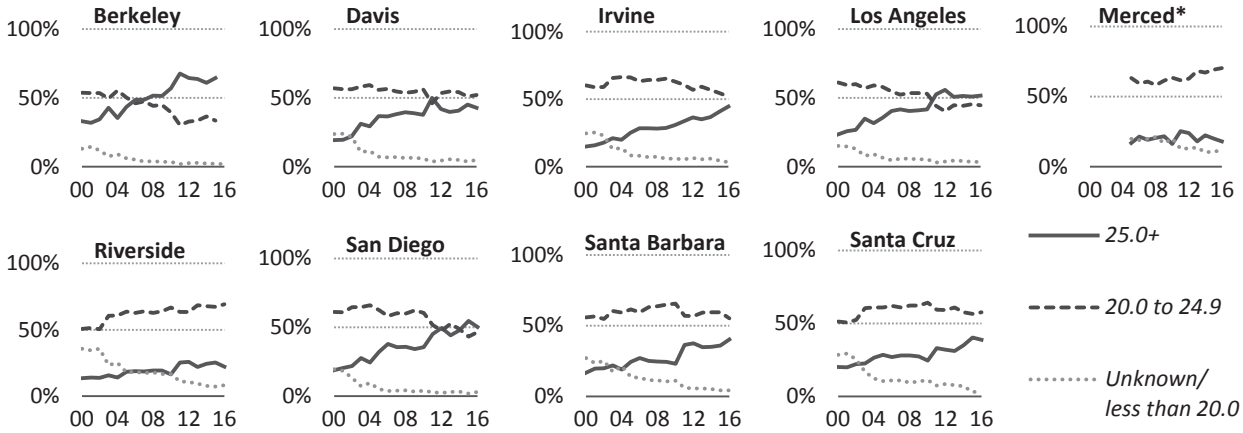


Source: UC Corporate Student System (A–G courses and test score) and UC Data Warehouse (GPA)

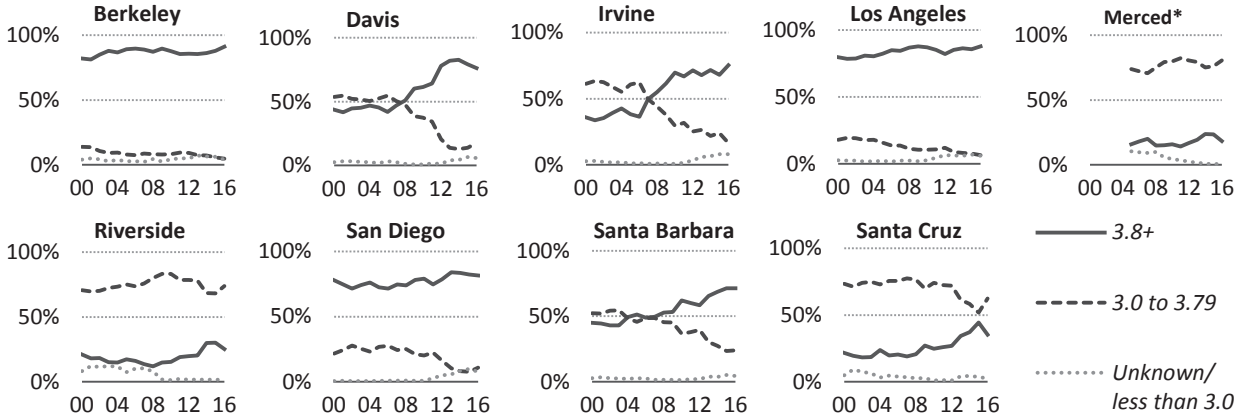
The academic qualifications of UC entering freshmen have improved over time, as reflected by an increase in the share of students completing 25 or more college-preparatory courses, having a 3.8 or higher high school GPA, and scoring 700 or higher on standardized entrance exams (SAT/ACT). From 2000 to 2016, these indicators went up from 20 percent to 44 percent, 52 percent to 68 percent and 13 percent to 24 percent, respectively. UC uses both weighted and unweighted GPAs to evaluate freshman applicants. A weighted GPA provides extra credit for succeeding in advanced-level courses. On a 4 point GPA scale, 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 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 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 math and verbal scores. From 2006 onward, SAT scores are the average of SAT math and critical reading scores.

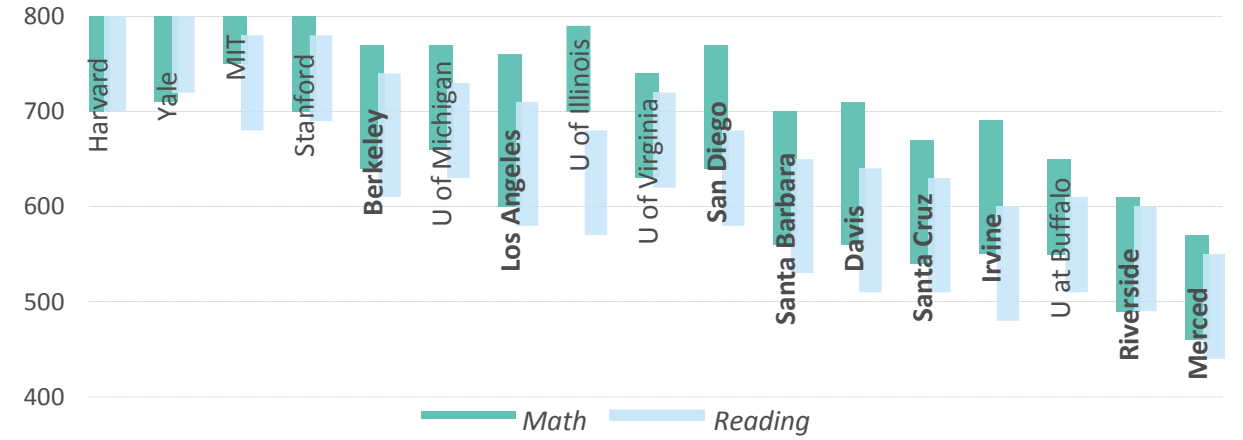
1.3.2 A–G (college preparatory)[1] courses of entering freshmen by campus, as share of class by campus
Fall 2000 to fall 2016



1.3.3 High school weighted, capped GPA of entering freshmen by campus
Fall 2000 to fall 2016



1.3.4 SAT reading and math scores, 25th to 75th percentile, UC campuses and comparison institutions[2]
Fall 2015

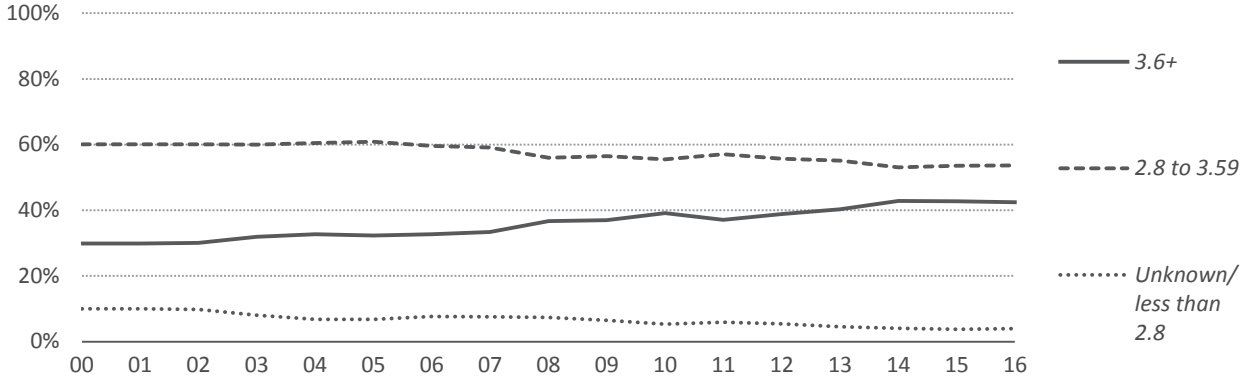


Source: IPEDS (SAT scores), UC Data Warehouse and UC Corporate Student System (A—G courses and GPA)

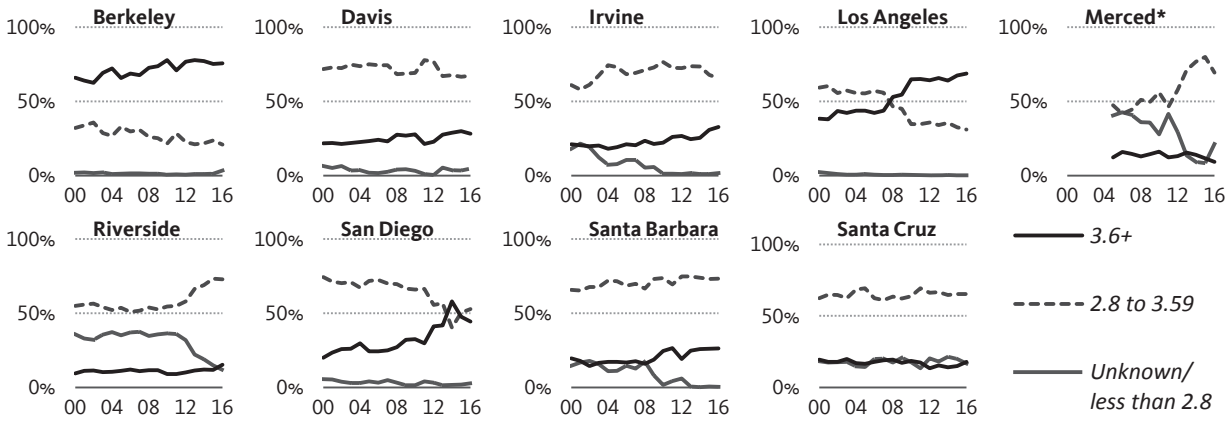
[1] A–G courses refer to those high school courses that UC has reviewed and approved as college preparatory. *Merced opened in 2005.
[2] UC campuses and comparison institutions are sorted by the sum of the 75th-percentile math and reading scores.

Like freshmen, UC transfer students in fall 2016 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 2016
Universitywide



UC campuses



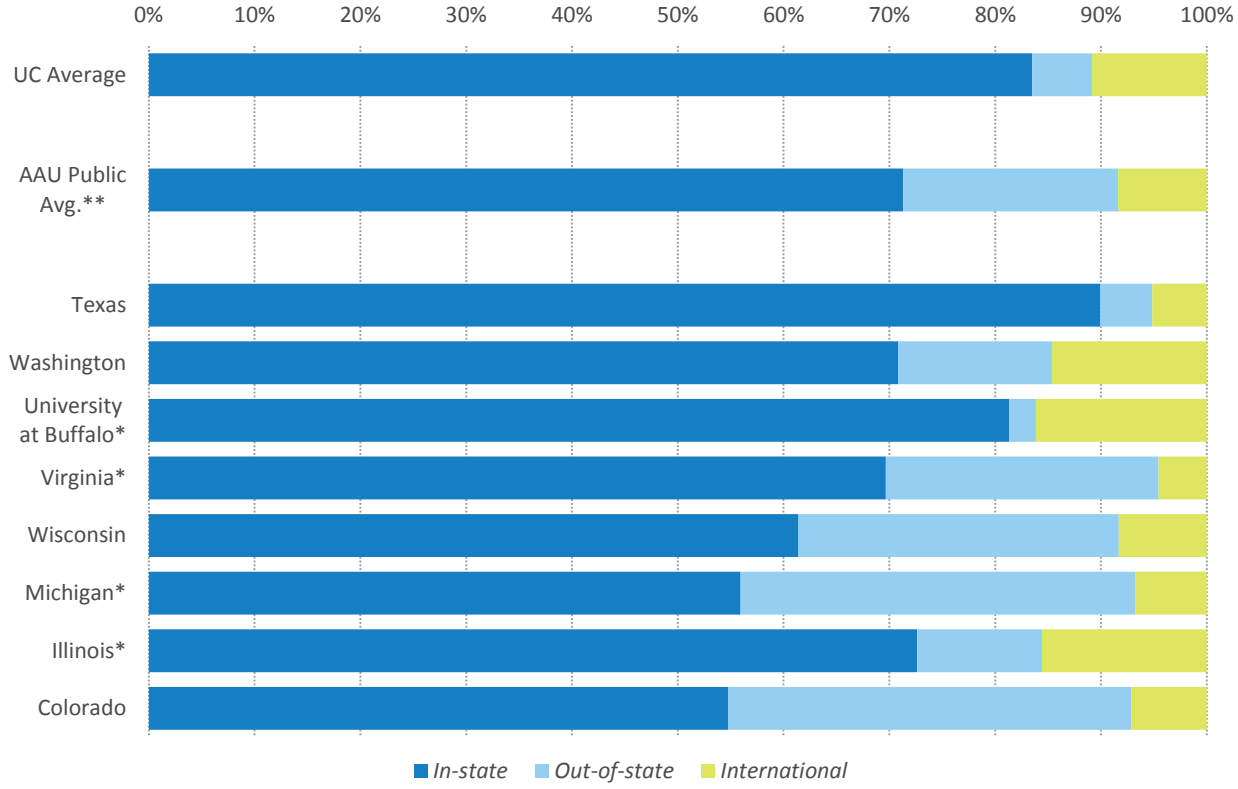
Source: UC Data Warehouse and UC Corporate Student System

The academic qualifications of transfer students entering UC have improved over time, as reflected by an increase in the share of students having a 3.6 or higher college GPA from 30 percent in fall 2000 to 42 percent in fall 2016.

[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.

UC has a substantially lower proportion of out-of-state undergraduates than other AAU universities. In fall 2016, only 16.5 percent of UC's enrollees were out-of-state or international, compared with 28.7 percent for other AAU publics.

1.4.1 Residency of undergraduate students
Universitywide and comparison institutions
Fall 2016



Source: UC Data Warehouse (UC numbers) and Common Data Set (comparator numbers)
* UC's public four comparison institutions. **AAU public average excludes UC.

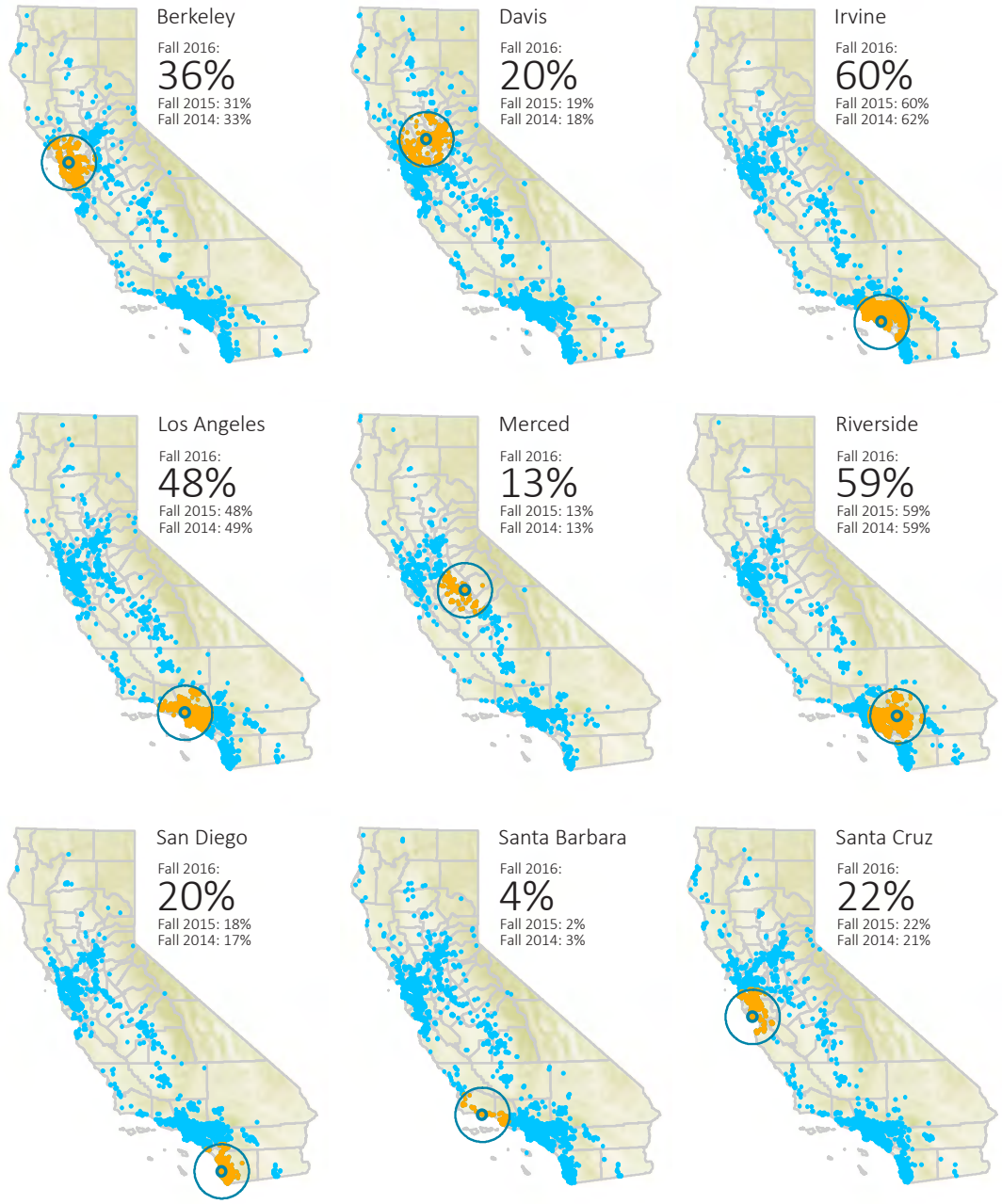
UC's priority is to enroll California residents. Campuses enroll nonresident students based on available physical and instructional capacity and the campus's ability to attract qualified nonresident students.

Nonresidents provide geographic and cultural diversity to the student body. They also pay the full cost of their education. In 2016–17, tuition and fees at UC campuses for a nonresident undergraduate, including health insurance, ranged from $41,700 to $43,900, compared to $15,000 to $17,200 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.

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

1.4.2 Percentage of new CA resident freshman enrollees living within a 50-mile radius of their campus
UC campuses[1]
Fall 2016

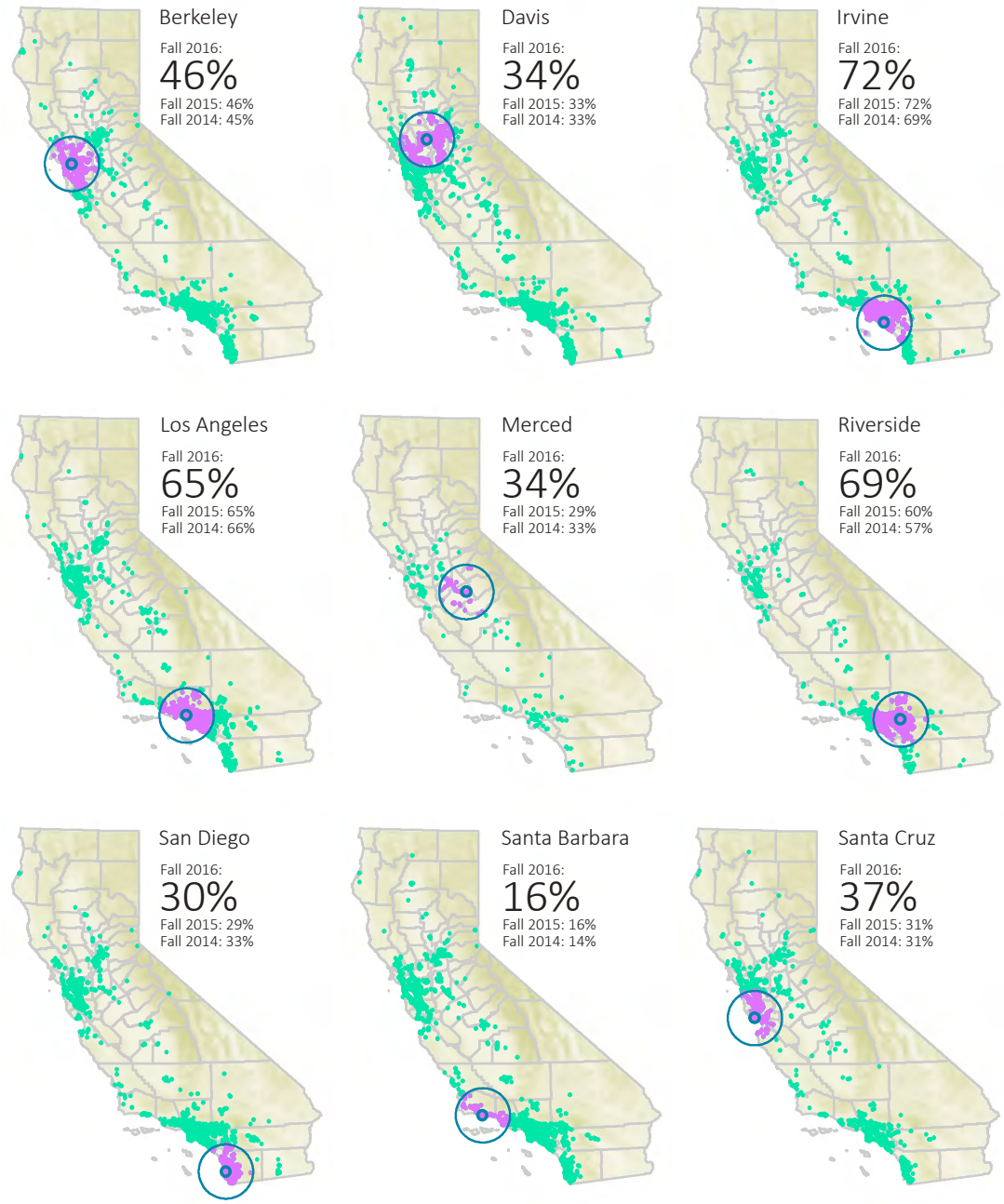


Source: UC Corporate Student System

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

Transfer enrollee rates are even higher than freshmen local attendance rates, with 46 percent enrolling at a UC campus within 50 miles of their home.

1.4.3 Percentage of new CA resident transfer enrollees whose home is within a 50-mile radius of their campus UC campuses[1]
Fall 2016

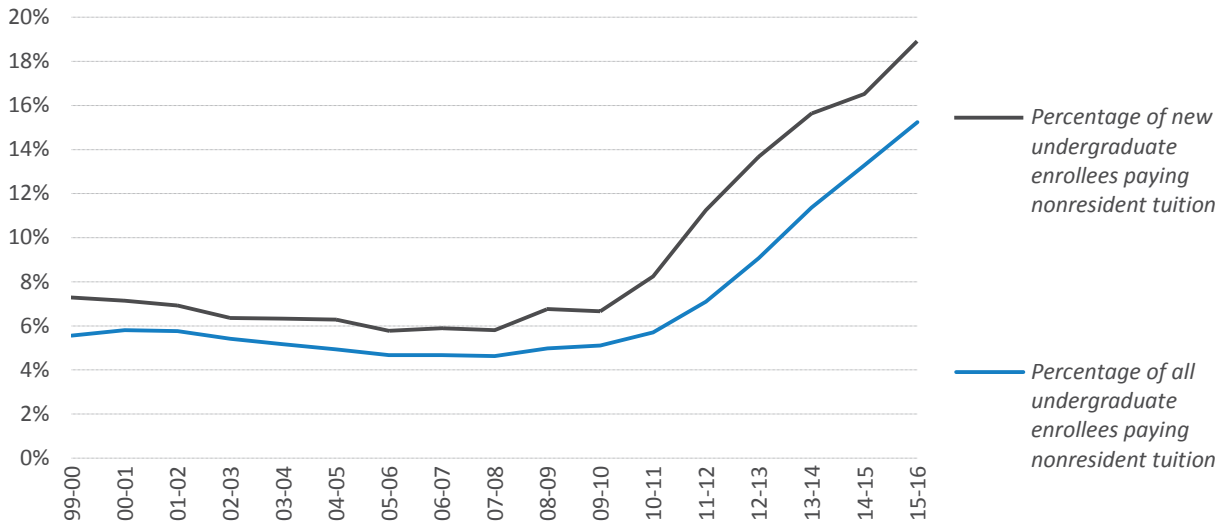


Source: UC Corporate Student System

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

The proportion of undergraduate students paying nonresident tuition has risen in recent years.

1.4.4 Percentage of undergraduate enrollees paying nonresident tuition[1]
Universitywide
1999–2000 to 2015–16



Source: UC Corporate Student System

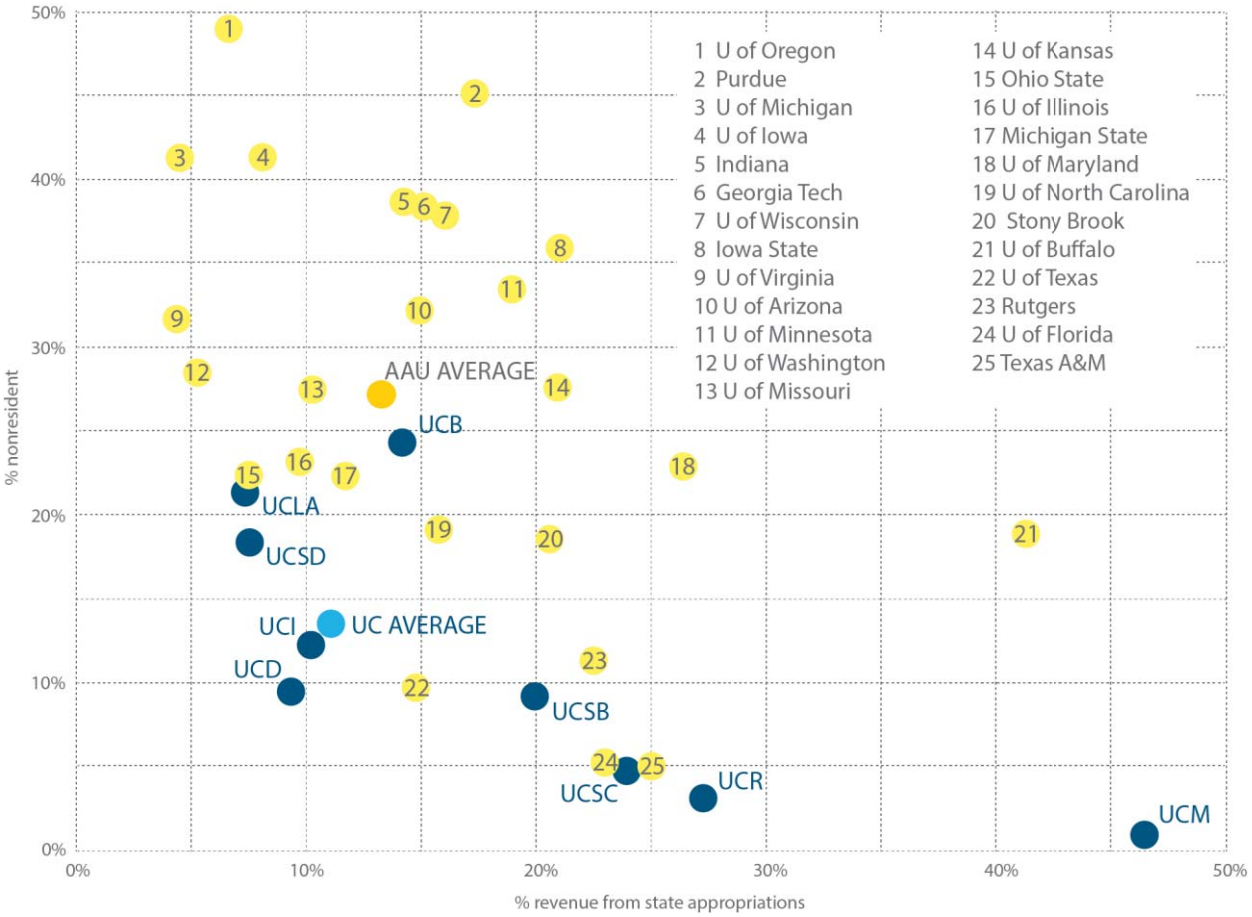
Systemwide, the share of all undergraduates paying nonresident tuition rose from 5 percent to 15 percent from 2009–10 to 2015–16. Over the same time period, the share of new undergraduates paying nonresident tuition went up from 7 percent to 19 percent. The proportion of nonresident students at individual campuses varies depending on a campus' capacity as well as its ability to attract nonresident students.[2]

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

[1] This chart uses year average headcount enrollment, the average headcount across all terms in the academic year (three quarters or two semesters).
[2] Not all nonresident students pay nonresident tuition. Some have statutory exemptions, such as 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.

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 nonresident undergraduates
UC and comparison institutions
Fall 2014



Source: State appropriations and total revenues (including operating and nonoperating revenues) are from IPEDS and reflect fiscal year 2014–15. AAU public nonresident percentages are from Common Data Set. UC nonresident percentages are from the **UC Data Warehouse and reflect nonresident tuition payers.**

Even the UC campuses with the highest proportions of nonresidents (UC Berkeley with 24 percent and UCLA with 21 percent) are still below the average among non-UC public members of the AAU (27 percent). On average, UC campuses receive 11 percent of revenue from state support, compared to 13 percent for other public members of the AAU. There is an association between declining state funding and increasing nonresident enrollment, a clear trend seen across the public AAU members.

CHAPTER TWO
UNDERGRADUATE STUDENTS — AFFORDABILITY

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 who live on campus, the total annual cost of attendance, which comprises tuition and fees and other expenses (e.g., living and personal expenses, books and supplies, transportation and health care), has remained relatively flat over the last several years at just over $34,000. This figure compares to about $26,000 on average at other AAU public institutions and around $65,000 for the AAU private institutions.

The income profile indicators demonstrate that the University remains accessible to low-income students. Since 2008–09, the proportion of UC in-state undergraduates in the lowest income category increased from 13 percent to 20 percent in 2015–16, 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 2016, 38 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 in-state students from families in the lowest income bracket (less than $55,000) has 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 which combines support from different sources, 57 percent of California resident undergraduates paid no tuition in 2015–16.

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 2,700 of these students received Cal Grants in 2015–16, totaling $32.8 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 2015–16, 10 percent of students reported working more than 20 hours per week, the same share as two years earlier.

For the academic year 2015–16, about 39 percent of undergraduates relied on federal student loans to help finance their education, with loan amounts averaging $6,347. 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 $15,500 per year.

California introduced the Middle Class Scholarship (MCS) Program in 2014–15, which provided a new source of gift assistance for students at UC and the California State University with household incomes of up to $150,000 who receive limited or no need-based financial aid. In the first year of the program, 14,000 UC students received $14.7 million in MCS awards, with an average of about $1,000 per recipient. In 2015–16 the state tightened up the program's eligibility criteria, which saw funding decline to $10.6 million and recipients to about 8,000, though average awards were slightly higher at just over $1,300. The program is expected to provide about $18 million in awards to UC students in 2016–17. At the time that this report was written, the governor and Legislature were debating the future of this program in 2017–18 and beyond.

Limiting cumulative debt

The proportion of undergraduates leaving with debt is lower than a decade ago. About 53 percent of the class of 2015–16 graduated with debt, with an average amount of $20,900. This translates into a monthly repayment amount of about $220 for 10 years at a 5 percent annual interest rate. This level of debt is manageable considering that a typical graduate who takes out loans earns about $3,100 a month within two years after graduation.

Comparison data show the 2014–15 cumulative debt for UC undergraduates was $21,000, compared to $27,500 for public 4-year institutions and $34,900 for private nonprofit 4-year institutions.

Looking forward

Nonresident undergraduate enrollment has increased significantly in recent years, from 7 to 16 percent of total enrollment since 2011. Nonresidents have always financed their UC education very differently from in-state students, with more reliance on personal resources and student loans. In November 2015, the Board of Regents clarified that nonresident undergraduates are not eligible for UC need-based grant aid. This policy applies to new undergraduates beginning in fall 2016. While nonresidents had previously received significantly less gift aid per capita than did California students, this policy clarification will likely further widen the gap between residents and nonresidents with respect to net cost of attendance and cumulative debt.

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

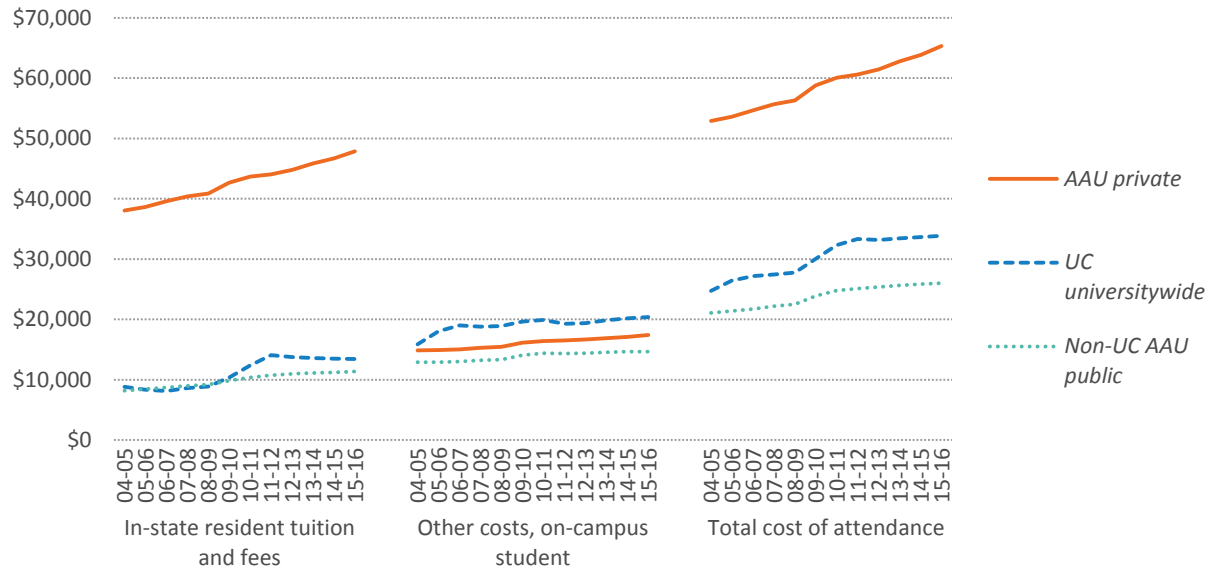
Trends in UC financial aid:
http://ucop.edu/student-affairs/data-and-reporting

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

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, 2015 inflation-adjusted dollars
2004–05 to 2015–16



Source: IPEDS[1]

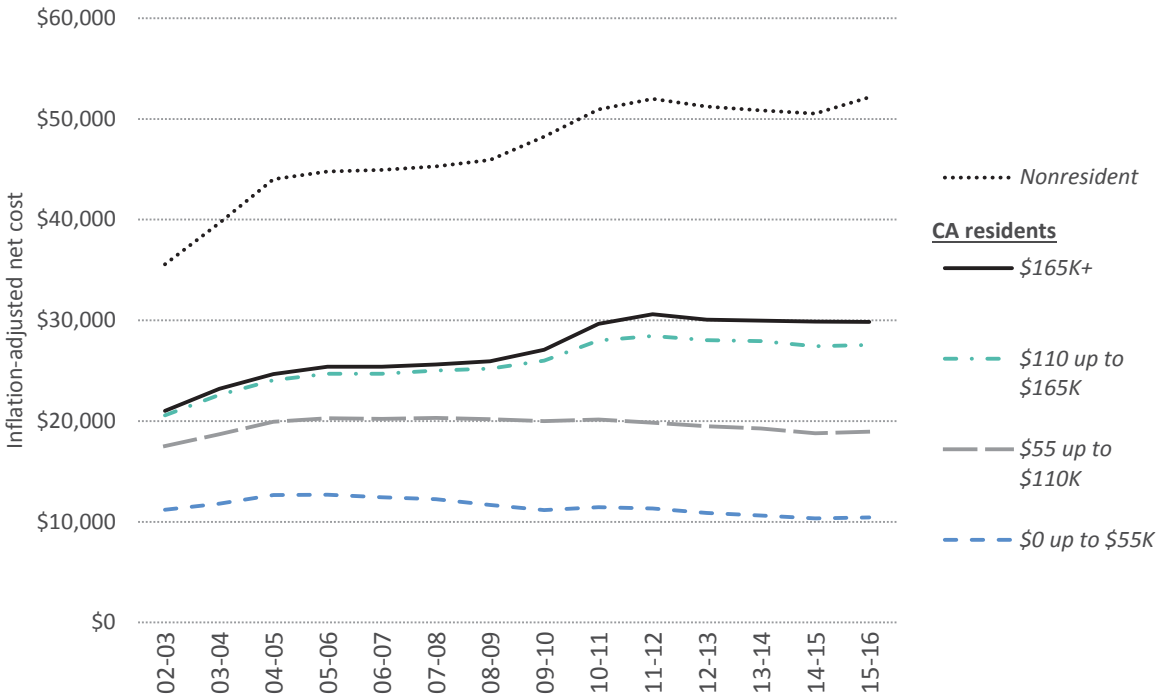
The total cost of attending college includes tuition and fees as well as living expenses, books and supplies, transportation, health insurance and personal expenses. The total cost of attendance is higher at UC than at AAU public comparison institutions partly because of the relatively high cost of living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

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

2.1.2 Net cost of attendance by family income and California residency
Universitywide, 2015 inflation-adjusted dollars
2002–03 to 2015–16



Source: UC Corporate Student System[1]

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 earnings less than $100,000.

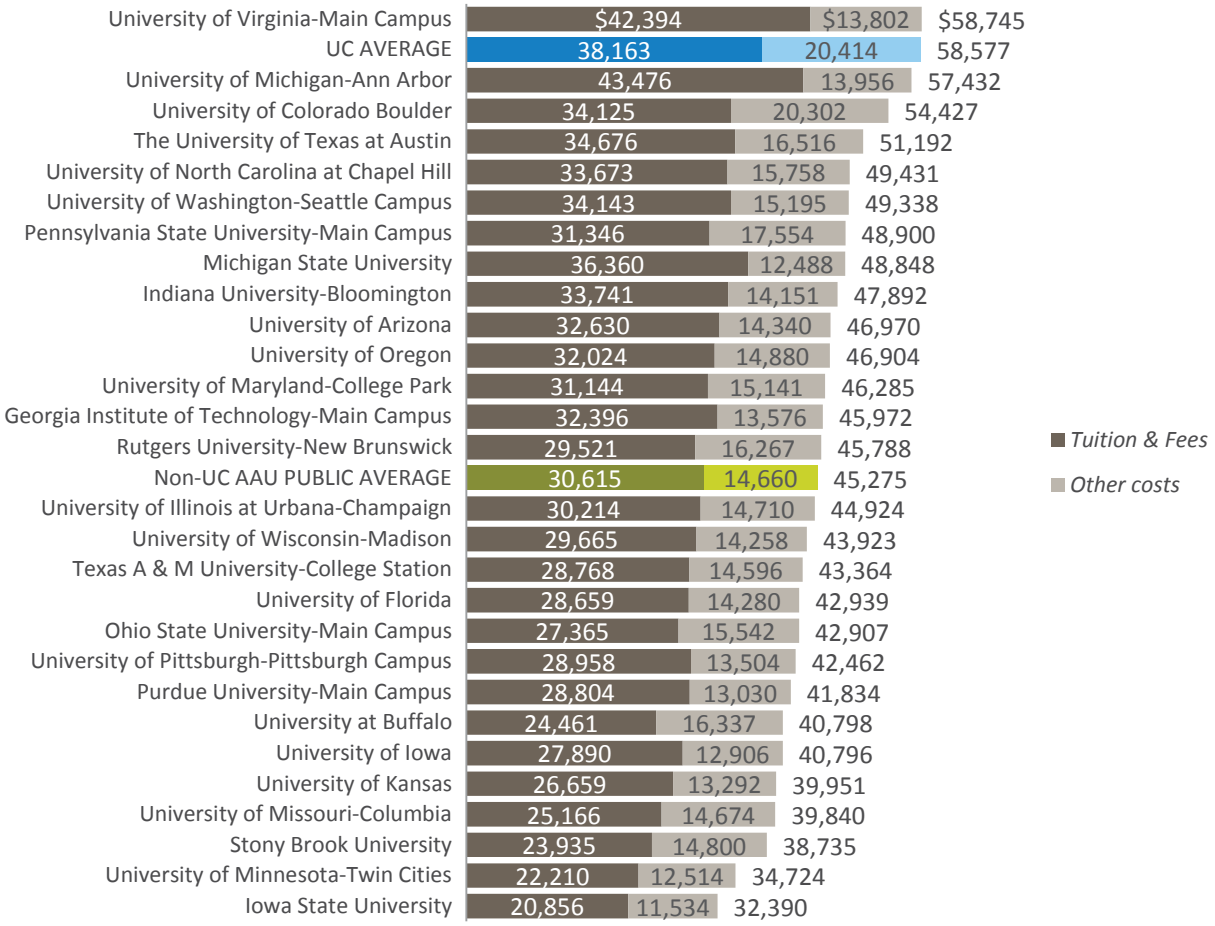
Between 2002–03 and 2015–16, net cost has declined by about $700 in inflation-adjusted dollars for in-state students in the lowest income category due to this scholarship and grant support.

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

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

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
UC and comparison institutions
2015–16



Source: IPEDS[1]

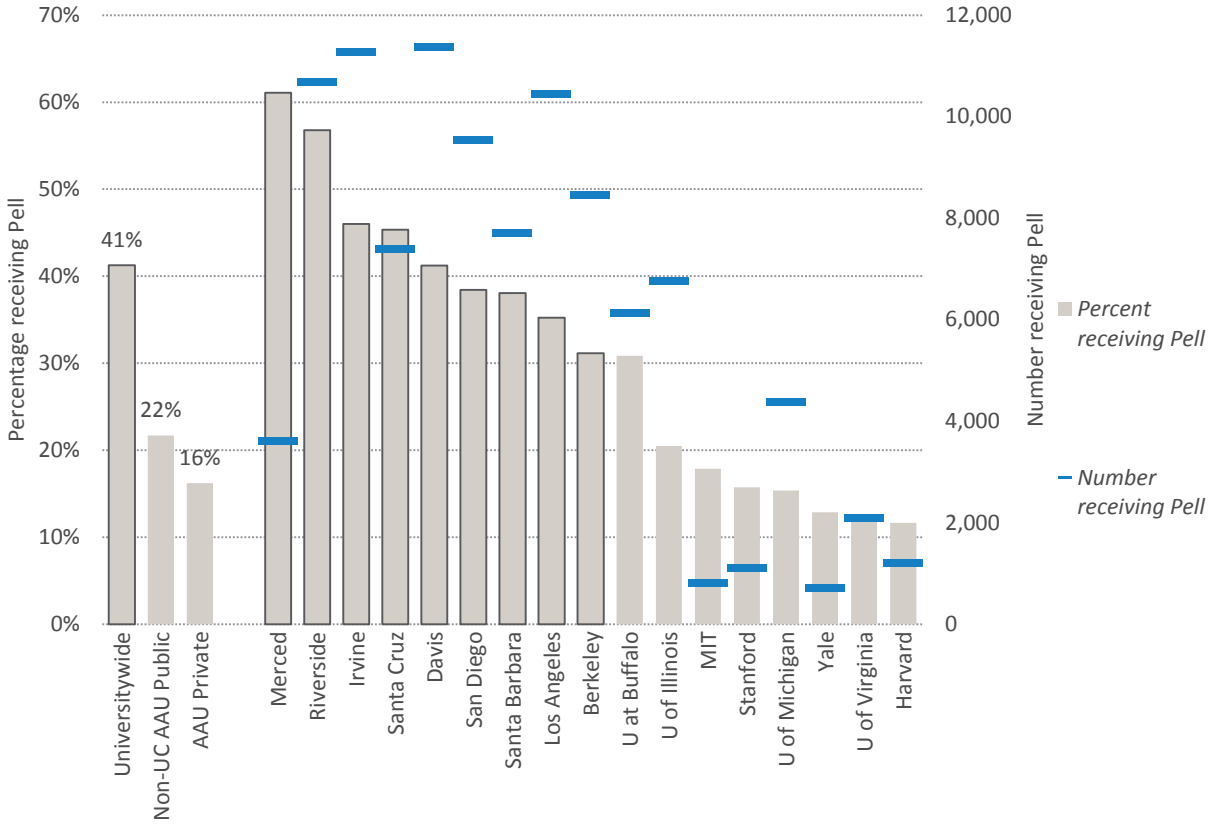
UC charges higher nonresident tuition than all but two nationally ranked public universities. Because of California's higher cost of living, compared to other states, when all expenses are taken into account, UC ties with Virginia as the most expensive public university for nonresident undergraduates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

There is fierce competition among institutions for nonresidents, who pay significantly higher fees than residents. 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.

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
2014–15



Source: IPEDS[1]

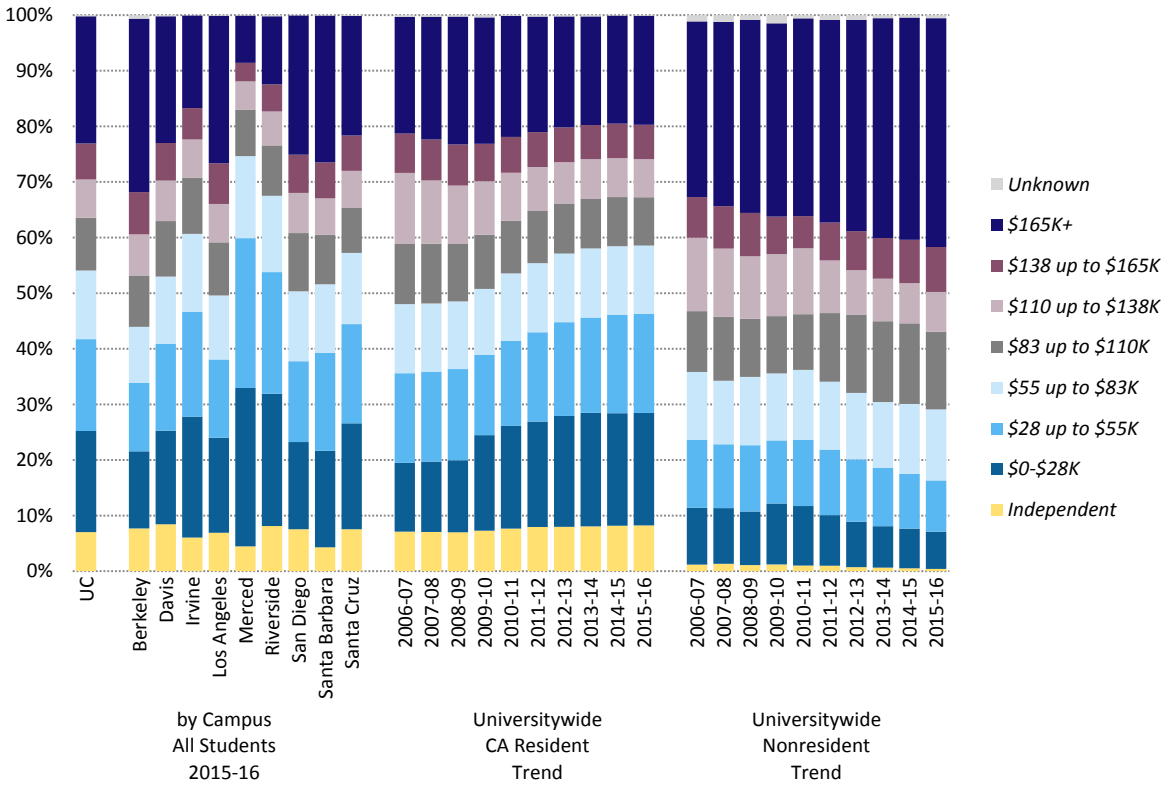
The percentage of undergraduate students with Pell Grants, a federal aid program for low-income students, provides a useful means to compare different institutions in terms of their accessibility for low-income students. It is also a useful indicator for comparing the socio-economic diversity of an institution's 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 41 percent in 2014–15. 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 2016, 38 percent of UC undergraduates and 45 percent of CA Residents received Pell Grants.

[1] Percentage reported is that of students who received Pell Grants at any time during the 2014–15 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.

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
2015 inflation-adjusted dollars



Source: UC Corporate Student System[1]

While all UC campuses enroll a significant proportion of low-income students, the proportion varies by campus and California residency.

In-state students are more likely to be from low-income families, with 20 percent in the lowest income category in 2015–16. Since 2008–09, the proportion of low-income CA resident students increased noticeably, with an offsetting decline among upper- and upper-middle-income families. During the last two years, however, the income distributions of CA resident families have stabilized.

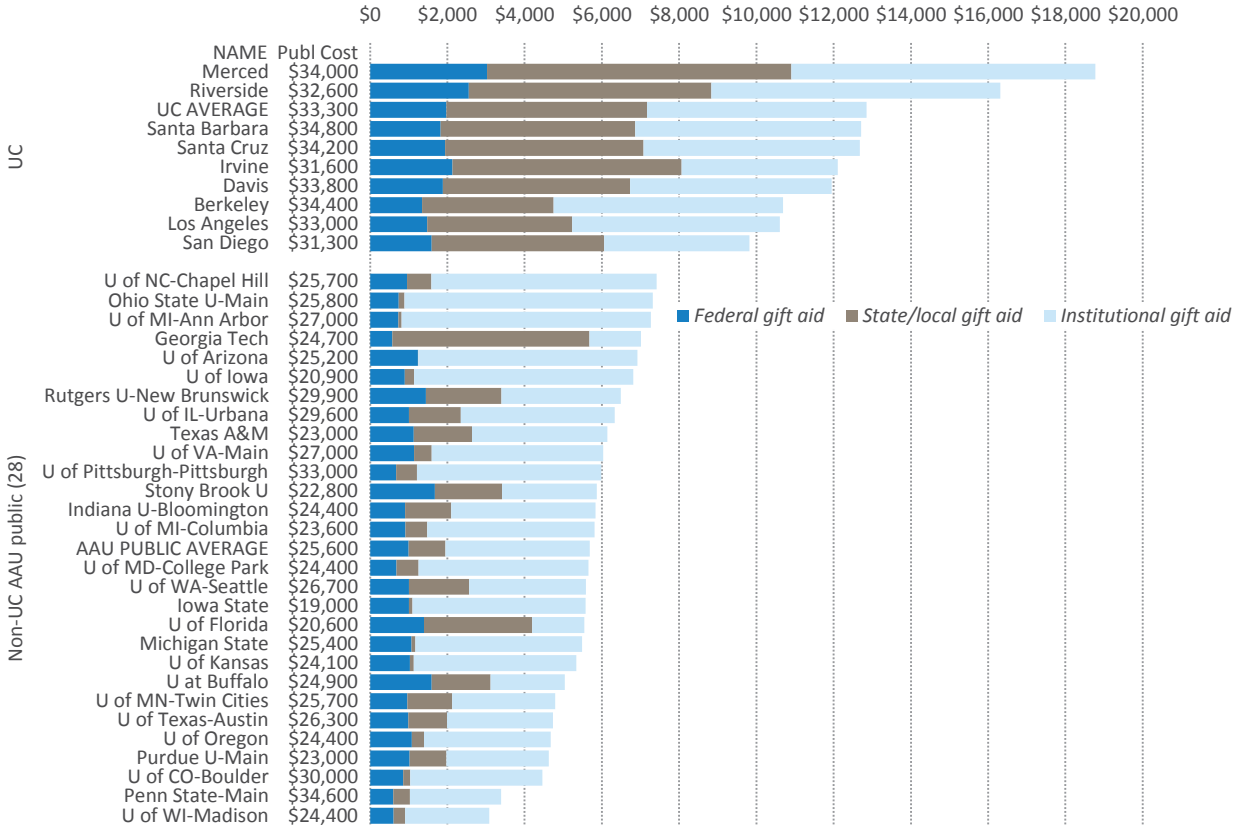
This suggests that the University's financial aid programs keep the net cost of attendance within reach of CA resident and low-and middle-income families.

Conversely, more than 40 percent of nonresident students came from families in the highest income category in 2015–16. This proportion has increased steadily over the years while those in the lower- and middle-income categories have decreased.

[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.

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
2014–15



Source: IPEDS[1]

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.

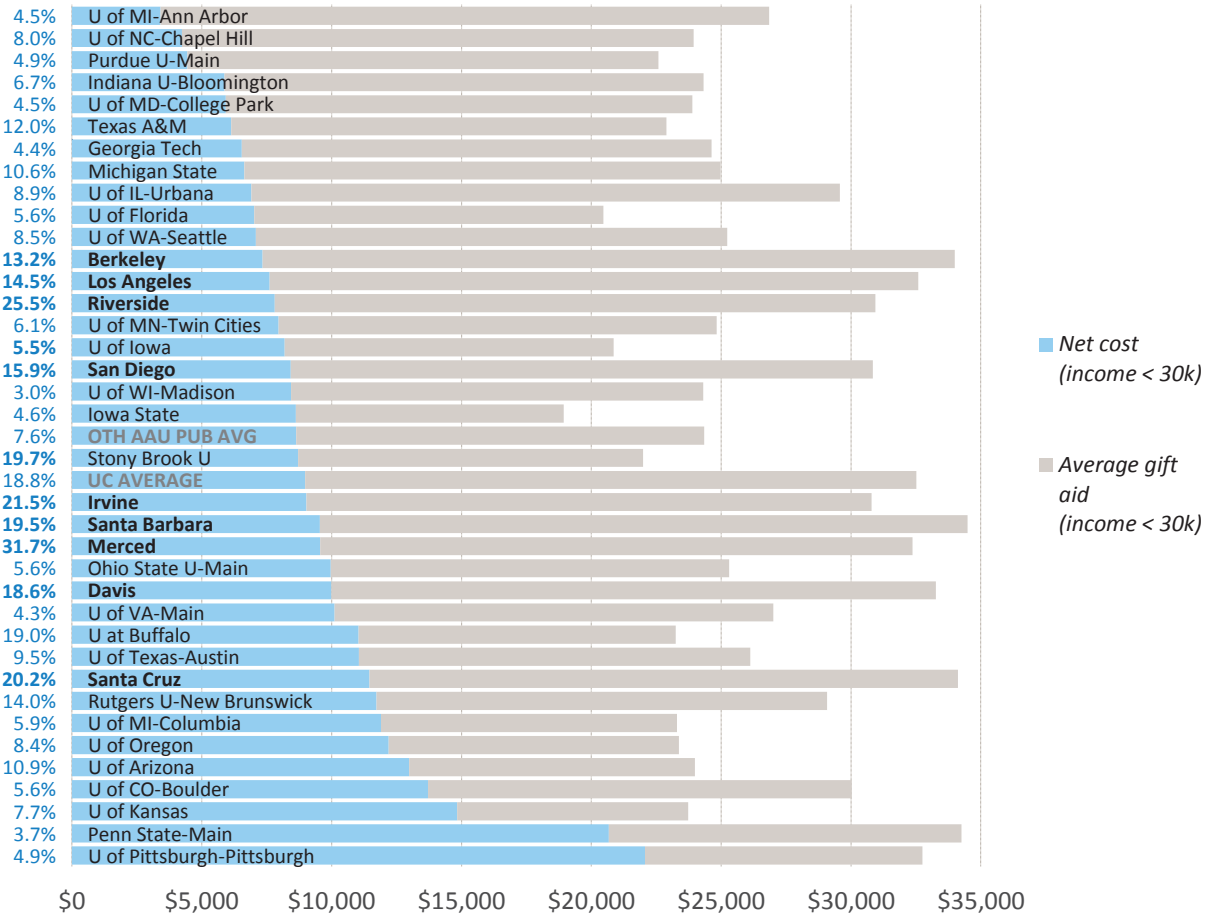
Institutional gift aid is the largest source of grant and scholarship support for UC undergraduates. The primary source of institutional gift aid is the nearly one-third of all undergraduate tuition and fee revenues that UC sets aside for need-based financial aid. Although over 90 percent of all gift aid received by UC students is based on need, nearly one in five UC undergraduates receive a merit-based scholarship. In 2015–16, the average merit-based scholarship was about $4,600, 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.

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
2014–15

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



Source: IPEDS[1]

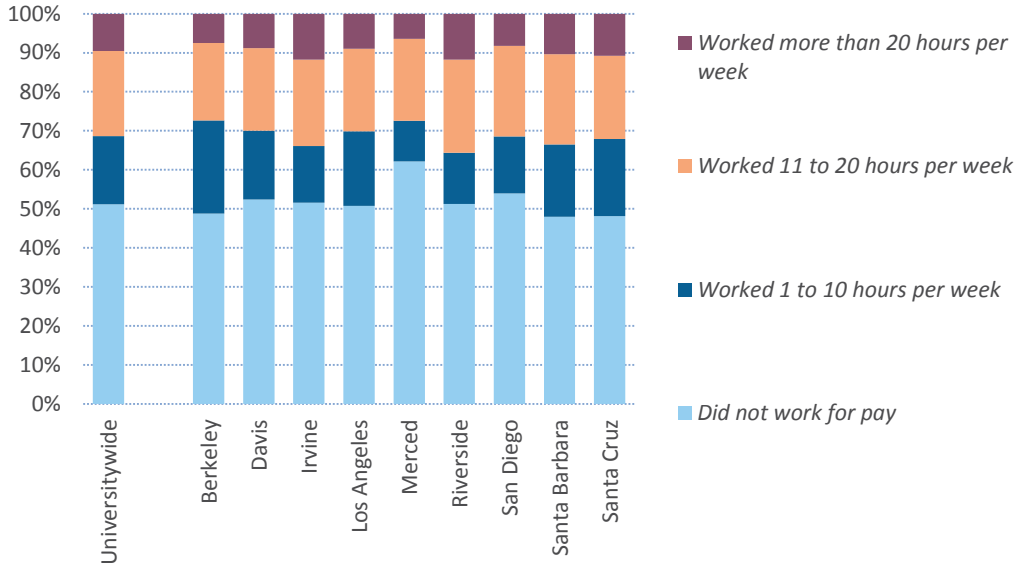
Despite a greater proportion of very low-income students and higher total costs at UC, the net cost of UC for these students is comparable to that of other AAU public institutions.

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 that of 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

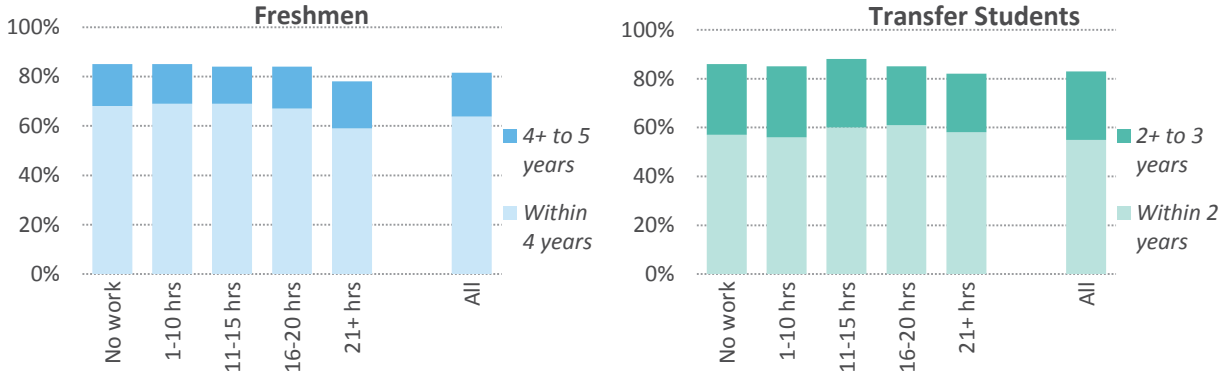
Approximately half of all undergraduates did not work for pay in 2015–16, and only 10 percent worked more than 20 hours per week.

2.4.1 Undergraduate hours of work
Universitywide and UC campuses
2015–16



Source: UCUES, spring 2016

2.4.2 Graduation rates by hours worked in first year
Universitywide
Fall 2011 entering freshmen and transfer students



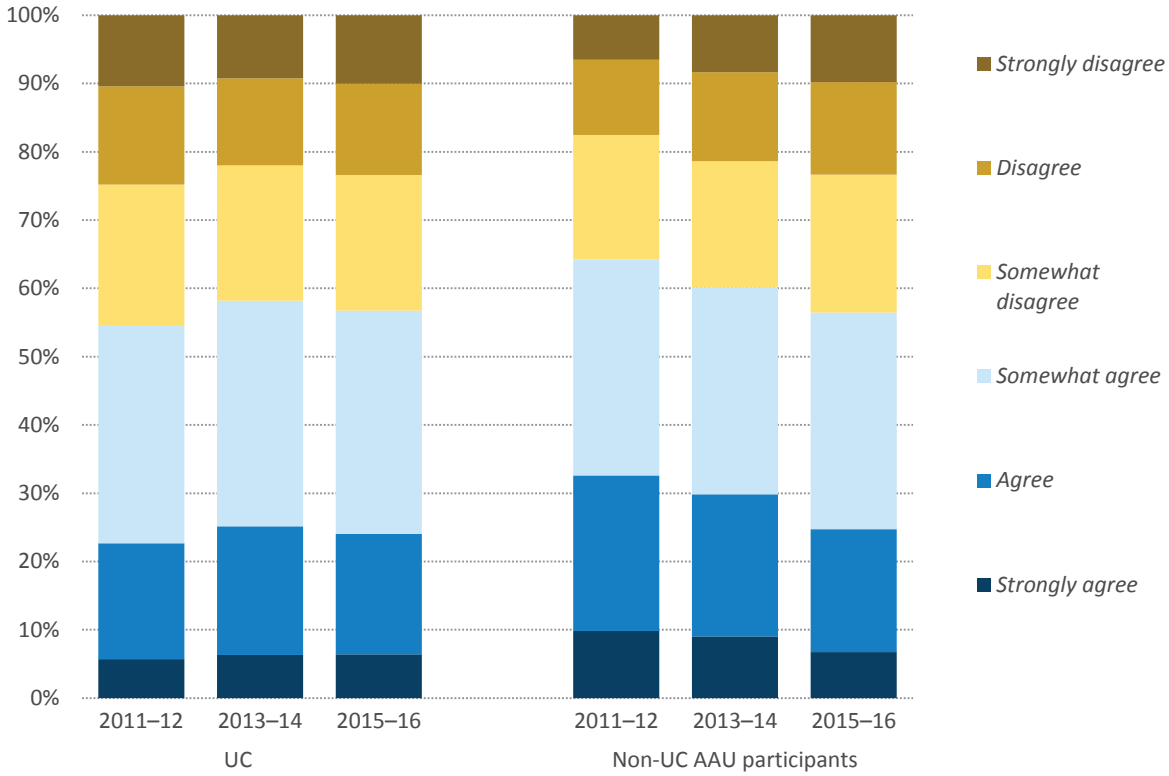
Source: UCUES (spring 2012) and Corporate Student System. Only includes students who responded to UCUES in spring 2012. Students who did not graduate within 5 years (or 3 for transfers) make up the remainder not shown.

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 apparent only for freshmen. The share of students by hours worked in 2011–12 was comparable to what is represented in the 2015–16 graph.

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

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 to 2015–16



Source: UCUES and SERU[1]

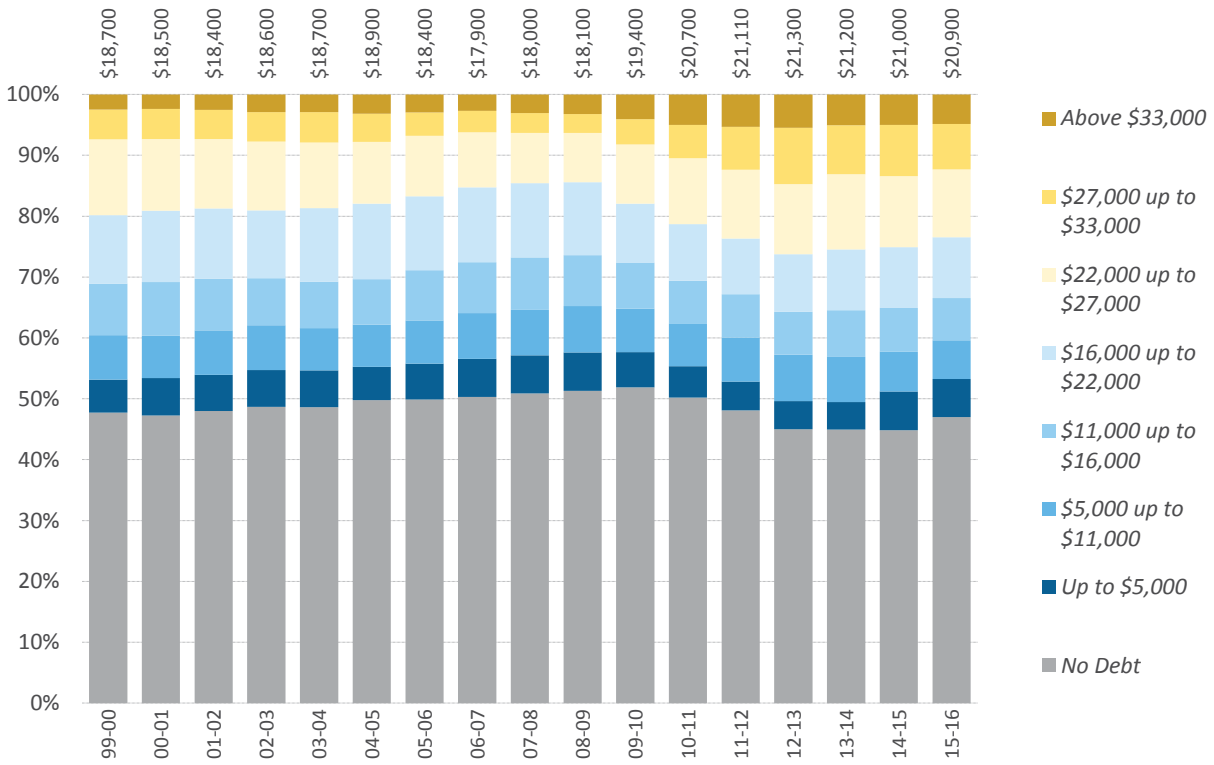
Fifty-seven percent of UC undergraduates in spring 2016 felt that the cost of attendance was manageable. This figure was 58 percent in spring 2014 and 55 percent in the spring 2012 UCUES survey. Fifty-eight percent of survey respondents at other participating AAU institutions in 2015–16 agreed that the cost of their education was manageable.

The list of non-UC AAU participants in this comparison was not the same for all three years shown. The non-UC schools included in 2011–12 were 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.

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

The average inflation-adjusted debt at graduation of student borrowers increased by 11.7 percent (from $18,700 to $20,900) over the past 15 years.

2.5.2 Student loan debt burden of graduating seniors, inflation-adjusted
Universitywide
1999–2000 to 2015–16 (average debt of those with debt shown above each year)



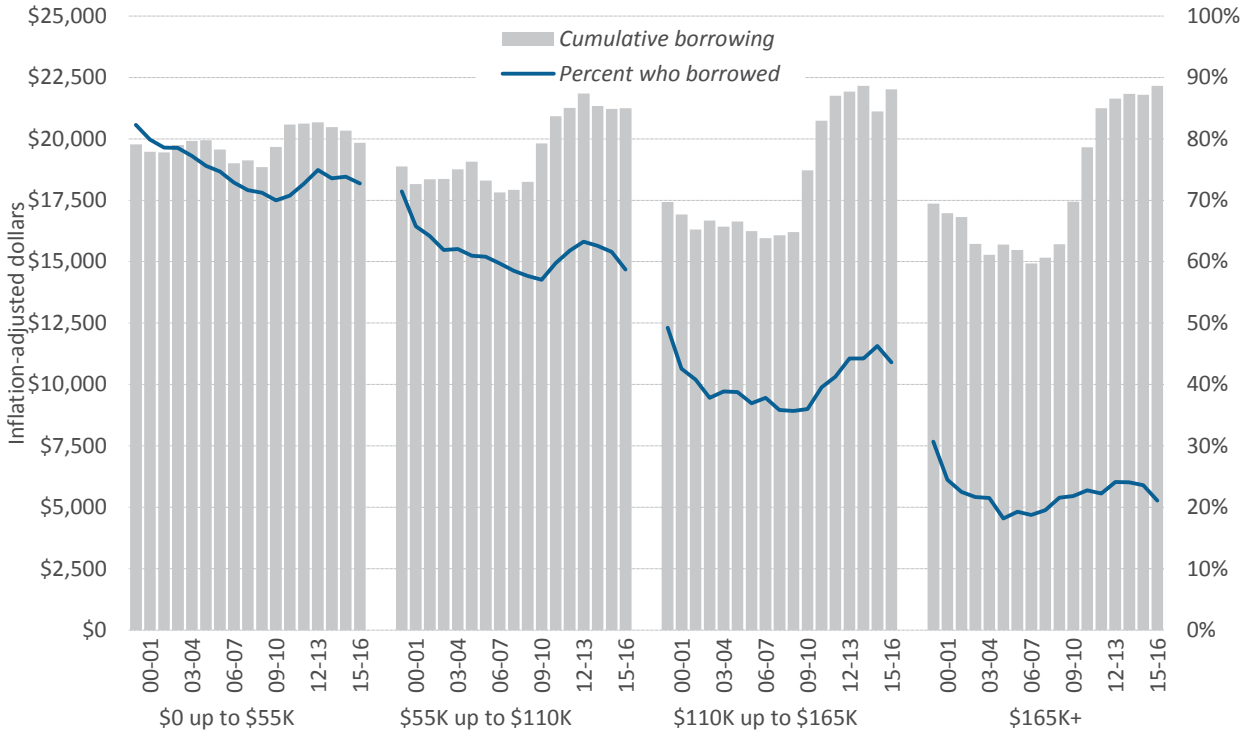
Source: UC Corporate Student System[1]

Forty-seven percent of UC undergraduates graduate with no debt at all. For those who do borrow, the average student loan debt at graduation in 2015–16 was about $20,900. 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.

Despite recent increases, the proportion of students graduating with loan debt across all incomes was still lower in 2015–16 than it was 15 years ago.

2.5.3 Student loan debt burden of graduating seniors by parent income
Universitywide
1999–2000 to 2015–16



Source: UC Corporate Student System[1]

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
2014–15 graduates

Berkeley	$18,012
Davis	$19,798
Irvine	$20,853
UC AVERAGE	**$21,018**
Santa Barbara	$21,207
Merced	$21,411
Los Angeles	$21,831
San Diego	$21,895
Riverside	$21,649
Santa Cruz	$22,825
Public 4-year	**$27,550**
Private nonprofit 4-year	**$34,900**
National Average	**$30,100**

Source: TICAS. National average excludes private for-profit institutions.

[1] Figures are adjusted for inflation in 2015 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 THREE
UNDERGRADUATE STUDENT SUCCESS

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

UC campuses have instituted a wide range of programs to promote the long-term academic success of their undergraduates, especially low-income and underrepresented minority students. These include academic preparation programs and individual student counseling and mentorship opportunities that assist students in pursuing their studies, achieving academic success and graduating in a timely fashion. 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 2012 cohort. The most recent six-year graduation rate, for the 2010 entering cohort, is 85 percent, which increases to 87 percent when including students who transfer to non-UC institutions and still graduate within six years. In addition, time to degree has steadily improved, with freshman entrants now taking 4.1 years, on average, to graduate.

Transfer entrants have made similar gains, with average two-year graduation rates increasing from 37 percent for the 1997 entering cohort to 56 percent for the 2014 cohort. The most recent four-year graduation rate for transfers (2012 entering cohort) is 88 percent and the average time to degree is 2.3 years.

Factors that affect graduation rates

Underrepresented minority (URM) students have lower graduation rates when compared to non-URM students. Many factors contribute to differences in graduation rates between racial and ethnic groups, including socioeconomic background and differences in academic preparedness.

For instance, an underrepresented minority student may be more likely to attend a poorly performing high school. 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.

In the 2016-17 California Budget, special funds under the state's Local Control Funding Formula (LCFF+) were provided to UC to expand enrollment and support the academic success of students who attended high schools with high concentrations of foster youth, English learners and/or those eligible for a free or reduced-price meal.

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. Only a very small proportion of undergraduates work that many hours while attending school.

Lack of basic needs may also have a negative effect on student academic success. As part of the Global Food Initiative, UC has examined food access issues, and results from the 2014 Student Food Access and Security Study show that 48 percent of undergraduate respondents report low or very low food security. Responding to this finding, in 2016 the UC committed 3.3 million dollars to tackle food access issues over a two year time period.

Undergraduate outcomes

The number of undergraduate degrees awarded by UC over the past 15 years has grown by 55 percent, from about 32,700 degrees in 1999–2000 to 50,800 degrees in 2015–16. Increases in the size of the entering freshman class and improving graduation rates have contributed to this growth. More than one-third of the undergraduate degrees awarded by UC in 2015–16 were in STEM disciplines (science, technology, engineering and mathematics).

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

Analysis of wage data reported for UC alumni working in California may show differences in earnings depending on the student's major. But the earning capacity of UC alumni across majors 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, the majority of Pell Grant recipients earn an average income higher than their parents' combined incomes during the time those students attended UC (approximately $50,000).

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 13 percent are in engineering services; and 15 percent of all UC graduates are employed in K–12 and higher education combined.

Looking forward

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

For more information

The March 2017 Performance Outcomes report submitted to the legislature:
www.ucop.edu/operating-budget/_files/legreports/16-17/PerformanceOutcomeMeasuresLegRpt-03-23-17.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 industries and earnings:
www.universityofcalifornia.edu/infocenter/uc-undergraduate-alumni-outcomes

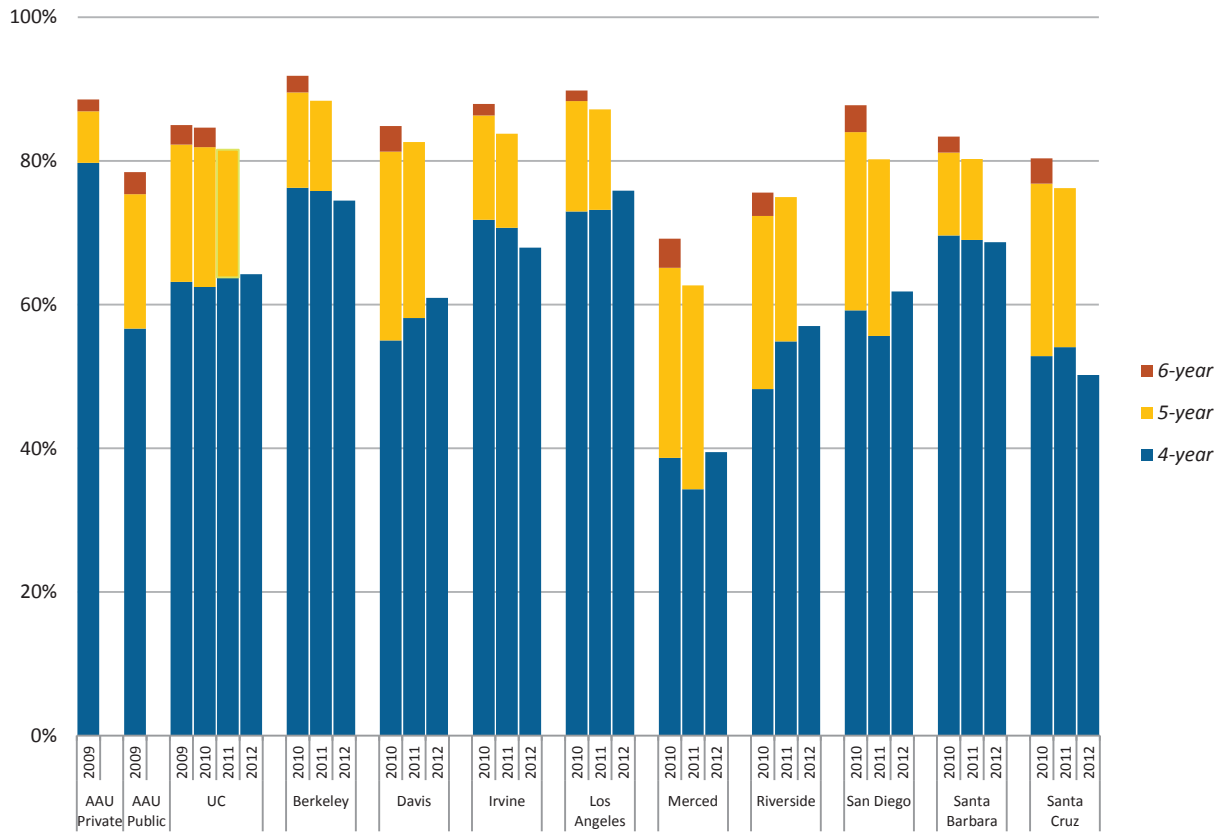
UC's report on Advising Strategies to Support Timely Graduation:
www.ucop.edu/institutional-research-academic-planning/_files/Advising_strategies.pdf

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

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

3.1.1 Freshman graduation rates
UC and comparison institutions
Cohorts entering fall 2010, 2011 and 2012; fall 2009 cohort for AAU comparison



Source: UC Corporate Student System and IPEDS[1]

UC's six-year graduation rate is higher than that of comparable AAU public institutions. UC's four-year graduation rates for freshmen have risen significantly over the past 15 years, from 46 percent for the 1997 entering cohort to 64 percent for the 2012 cohort. This improvement 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.

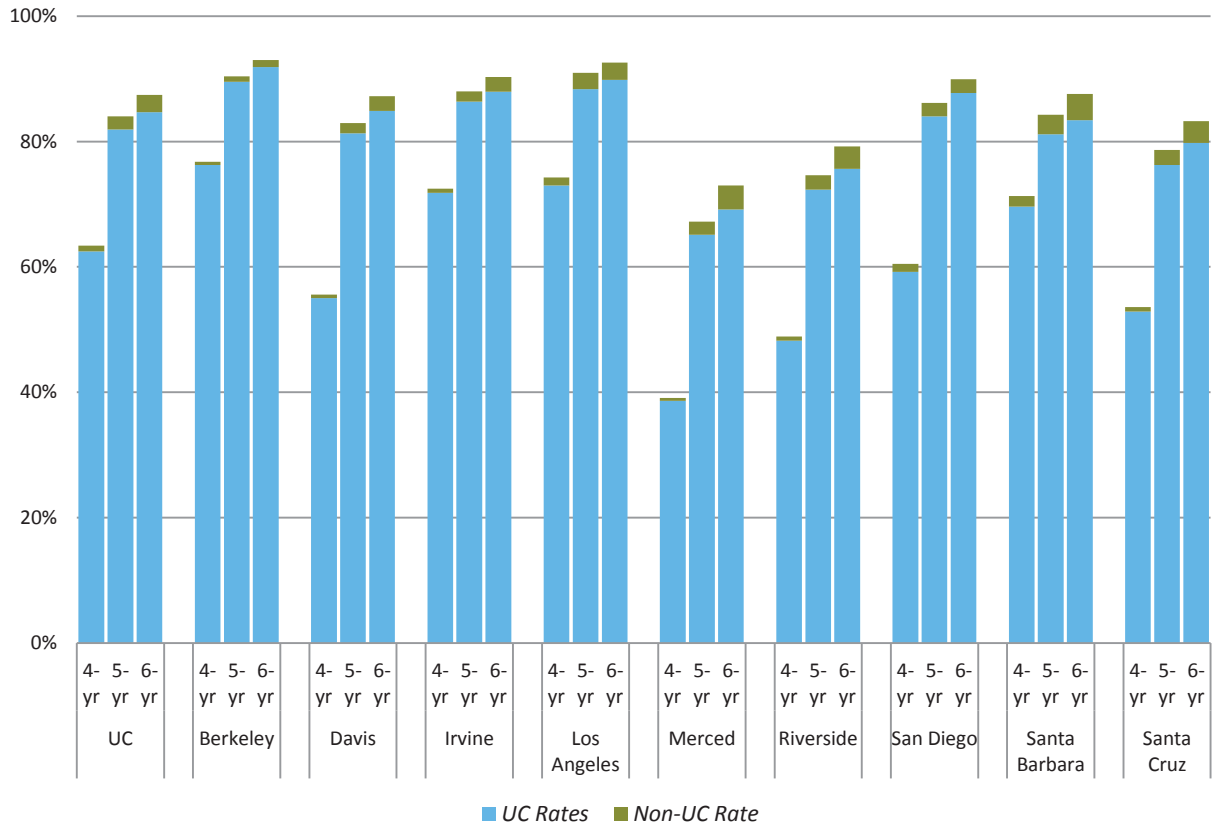
UC's freshman six-year graduation rate has held steady at 85 percent for the past two cohorts, the highest since 1995.

More information on trends in UC freshman graduation rates can be found at www.universityofcalifornia.edu/infocenter.

[1] Comparison IPEDS data are available for more limited years. The AAU comparison institutions are in the data glossary. AAU comparison is for the 2009 cohort, the most recent data available from IPEDS. 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.

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 2010



Source: UCOP Corporate Student System and the National Student Clearinghouse[1]

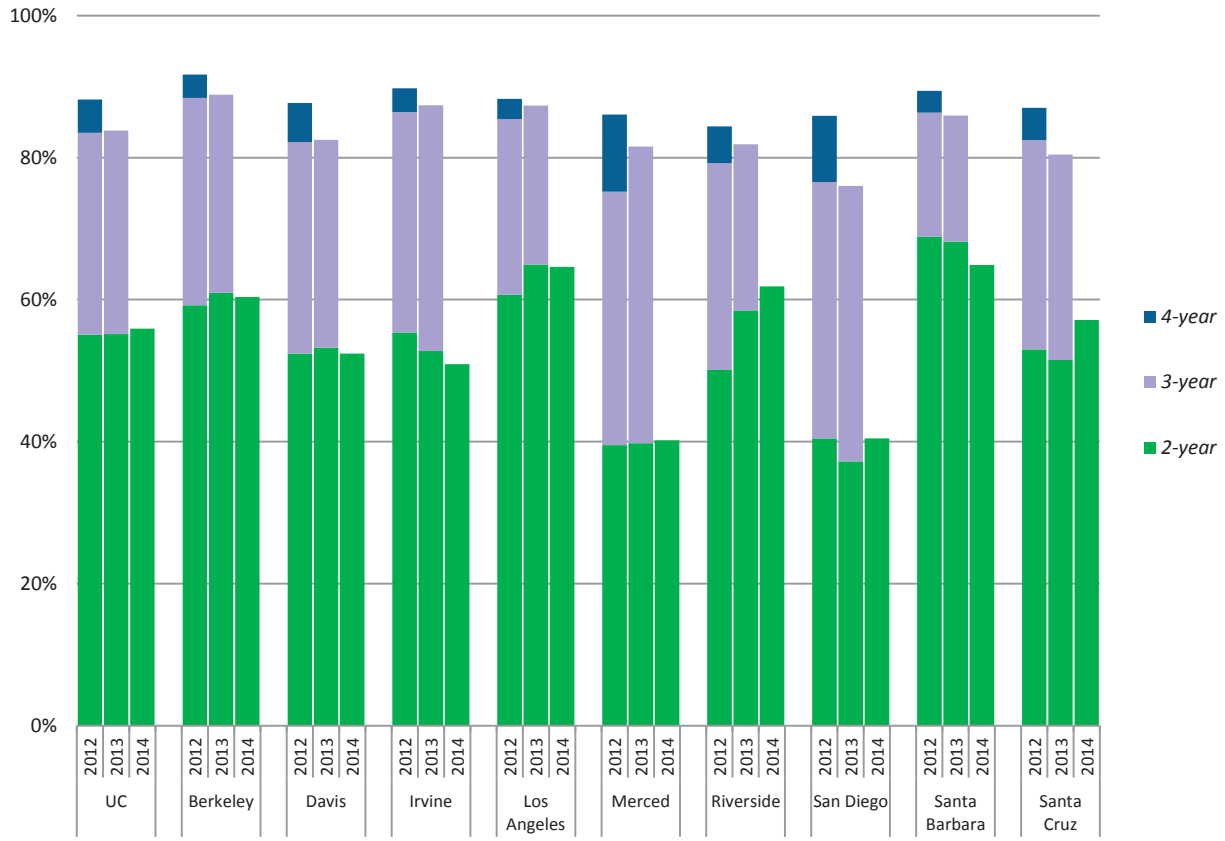
The extended graduation rate of students who begin their studies as freshmen at UC includes those who transferred to a non-UC institution and completed their bachelor's degree within four, five or six years.

By this measure, UC's overall six-year graduation rate is about 87 percent. The effect of the extended graduation rate varies by UC campus, with Berkeley having fewer students who earn a degree outside of the UC system, while the six-year rates at Merced, Riverside, Santa Barbara and Santa Cruz improve by as much as 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.

Almost 60 percent of transfer students graduated within two years.

3.1.3 Transfer graduation rates
Universitywide and UC campuses
Cohorts entering fall 2012, 2013 and 2014



Source: UC Corporate Student System[1]

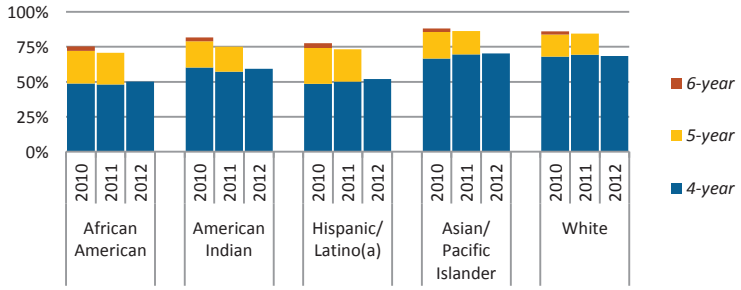
The two-year graduation rate for transfer students has been relatively consistent over the past three cohorts. The two-year graduation rate for transfers is currently at 56 percent, the highest since 1995. The four-year rate is 88 percent, compared to 85 percent for the six-year transfer graduation rate. More information on trends in UC transfer graduation rates can be found at https://www.universityofcalifornia.edu/infocenter.

[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.

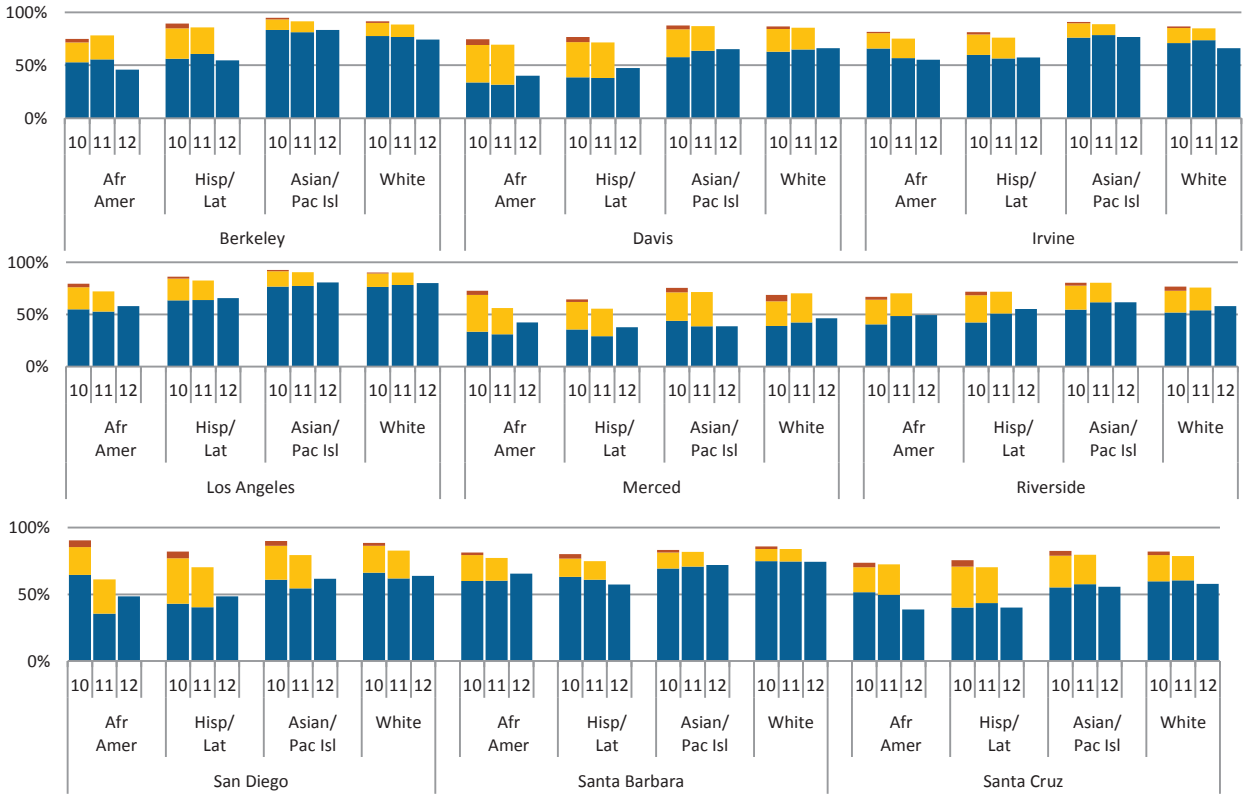
Underrepresented minority (URM) students at UC graduate at higher rates when compared to URM students at other AAU public institutions.

3.1.4 Freshman graduation rates by race/ethnicity
Universitywide, UC campuses, AAU public and AAU private
Cohorts entering fall 2009, 2010, 2011 and 2012

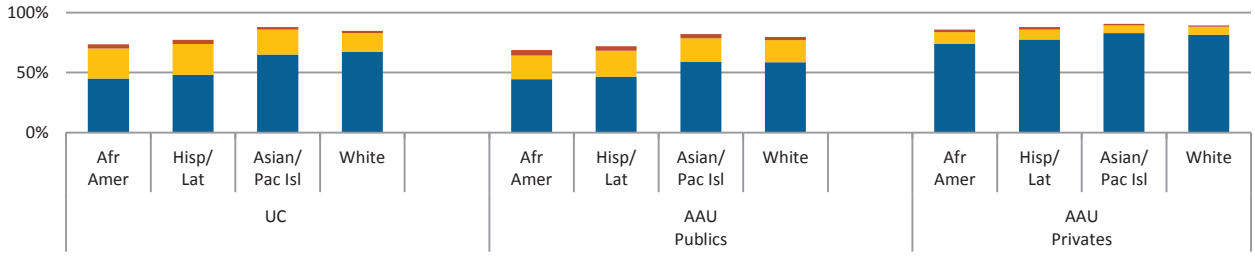
Universitywide



UC campuses



UC and comparison institutions, cohort entering fall 2009

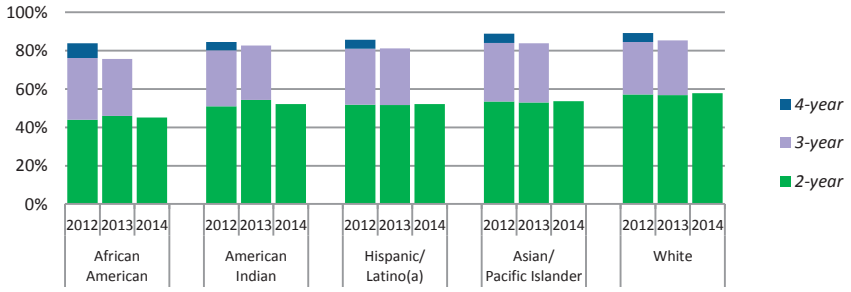


Source: UC Information Center Data Warehouse and IPEDS. Rates for American Indian students are not shown by campus due to small numbers of students.

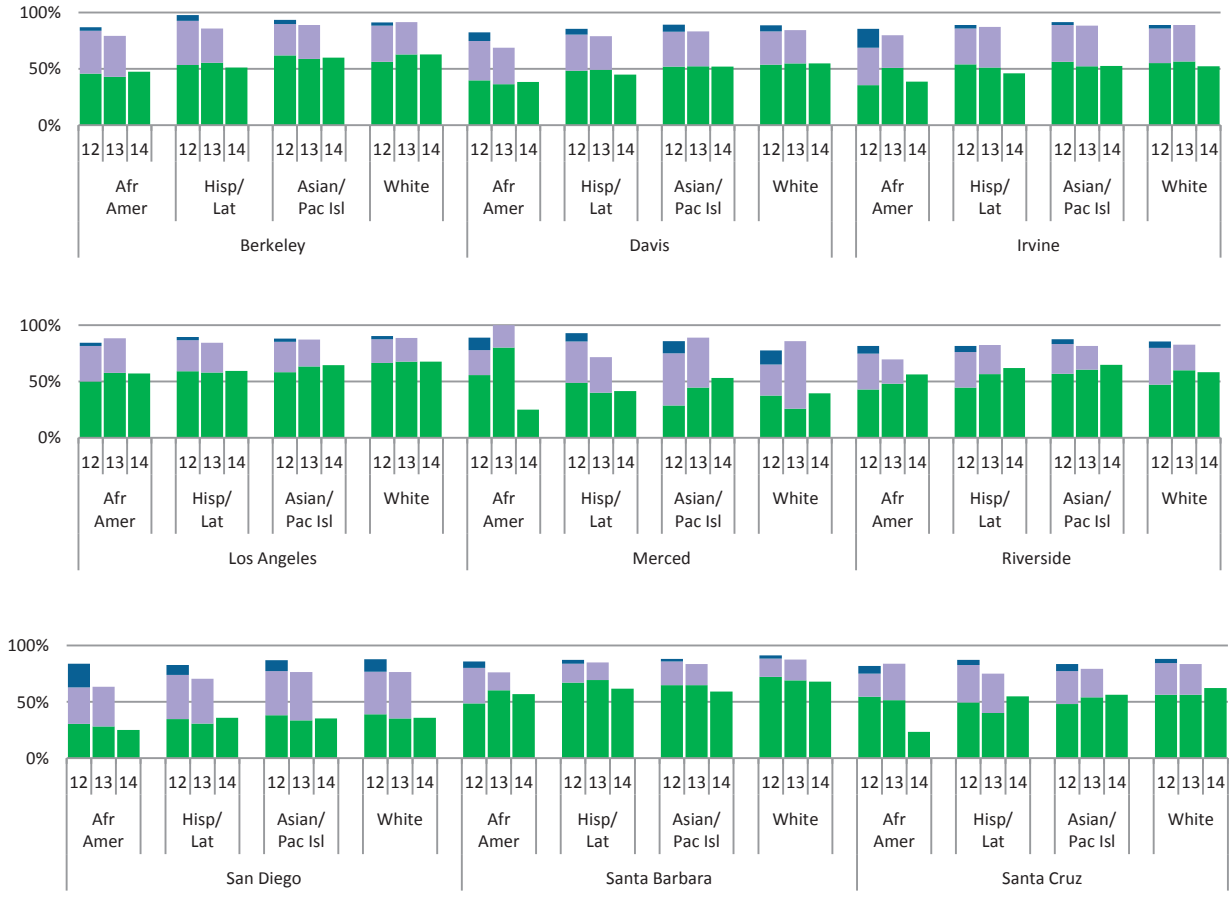
Transfer students of all racial and ethnic groups graduate at high rates.

3.1.5 Transfer graduation rates by race/ethnicity
Universitywide and UC campuses
Cohorts entering fall 2012, 2013 and 2014

Universitywide



UC campuses



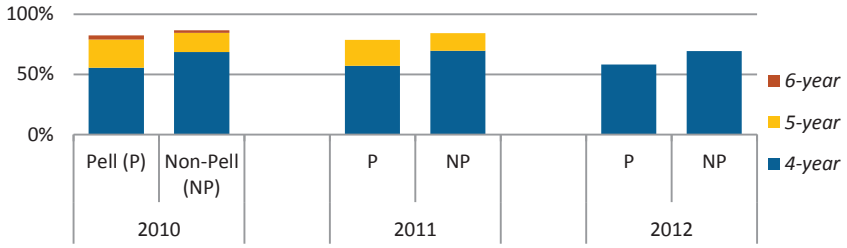
Source: UC Information Center Data Warehouse. Rates for American Indian students are not shown by campus due to small numbers of students.[1]

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

Over 80 percent of Pell students graduate within six years.

3.1.6 Freshman graduation rates by Pell Grant recipient status
Universitywide and UC campuses
Cohorts entering fall 2010, 2011 and 2012

Universitywide



UC campuses

Source: UC Corporate Student System[1]

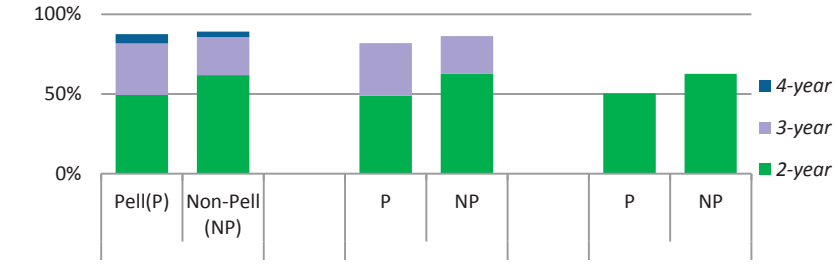
Pell Grant recipients graduate at rates comparable to non-Pell recipients, 82 percent and 87 percent respectively. Although there is a 13-percentage-point gap at the four-year mark between Pell recipients (56 percent) and non-Pell recipients (69 percent), this gap is reduced to 5 percentage points at 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.

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 recipient status
Universitywide and UC campuses
Cohorts entering fall 2012, 2013 and 2014

Universitywide



UC campuses

Source: UC Corporate Student System[1]

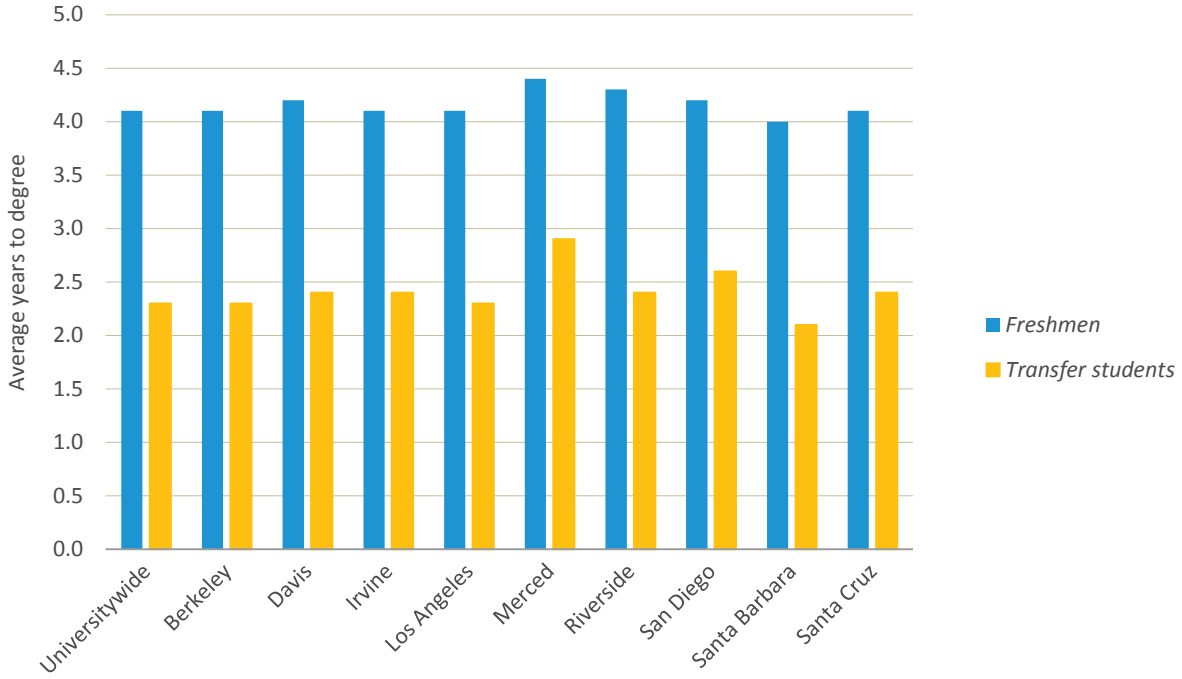
For the 2012 cohort, Pell and non-Pell Grant recipients graduated at comparable rates of 87 percent and 89 percent respectively. For the two-year completion rate, however, the thirteen percentage point gap decreases to two percentage points by year four.

See trend data in the 2016 Accountability Report: http://accountability.universityofcalifornia.edu/2016/chapters/chapter-3.html#3.1.8.

[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.

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

3.1.8 Average time to degree
Universitywide and UC campuses
Fall 2009 entering freshmen and transfer cohorts



Source: UC Corporate Student System[1]

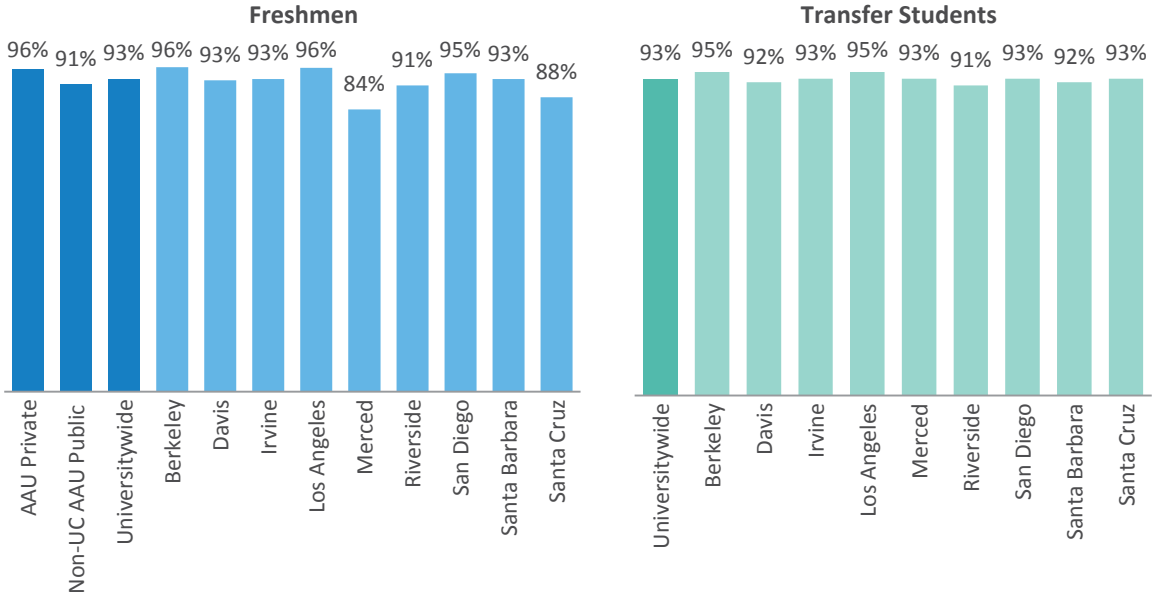
The average time to earn a bachelor's degree at UC has decreased fairly steadily since 1994. Students entering as freshmen take an average of 4.1 years, which is about 7 percent less time than in 1994.

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

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

Freshman retention rates are high, but there is room for improvement. Transfer retention rates are also high and very close to freshman retention rates.

3.2.1 First-year retention rates
UC and comparison institutions
Cohorts entering fall 2015



Source: Freshmen data from IPEDS[1]; transfer data from UC Corporate Student System. Comparison data on retention rates are not available for transfer students.

Improving first-year retention is key to raising graduation rates. The current universitywide retention rate is 93 percent. This is higher than non-UC AAU institutions (91 percent), but lower than AAU private institutions (96 percent).

Studies of retention data divide students into two groups: those who leave UC in good academic standing (i.e., GPA ≥ 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 in good academic standing, some campuses are considering expanding honors programs or providing opportunities for undergraduate research as early as the freshman year.

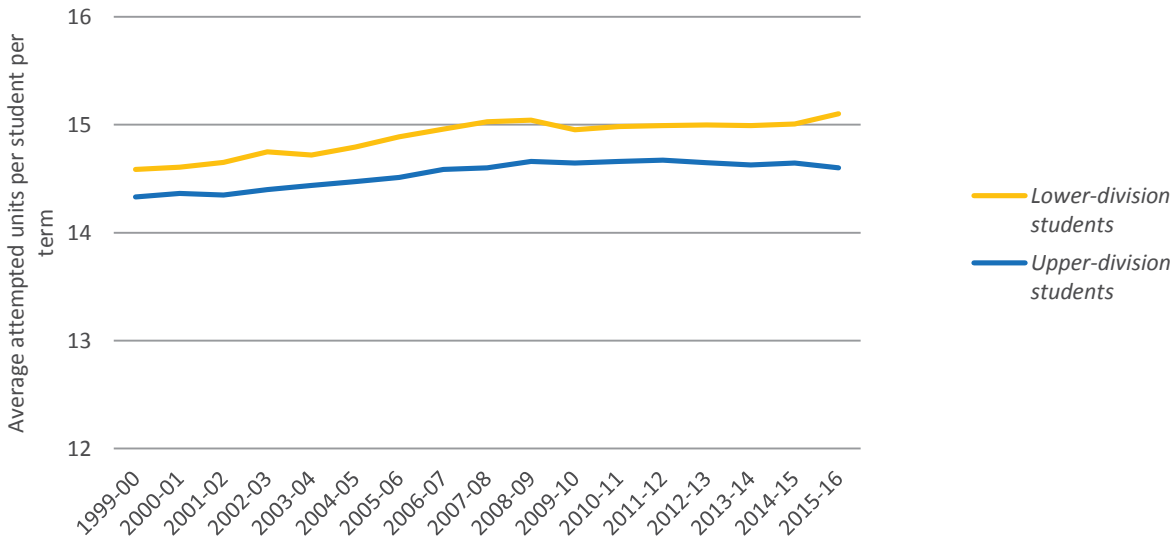
For those leaving in poor academic standing, some UC campuses are using summer bridge or early orientation programs so that students have a productive jump-start on a smooth transition to campus life. Other campuses are looking into housing and residential programs and cohort programs to integrate undergraduates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

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.

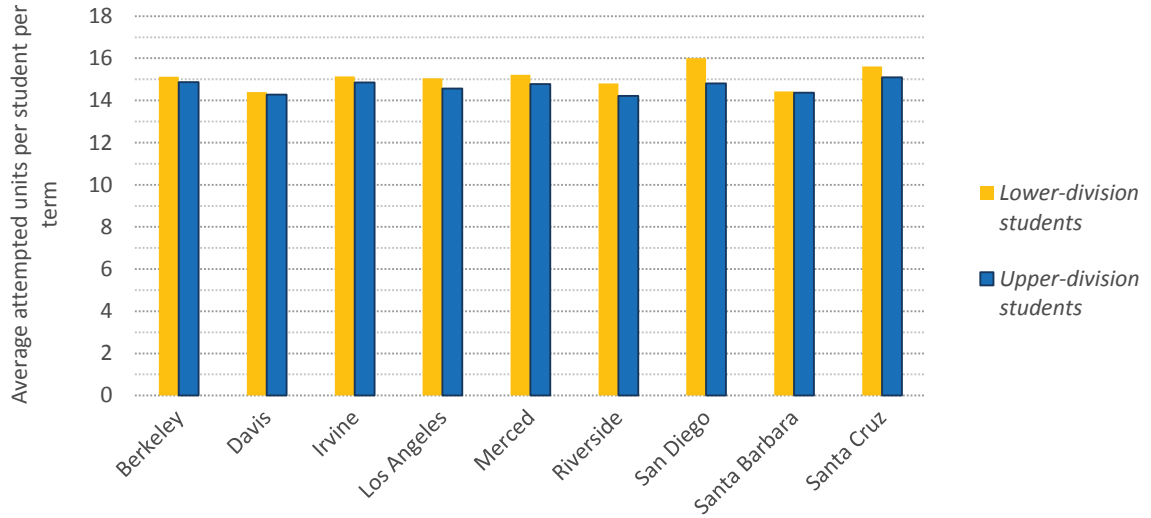
[1] Freshmen are first-time, full-time, degree-seeking students from the fall who enroll again in the next fall term. The most recent available comparison data available from IPEDS is for 2015.

Universitywide both lower and upper division students take a similar amount of units.

3.2.2 Average number of attempted units per student per term
Universitywide and UC campuses
Academic years 1999–00 to 2015–16 for universitywide and 2015–16 for UC campuses
[NOTE SCALES]



UC campuses



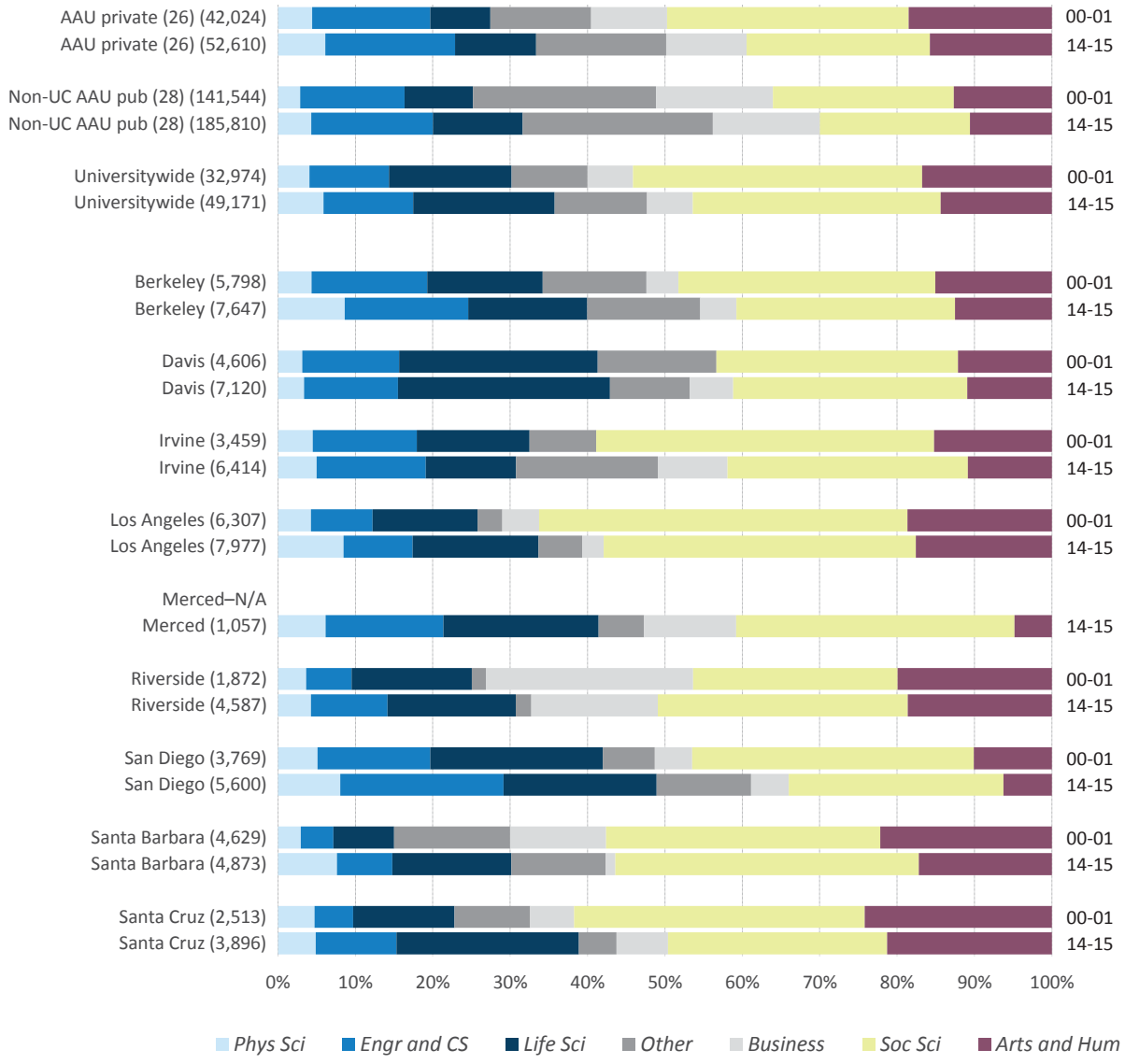
Source: UC Corporate Student System[1]

While there was a slight dip in the average number of units upper-division students attempted between 2014–15 and 2015–16, the overall trend is clear, both upper-division (14.5) and lower division students (14.8) are attempting more units over time.

[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.

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 2014–15



Source: IPEDS

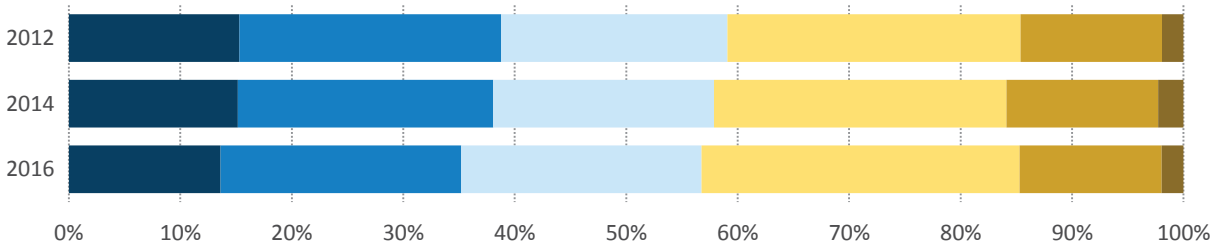
About 36 percent of all undergraduate degrees awarded by UC in 2014–15 were in science, technology, engineering and mathematics (STEM) fields. This is higher than the proportion at AAU public and private comparison institutions (32 and 33 percent, respectively).

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

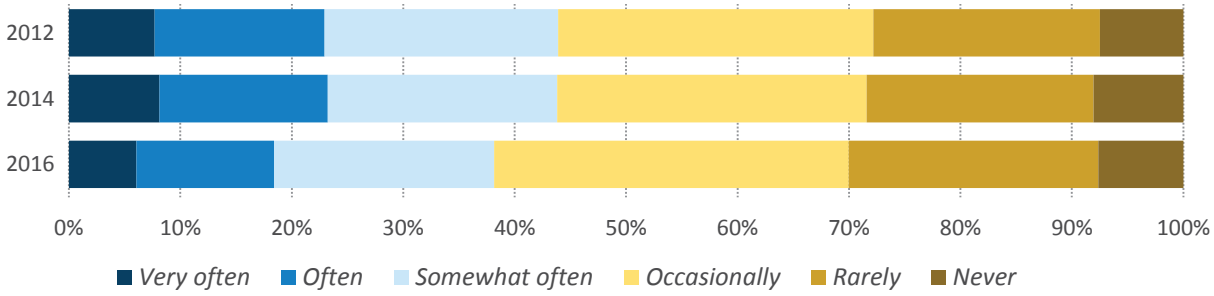
More than half of students contributed to a class discussion, and more than a third found a course so interesting that they did more work than required. More than one third of students worked with a faculty member on an activity other than coursework at least once.

3.3.2 Student responses to questions about areas of engagement
Universitywide
Spring 2012 to 2016

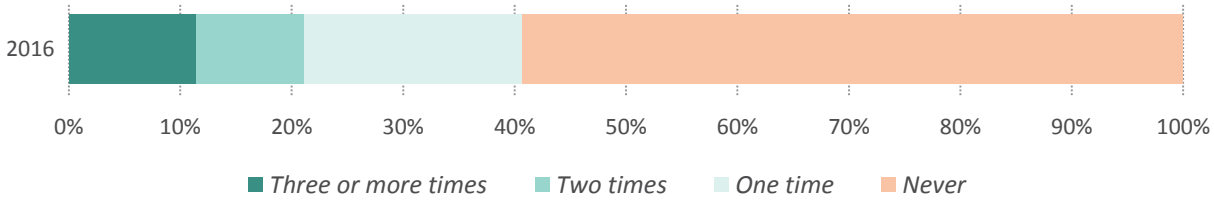
During this academic year, how often have you contributed to a class discussion?



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



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

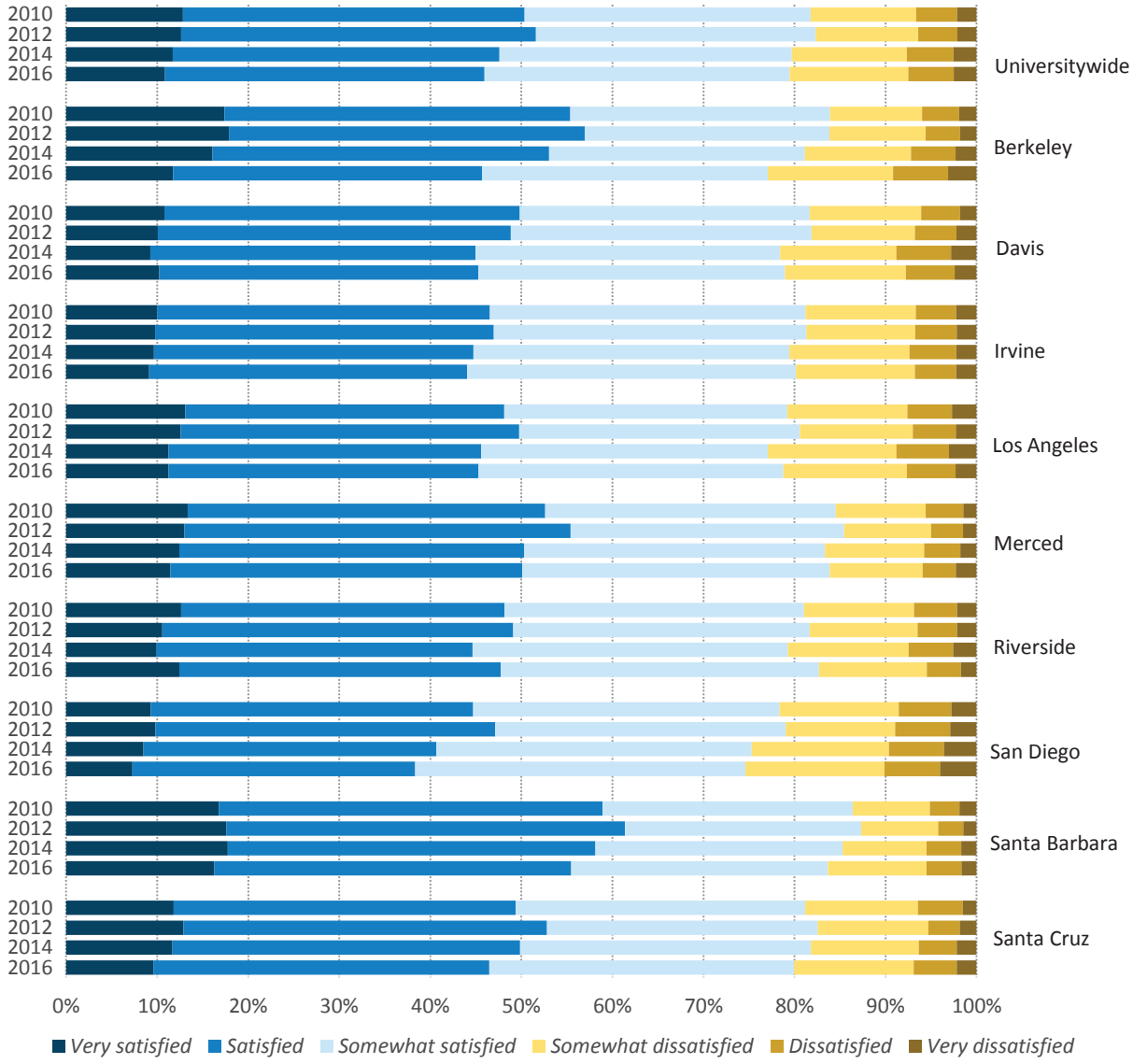


Source: UCUES. 2014 and 2012 data are not presented in the last item because the response scale changed in 2016.

More than half of students reported that they contributed to class discussions at least somewhat often, and more than a third at least somewhat often went beyond required coursework in a class they found interesting. Forty-one percent worked with a faculty member on an activity other than coursework, such as research or creative projects, at least once.

Student satisfaction with their overall academic experience has remained high over the last four UCUES survey administrations.

3.3.3 Student satisfaction with overall academic experience
Universitywide and UC campuses
Spring 2010 to 2016



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

For the UC system overall and for most campuses, the percent of students who were satisfied (somewhat through very satisfied) has remained as high as about 80 percent. However, student's satisfaction dropped slightly since 2012. Specifically, fewer students indicated that they were "satisfied" or "very satisfied" with their overall academic experience.

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 2013 graduating cohorts, combined

		After two years	After five years	After ten years
Arts & Humanities	Philosophy	$35,149	52,751	79,894
	History	$35,230	53,638	74,815
	Foreign Language	$33,877	48,649	69,863
	English/Literature	$34,388	49,473	67,819
Professional/Interdisciplinary	Cognitive Science	$50,411	76,085	110,147
	Business	$53,379	72,035	104,509
	Legal Studies	$45,391	67,294	99,786
	Ag. Business	$51,561	70,403	99,052
	Communications	$40,759	59,604	83,928
	International Studies	$37,844	54,983	76,204
	Architecture	$44,571	58,599	72,763
	Social Work	$33,440	47,890	68,456
Life Sci, Phys Sci, Engr & CS	Computer Science	$74,461	95,648	129,888
	Engineering	$67,345	87,543	122,152
	Physics	$50,328	68,440	104,040
	Biology	$37,165	59,962	99,398
	Chemistry	$42,605	58,426	98,690
	Mathematics	$50,778	66,743	91,712
Social Sciences	Economics	$50,692	70,456	104,374
	Political Science	$40,144	62,917	95,129
	Geography	$39,966	58,872	85,206
	Psychology	$34,718	52,291	74,260
	Sociology	$37,232	53,387	72,168
	Anthropology	$32,991	47,448	67,508
All Majors		**$43,368**	**62,001**	**89,612**

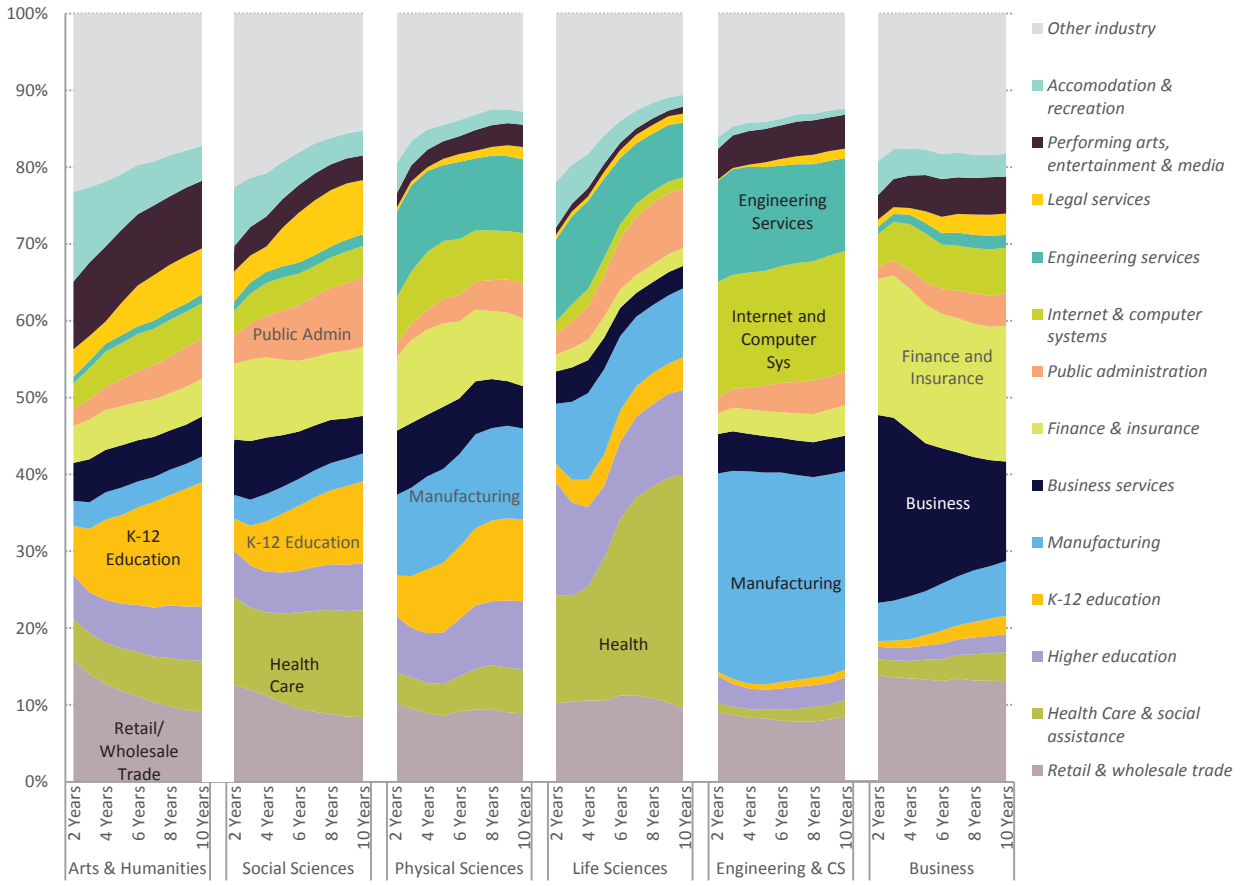
Source: California Employment Development Department and UC Corporate Student System. Includes alumni employed in the state of California only. Amounts are inflation-adjusted to 2014 dollars.

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.

Bachelor's degree recipients work across diverse California industries, particularly health care and social assistance, education, engineering and manufacturing.

3.3.5 Industry of employment of UC bachelor's graduates by years after graduation
Universitywide
2000 to 2013 graduating cohorts, combined



Source: California Employment Development Department and UC Corporate Student System

Bachelor's degree graduates often begin their careers in positions within the retail and wholesale trade sectors, but move on to high-skill industries such as education, health care, engineering and manufacturing.

A significant number of UC graduates go on to become educators within California's K–12 and higher education systems. About 4 percent of UC graduates work in the state's K–12 education system directly after graduation; about 9 percent do so within ten years of receiving their UC degree.

UC graduates participate in the state's health care and social assistance workforce in large numbers. At ten years after graduation, about 12 percent work in health care or social assistance (30 percent among life sciences majors).

Large numbers of graduates of UC's undergraduate STEM programs enter the state's engineering and high-tech workforce. More than 15 percent of UC engineering/computer science graduates employed in California work in the internet and computer systems industry, while another 13 percent work in the engineering services industry. The manufacturing sector has been a consistent source of employment for large numbers of UC engineering and physical science graduates.

CHAPTER FOUR
GRADUATE ACADEMIC AND GRADUATE PROFESSIONAL STUDENTS

GRADUATE ACADEMIC AND GRADUATE PROFESSIONAL STUDENTS

Goals

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

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

Types of graduate degrees

UC awards both graduate academic degrees and graduate professional degrees.

Graduate academic degrees — These include academic doctoral and academic master's degrees in education, physical sciences, social sciences, arts, humanities and engineering/computer science. Other doctoral degrees are offered in various disciplines (such as EdD in education, DrPH in public health, etc.). The largest proportion of graduate academic degrees awarded at UC is in the STEM fields — science, technology, engineering and mathematics. In 2015–16, more than two-thirds of UC graduate academic degrees were awarded in STEM fields.

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

The University maintains multiple funding models for its graduate professional programs. Many state-supported graduate professional programs (i.e., M.B.A., law, medicine, etc.) assess professional degree supplemental tuition (PDST), in addition to the base tuition, which allows the professional schools to ensure their excellence, accessibility, inclusiveness and affordability. Programs assessing PDST commit substantial resources to grants and scholarships, reducing the amount that students pay from their own resources. Since professional degree supplemental tuition began in 1994, both the number of professional degree programs that charge professional degree supplemental tuition and the amount of supplemental tuition charged have increased.

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

goals and students whose education is supported by their employers. Many programs are offered through an alternative mode of delivery, such as online or hybrid instruction, alternative scheduling, or at off-campus locations.

Rising graduate professional enrollments

In recent years, enrollment in UC's master's and professional degree programs has grown significantly, while academic doctoral enrollment is essentially unchanged since 2010. Professional practice programs such as law, medicine, dentistry and other health science professional programs have grown about 1 percent per year since 2010. During the same period, professional master's programs such as business, public policy, public health, journalism and education have grown by 4 percent per year. Academic master's programs, primarily those in engineering and computer science, have grown the most rapidly, at 5 percent per year.

Overall, graduate professional enrollment has grown by about 3 percent since 2010, and much of that growth has been in self-supporting programs. Since 2010, enrollment in self-supporting programs has increased by 8 percent per year.

Graduate student well-being

Student mental health is a growing priority for higher education institutions. In spring 2016, UC administered a survey to a random sample of graduate students across all ten UC campuses to assess mental health and well-being. The survey had a response rate of 40 percent.

Recommendations deriving from the survey's findings include the expansion and promotion of prevention efforts and mental health services for graduate students, helping students learn about career paths outside of academia and helping students manage their finances. A link to the full report can be found at the end of this introduction.

Supporting diverse career paths and making research accessible

To promote and highlight the work of master's and doctoral students across UC campuses, UC holds an annual research communication competition called UC Grad Slam. The event challenges its ten participants — the winners of each campus's own Grad Slam — to distill years of academic research into a three-minute presentation that is free of technical lingo. President Napolitano emcees the event and a distinguished panel of judges decides the winner. The Grad Slam encourages students to communicate their research in a clear and compelling way to non-specialists — a skill that employers need and value. Campuses provide workshops and resources for students to develop this useful skillset. The contest also demonstrates to the public that UC research benefits their lives in both ordinary and quite extraordinary ways. The winner of Grad Slam 2017 was UCLA student Leslie Rith-Najarian, whose work is making mental health more engaging and accessible, including an online program that rewards students for practicing positive habits to strengthen their mental health.

Equity and inclusion: Expanding academic pathways

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

UC LEADS – The University of California Leadership Excellence through Advanced DegreeS program prepares promising UC undergraduate students for advanced education in science, technology, mathematics and engineering (STEM) fields. The program seeks to prepare underrepresented UC undergraduate students for doctoral education opportunities at a UC campus. From its inception in 2000–01 through 2014–15, 785 scholars have participated in UC LEADS. Given the importance of ensuring gender and ethnic equity within STEM-based doctoral programs, it is notable that half of these scholars are female and half are from underrepresented minorities. Of the first 12 cohorts, 98 percent earned undergraduate degrees and 70 percent are either currently enrolled in graduate

school or have already earned graduate degrees. Moreover, twelve UC LEADS alumni are now serving as tenure-track faculty, including four within the UC system.

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

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

Looking ahead

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 factors including the 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 and their role as innovation drivers, this change is notable and it places UC well below its peer institutions.

For more information

UCOP Graduate Studies: www.ucop.edu/graduate-studies

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

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

Graduate student well-being report: www.ucop.edu/institutional-research-academic-planning/_files/graduate_well_being_survey_report.pdf

UC Grad Slam: https://gradslam.universityofcalifornia.edu/

UC LEADS: http://ucleads.org/

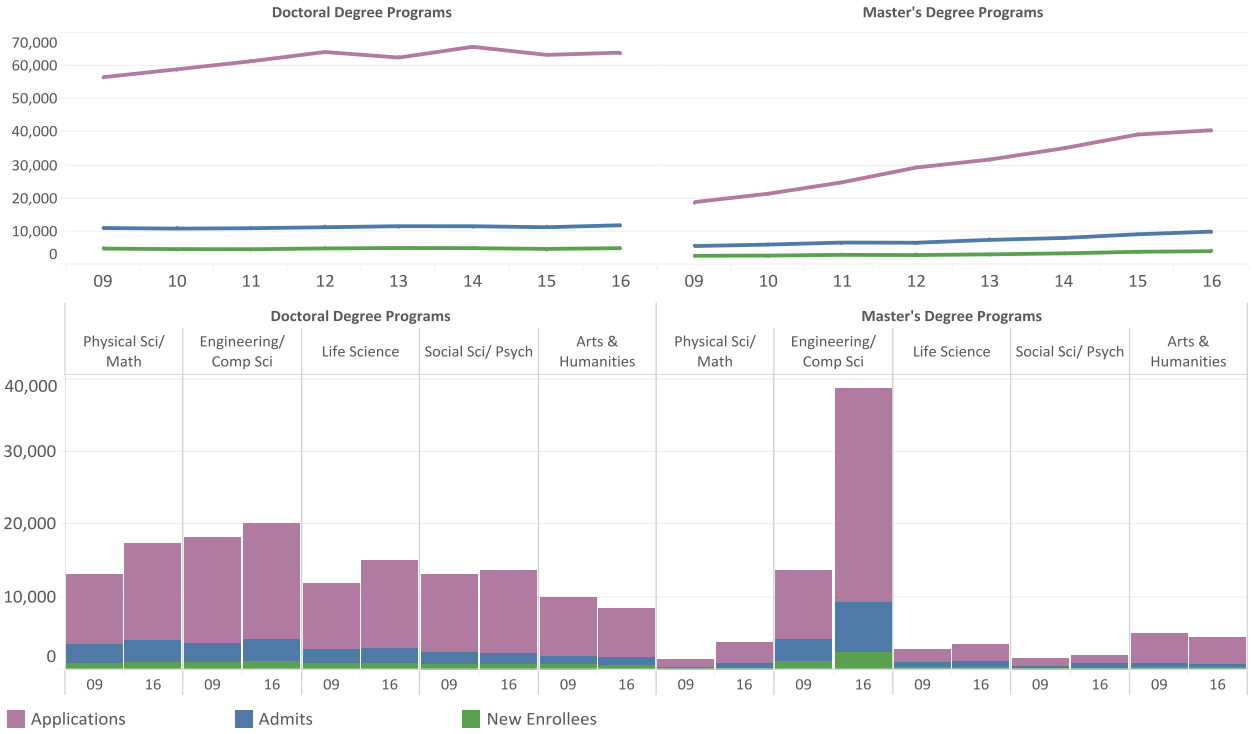
UC-HBCU Initiative: www.ucop.edu/uc-hbcu-initiative/index.html

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

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

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 by degree program and citizenship
Universitywide
Fall 2009 to fall 2016



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 eight years. Applications for admission grew from 75,180 in 2009 to 104,304 in 2016 – a rate of 5 percent per year. Nearly all of this increased demand has come from prospective international students, with international applications growing from 33,409 to 60,645 – a rate of 10% per year. Engineering and computer science programs have significantly higher demand from international students than do other disciplines.

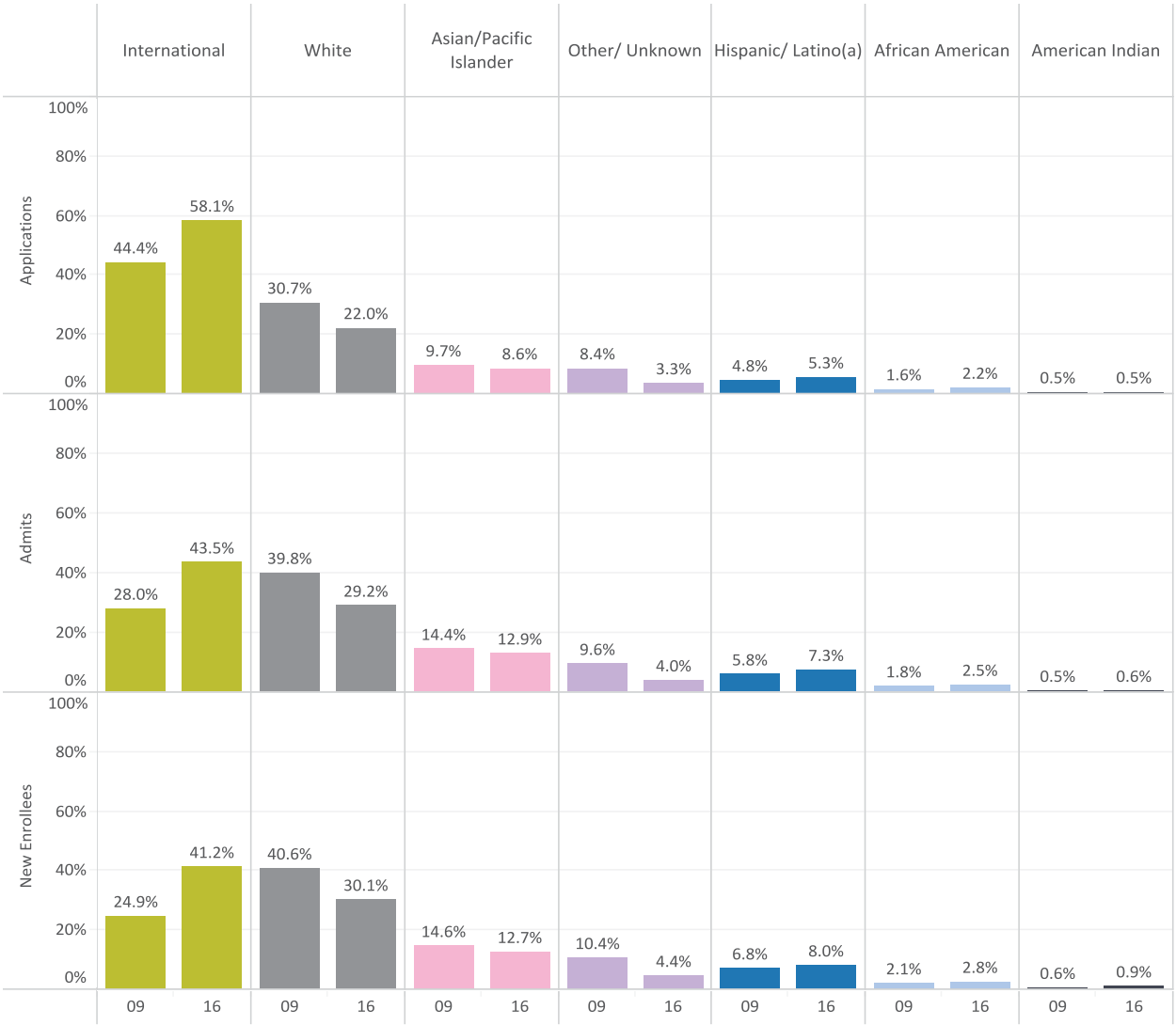
Recent survey data compiled by the Council of Graduate Schools show a similar nationwide trend of growth in applications from international students, with the similar pattern of engineering as the most popular field for international applicants.[1]

Despite more robust demand, new admits and enrollments to UC academic master's and doctoral programs have remained relatively flat since 2009, admits increasing from 16,332 in 2009 to 21,530 in 2016 and new enrollments increasing from 7,161 to 8,688. Though applications are now predominantly (58 percent) from international students, both admits and new enrollments of domestic students are above those of international students.

[1] http://cgsnet.org/ckfinder/userfiles/files/2017_International_Survey_Report_Final.pdf

Over the past eight years, 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 2009 and 2016

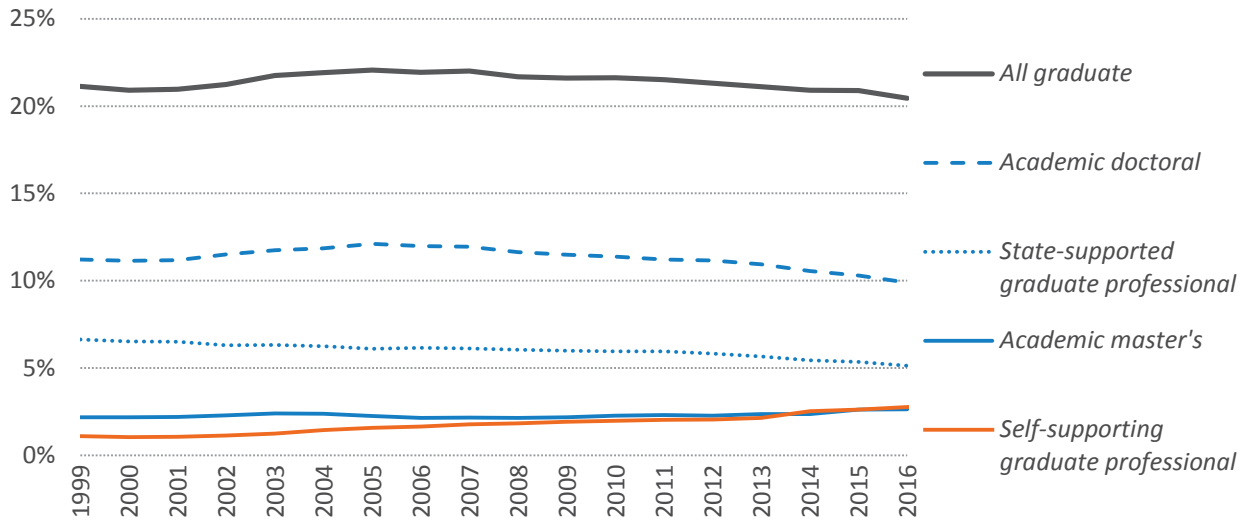


Source: UC Corporate Student System

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)) showed very small gains.

Graduate enrollment, as a share of UC's total undergraduate and graduate enrollment, has remained relatively steady over the past 17 years.

4.2.1 Graduate enrollment share of total
Universitywide
Fall 1999 to fall 2016



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

With 20 percent graduate enrollment in 2015, including health science students, UC was lower than the average for non-UC AAU[1] public institutions, at 27 percent, and the average for AAU private institutions, at 54 percent.

In fall 2016, the proportion of academic doctoral students varied across UC's general campuses, from 6 percent at Merced to 13 percent at Berkeley. At San Francisco, an exclusively graduate health-sciences campus, academic doctoral students made up 26 percent of fall 2016 enrollments. Since 2006, the share of academic doctoral students has declined at most campuses due to more rapid growth in the undergraduate, master's and professional populations.

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.

Percent of students who are academic doctoral

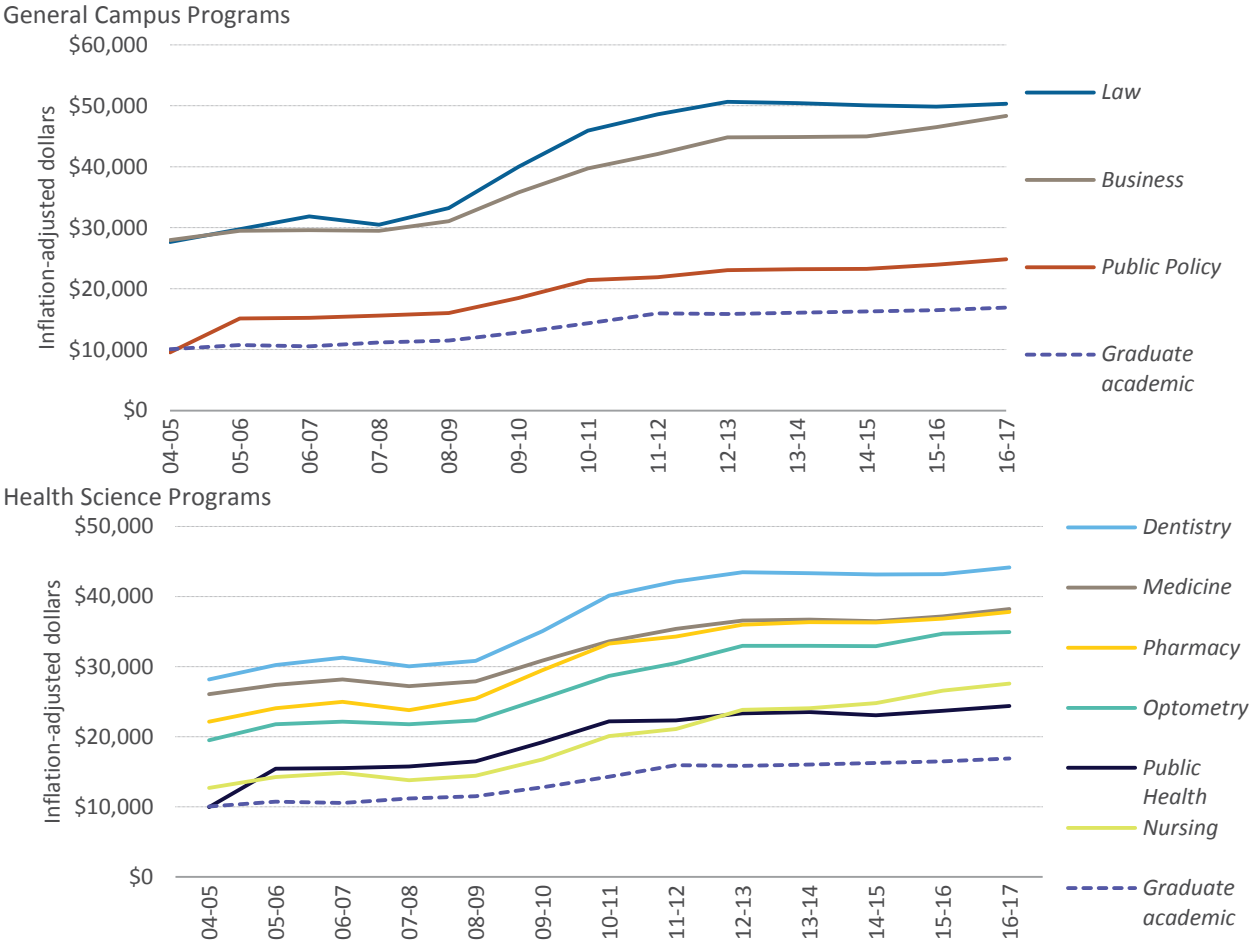
	Fall 2006	Fall 2016
San Francisco	31%	26%
Berkeley	18%	13%
Los Angeles	13%	11%
Davis	11%	10%
Santa Barbara	11%	9%
San Diego	11%	9%
Riverside	9%	9%
Irvine	10%	8%
Santa Cruz	7%	7%
Merced	0%	6%
Universitywide	12%	10%
	(25,176)	(26,266)

Source: UC Information Center Data Warehouse

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

Fee amounts have grown considerably for students in professional degree programs.

4.2.2 Graduate academic and graduate professional average inflation-adjusted student charges
Universitywide
2004–05 to 2016–17



Source: UC Budget Office and UC campuses

Many state-supported graduate professional programs assess professional degree supplemental tuition in addition to the base tuition, which allows the professional schools to maintain their excellence, accessibility, inclusiveness and affordability. 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 Regents' policy on professional degree supplemental tuition is available at www.universityofcalifornia.edu/regents/policies/3103.html.

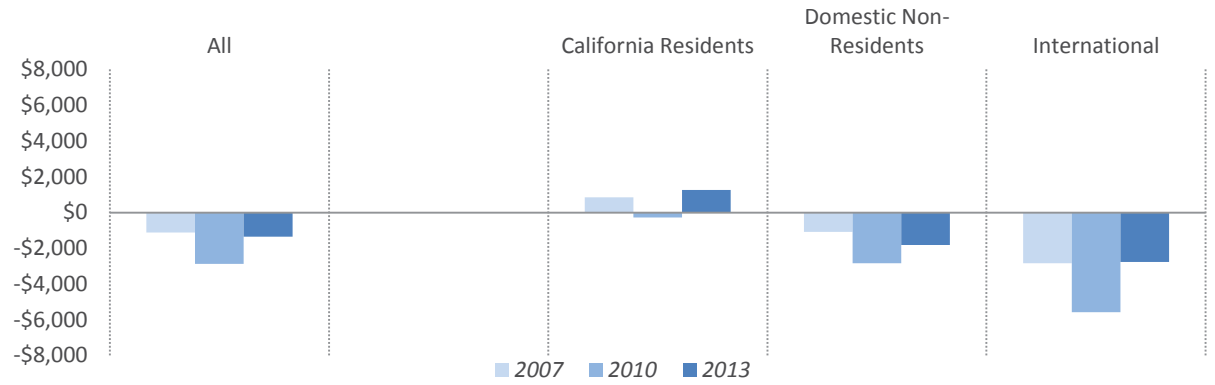
After several years of rapid growth, average total charges[1] for most professional degree programs stabilized through 2015–16. Charges began to rise again in 2016–17 for several programs.

[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.

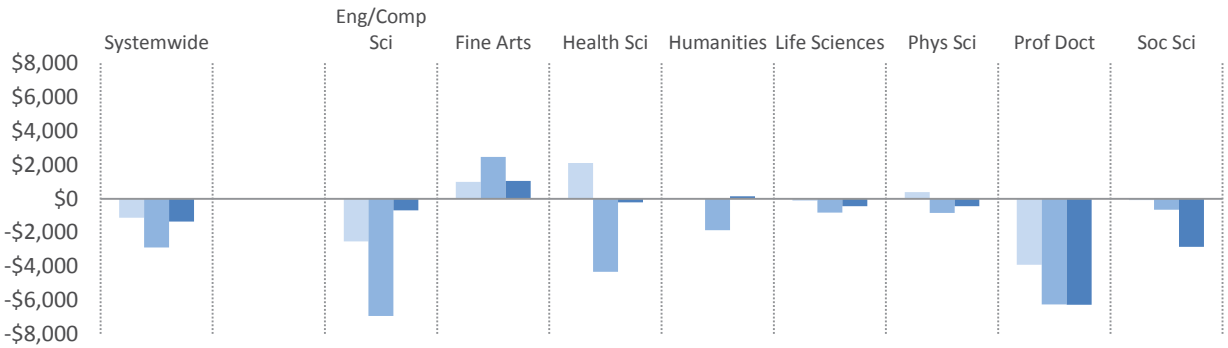
UC net stipends remain below competitive offers, but the gap decreased between 2010 and 2013.

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

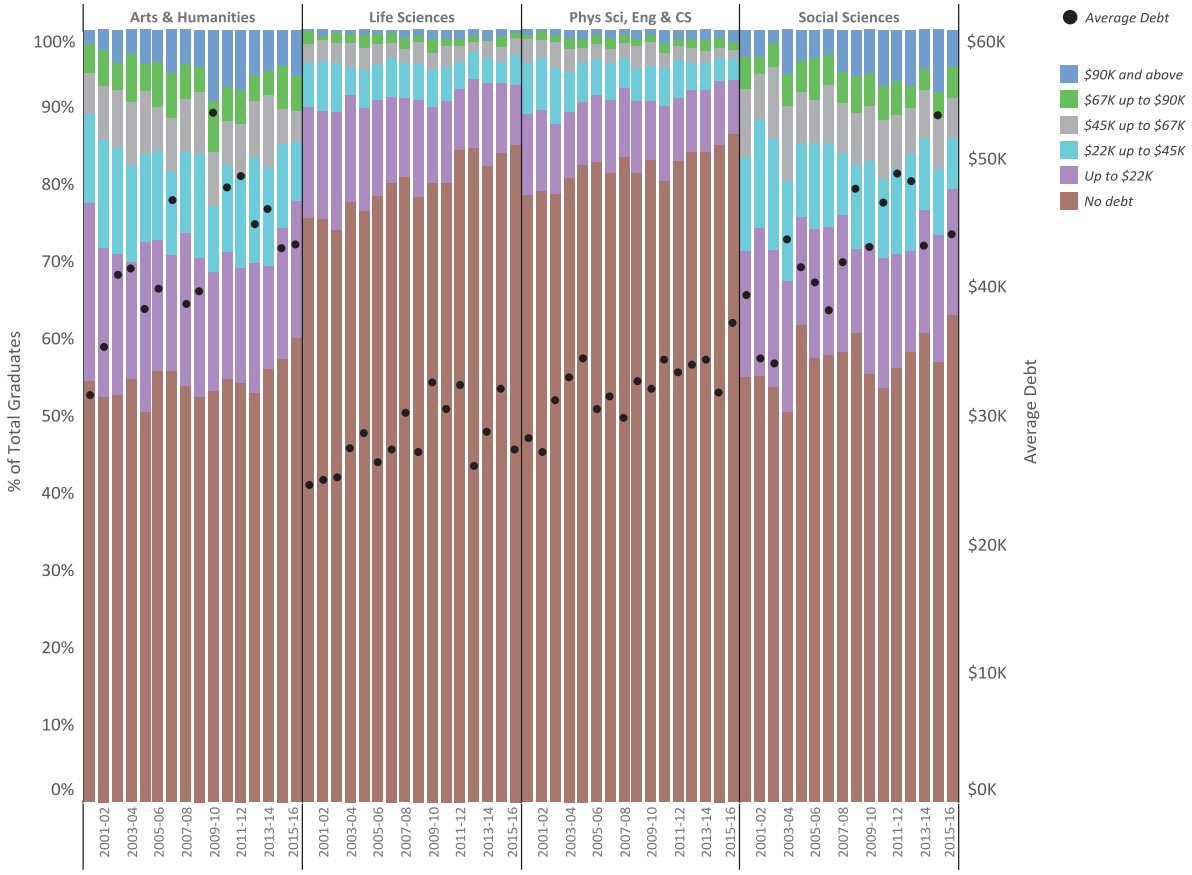


Source: UC Graduate Student Support Survey: www.ucop.edu/student-affairs/_files/regents_1213.pdf. Graduate academic professional doctoral programs include EdD, D.Env., DrPH., D.P.T. and D.N.S.

Doctoral students are crucial to a university's research enterprise and instructional programs. To attract the most highly qualified applicants, universities offer 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. Results from the 2017 administration of the Graduate Student Support Survey will be available in Fall 2017.

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 2000–01 to 2015–16



Source: Corporate Student System[1]

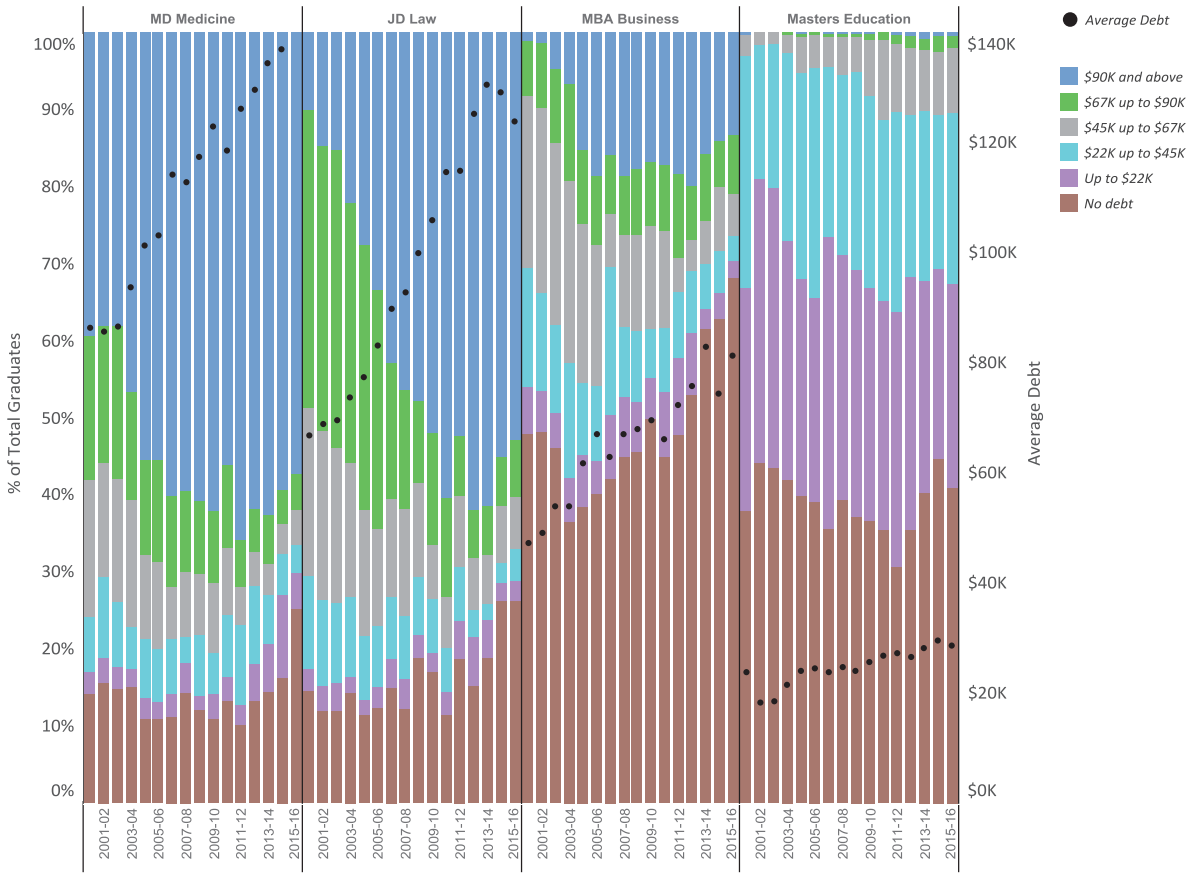
Depending on the field of study, between 57 percent (social sciences) and 85 percent (life sciences) of UC doctoral students take on no additional debt during graduate school.

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 2015 dollars using CA CPI-W. "Other" includes interdisciplinary and professional fields. Life sciences include health sciences.

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 2000–01 to 2015–16



Source: UC Corporate Student System[1]

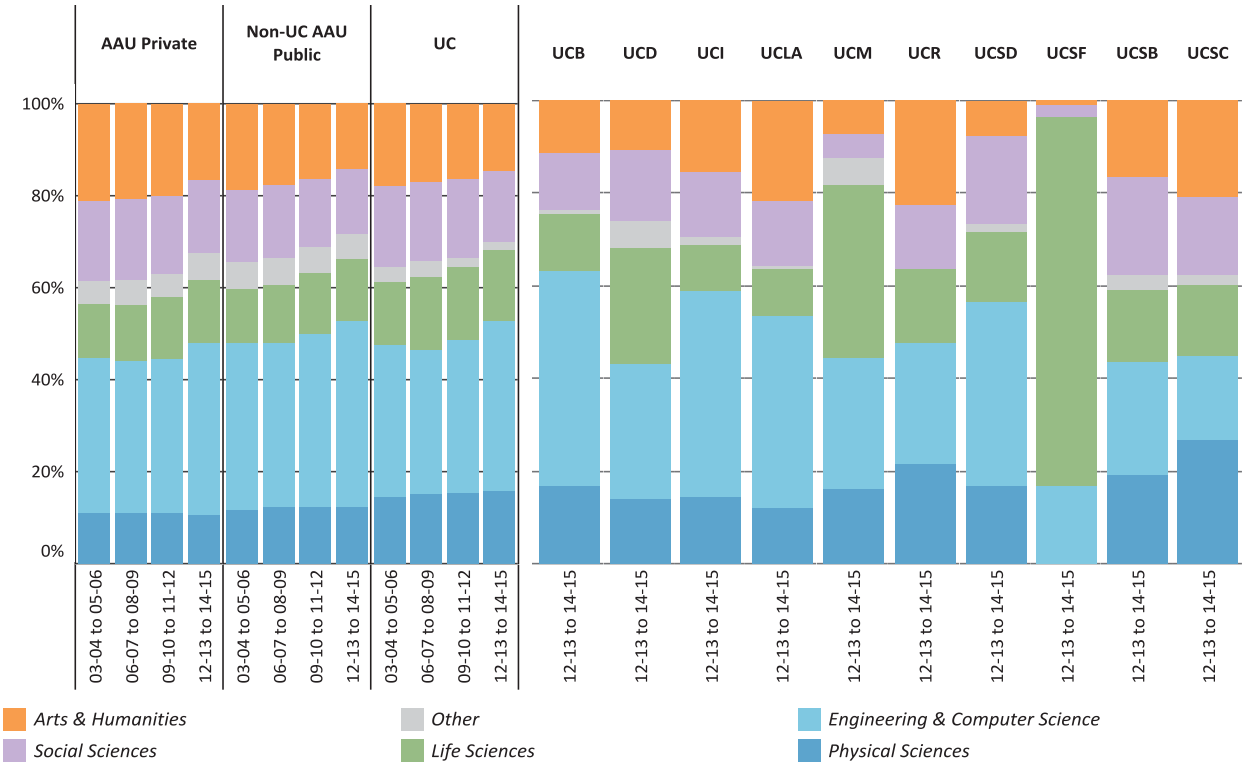
On average, about 39 percent of the aid awarded to graduate professional degree students comes in the form of loans rather than fellowships or grants. By comparison, loans constitute only 4 percent of the aid awarded to graduate academic students. Graduate funding models require greater reliance on loans for professional degree students as their programs are of shorter duration and many fields potentially offer higher incomes after graduation.

Most graduate professional degree students finance part of their education by borrowing. The increases since 2000–01 in average inflation-adjusted debt levels of graduating professional degree students vary considerably. Increases in graduate debt result from a combination of factors, including steady growth in tuition, cost of living increases and greater student reliance on federal student loan programs.

[1] Average debt is among graduates with debt. Debt categories are inflation-adjusted in 2015 dollars using CA CPI-W.

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

4.3.1 Graduate academic degrees awarded by discipline
UC and AAU private and public comparison institutions
Number of degrees grouped in 3-year intervals: 2003–04 to 2005–06, 2006–07 to 2008–09, 2009–10 to 2011–12 and 2012–13 to 2014–15



Source: IPEDS[1]

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

UC's graduate STEM programs reflect the predominant industries in California's economy. In addition to leading all California institutions in the production of engineering and computer science degrees, UC far outpaces them in the production of degrees in the biological sciences — key to driving the growth of California's biotechnology sector.

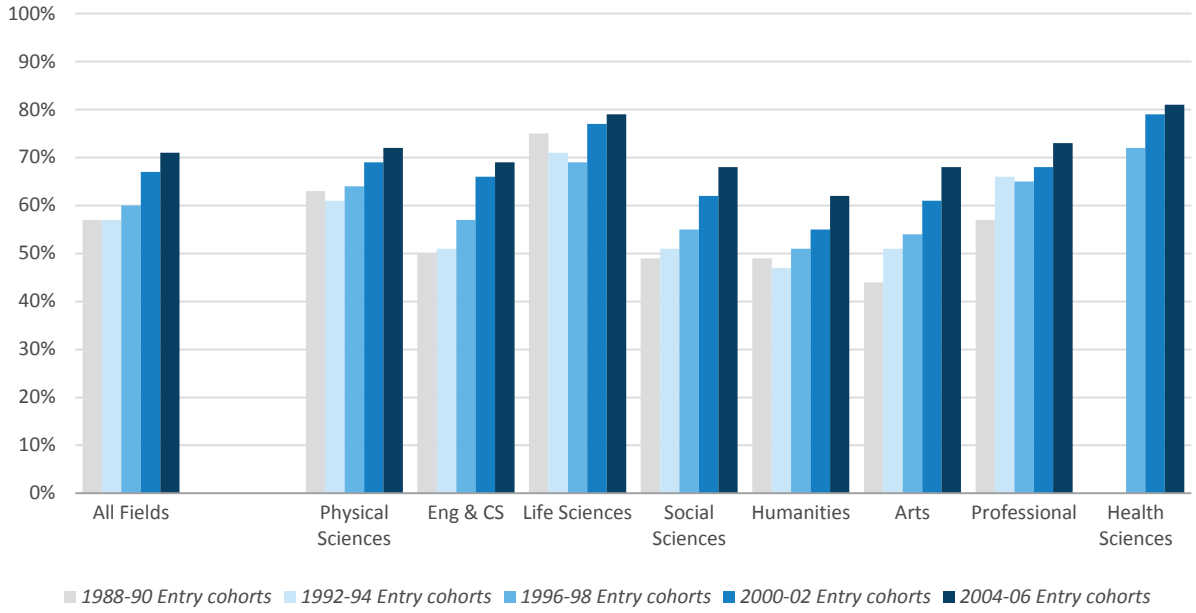
More than 20 UC Ph.D. recipients have been awarded Nobel Prizes.

Over the past 12 years, the number of graduate academic degrees awarded at UC grew by 29 percent, compared to 49 percent at the group of AAU private institutions and 25 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, 2000–02, and 2004–06 entry cohorts



Source: UCOP Corporate Student System

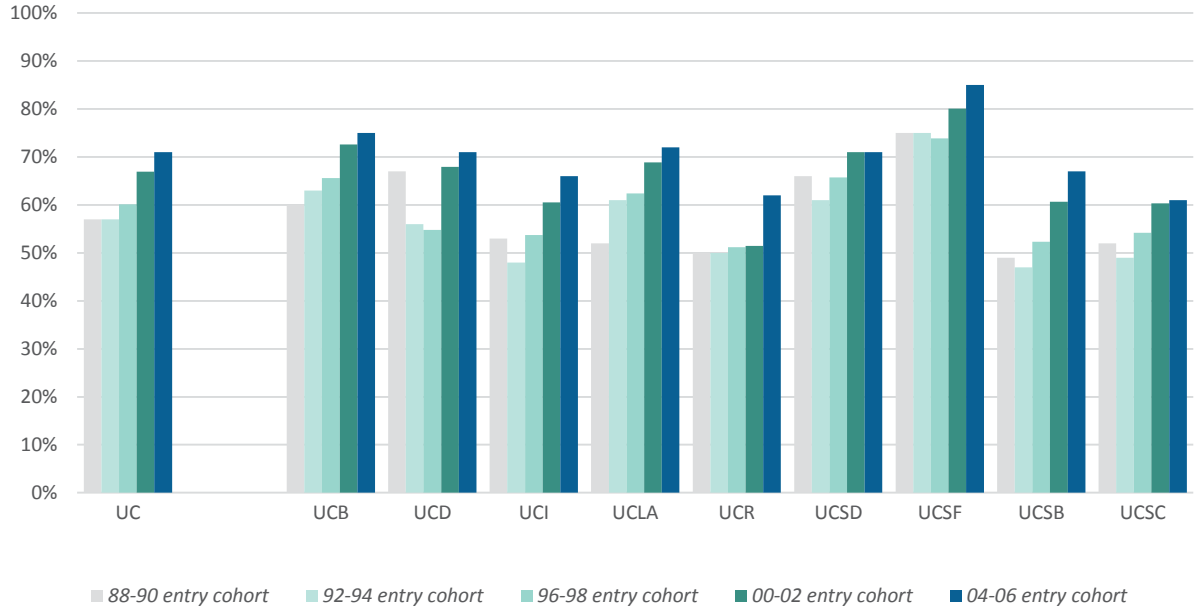
The universitywide ten-year doctoral completion rate across all fields for the fall 2004–06 entering cohorts was 71 percent. This is an increase from the 67 percent completion rate reported for the 2000–02 cohort. Among broad disciplines, life sciences and health sciences continue to have the highest completion rates. Social sciences, humanities and arts showed the lowest rates, owing to the longer normative time in those fields and different financial support models, although all three experienced an increase compared to previous cohorts.

The overall improvement in ten-year completion rates may be attributed to at least two factors. First, student demographics have shifted to include a larger percentage of international students, who, as a group, have a higher ten-year completion rate than the overall cohort's rate (a variety of factors influence this difference, including different tuition rates for international students). Second, the proportion of students pursuing doctoral degrees in life sciences, physical sciences and mathematics, and engineering and computer science fields increased 7 percentage points between the 2000–02 and the 2004–06 cohorts; students in these fields have a higher completion rate than do students in other fields.

The Doctoral Completion Rates dashboard, last updated in 2017, is available at: https://www.universityofcalifornia.edu/infocenter/doctoral-rates

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, 2000–02 and 2004–06 entry cohorts



Source: UCOP Institutional Research and Academic Planning

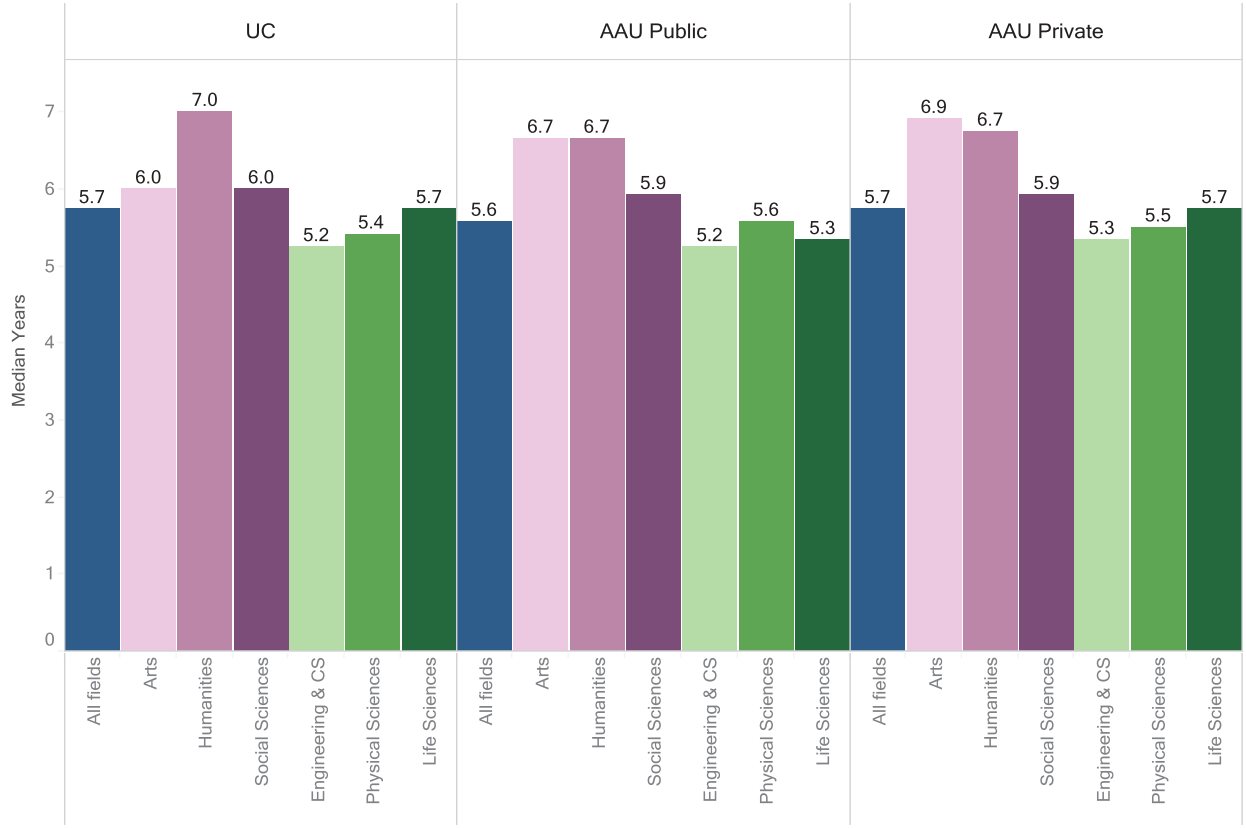
The proportion of students in STEM (science, technology, engineering and mathematics) disciplines on a campus may play a role in its doctoral completion rates. The time spent in these degree programs is shorter than in arts and humanities and STEM programs generally have much more robust funding packages than 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 percentages 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 Doctoral Completion Rates dashboard, last updated in 2017, is available at: https://www.universityofcalifornia.edu/infocenter/doctoral-rates

UC median ten-year time-to-doctorate compares well with AAU institutions.

4.3.4 Median ten-year time-to-doctorate, by discipline
Universitywide, AAU public and AAU private comparison institutions
2013–15 exit cohort



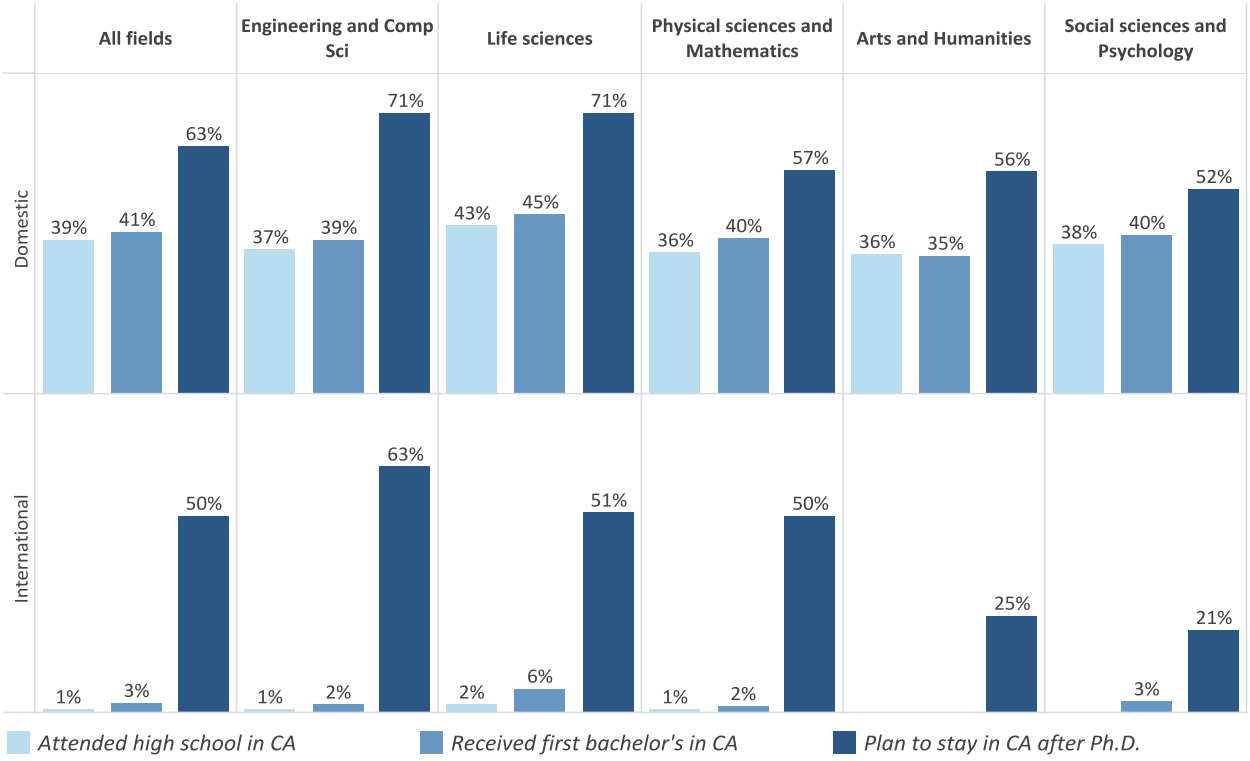
Source: Survey of Earned Doctorates, National Opinion Research Center

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 2007–09 and 2010–12 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 2010–12 cohorts, most UC campuses had the same ETD measure as the broad comparison institution groups.

The Time to Doctorate dashboard, last updated in 2017, is available at:
https://www.universityofcalifornia.edu/infocenter/time-to-doctorate

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

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



Source: Survey of Earned Doctorates. Excludes UC Merced.

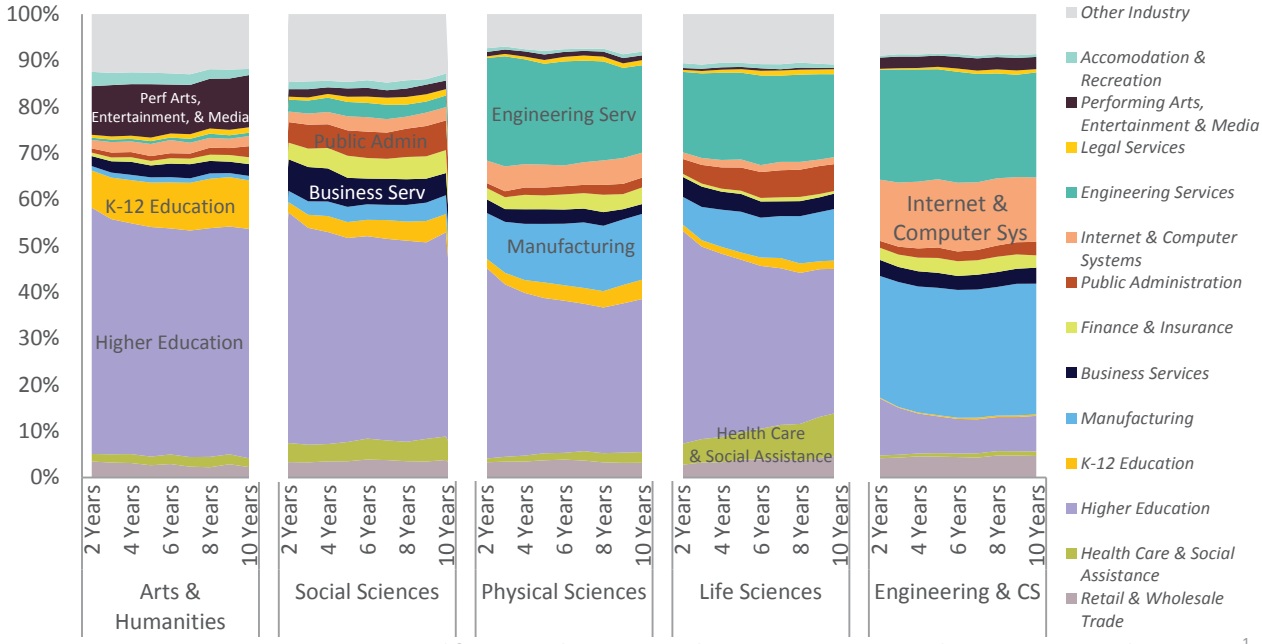
The most recent data for UC's doctoral degree recipients, based on those graduating between 2010–11 and 2015–16, show that over half plan to stay in California. Sixty-three percent of domestic doctoral degree recipients intend to stay, though only 41 percent of this cohort received their bachelor's degrees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

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

The Survey of Earned Doctorates (SED) is conducted 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.

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

4.3.6 Industry of employment of UC graduate academic students in CA, by year after graduation
Universitywide
2000 to 2013 graduating cohorts



Source: California Employment Development Department and UC Corporate Student System[1]

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

More than 28,000 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 (52 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.

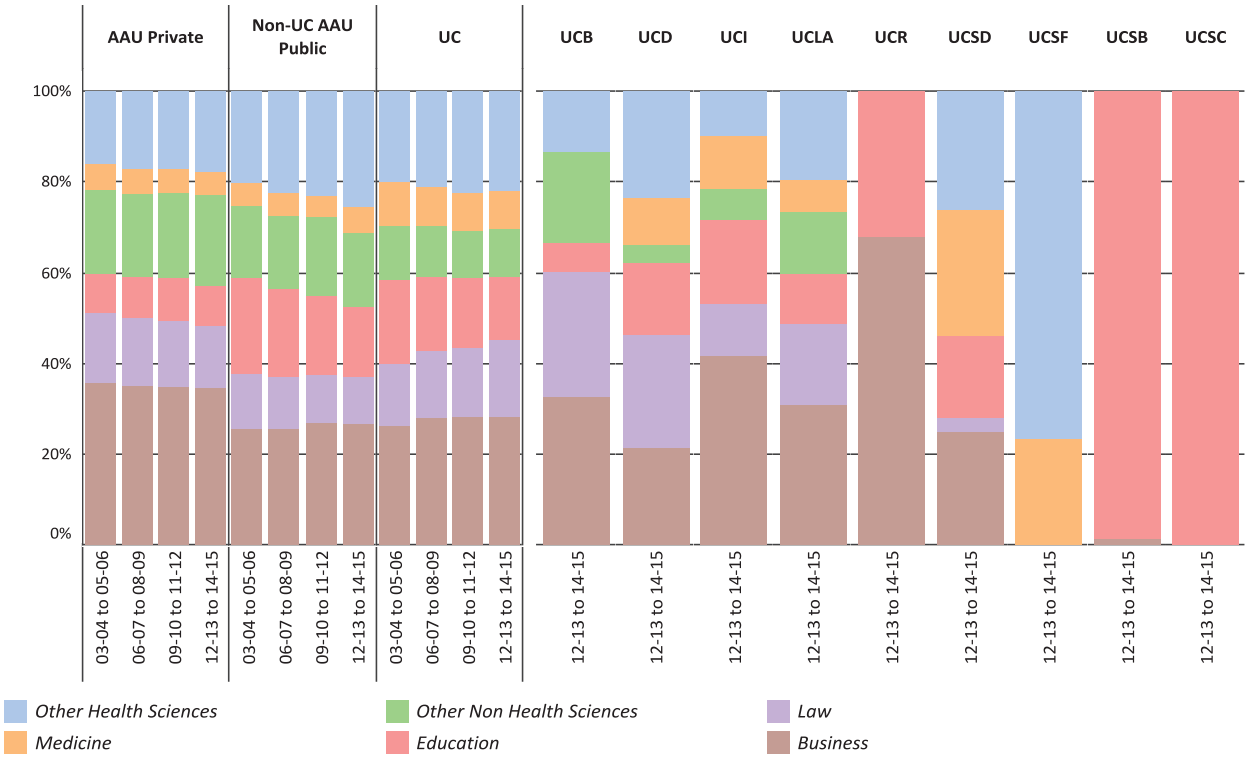
The contributions of UC academic doctoral and master's graduates to the state workforce go beyond higher education. About 12 percent of the employed graduates of UC physical sciences and life sciences programs work in the state's manufacturing sector, while another 25 percent work in the engineering 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 16,800 graduates of these programs have entered the California workforce, with 33 percent working in the manufacturing sector and 31 percent working in engineering services. Another 21 percent go on to work in the state's fast-growing internet and computer services industry. About 15 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.

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

4.4.1 Graduate professional degrees awarded by discipline
UC and AAU private and public comparison institutions
Number of degrees grouped in 3-year intervals: 2003–04 to 2005–06, 2006–07 to 2008–09, 2009–10 to 2011–12, and 2012–13 to 2014–15



Source: IPEDS[1]

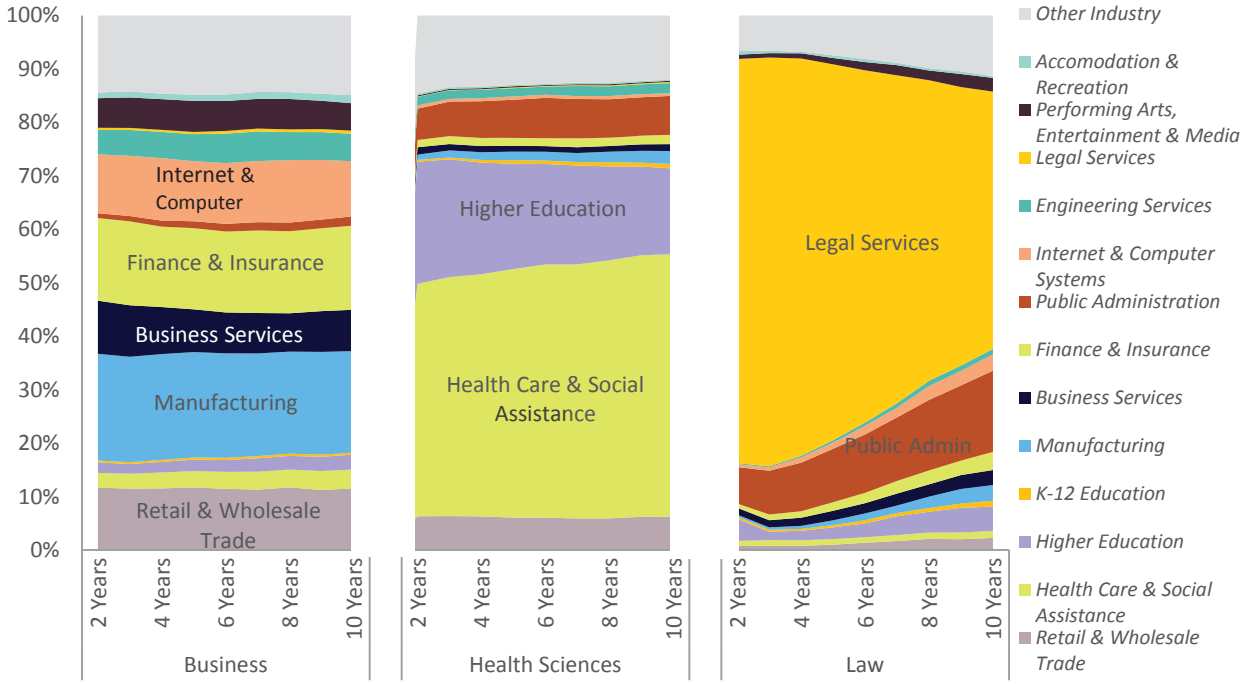
The proportion of professional degrees awarded by UC is comparable to AAU private and public institutions, with the greatest proportion of degrees awarded in business. The number and size of graduate professional degree programs varies by campus, with UCLA awarding the greatest number of professional 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 2013 graduating cohorts



Source: California Employment Development Department and UC Corporate Student System[1]

Graduates of UC Master of Business Administration (MBA) programs contribute significantly to the state's high-skilled and high-tech industries. The 17,000 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 (19 percent), and internet and computer systems (19 percent).

Over 10,800 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 8,600 UC law school graduates who have worked in California since 2000, about 79 percent eventually find positions in the legal services industry. Another 14 percent go on to work in the public sector as government prosecutors and public defenders, and in other public agency roles. A large percentage of law school graduates start off in legal services initially after receiving their degree (76 percent), but by ten years after graduation this percentage has fallen to about 48 percent. The percent of UC law school graduates in government rises from 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.

CHAPTER FIVE
FACULTY AND OTHER ACADEMIC EMPLOYEES

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, groundbreaking research and service to California communities. No other public institution can claim as distinguished a faculty: UC faculty have won 62 Nobel Prizes and 67 National Medals of Science. As of 2016, 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 teaching, research and creative work, to clinical service and to public service functions in a vast array of disciplines, including the health sciences. The outline of the composition of the UC faculty in this chapter 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 recovered 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 group of four public and four private institutions. 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.

Diversity — The University of California is committed to diversifying its faculty. The Office of the President is working with campuses by tracking recruitment data to identify opportunities to diversify the faculty; by sharing best practices in mentoring and professional development; and by enhancing work-life balance programs. The proportion of women and underrepresented racial/ethnic groups (URMs) in the faculty continues to grow at a modest pace. When 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 ranked 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. Notable programs include the President's Postdoctoral Fellowship Program Special Presidential Initiative, grant-funded research, a faculty exit survey and ADVANCE programs.

President's Postdoctoral Fellowship Program Special Presidential Initiative — Established in 1984, the President's Postdoctoral Fellowship Program (PPFP) recruits top scholars with commitments to underserved and minority communities to pursue faculty careers at UC. To enhance the work of PPFP, the president has added 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 added $2.1M in support for the hiring incentive offered to departments that hire fellows. 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 PPFP as a model for postdoctoral recruiting, and PPFP 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 susceptible to bias and characteristics of the process that amplify or mitigate disparities, and will identify targets for policies 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), a research and training program aimed at enhancing the capacity, effectiveness and excellence of team science efforts at both UC and CSU. CREDITS will research gender and racial/ethnic diversity in team science, particularly barriers to diverse participation, how diversity shapes the formation of science teams and how diversity and team science are implicated in promotion and tenure. A third program, the Mentoring Advisory Group in California (MAGIC), affiliated with the National Research Mentoring Network (NRMN) (https://nrmnet.net), will develop a "train the trainer" event on mentoring a diverse population in the biomedical fields at all levels: 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, the University of California 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.

ADVANCE Programs across UC — The National Science Foundation sponsors ADVANCE Programs to develop "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 ADVANCE programs at the 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 the Law.

To incentivize the hiring of STEM faculty who have committed to doing outreach, mentoring or research in engagement with underserved communities, UC Davis established the Center for Multicultural Perspectives on Science (CAMPOS) in 2013. The provost has provided incentive funding comparable to that for the PPFP. CAMPOS Scholars are new ladder-rank faculty who are selected based on their transformative thinking, unique perspectives, interdisciplinary approaches and leadership potential. The program has hired 13 faculty as CAMPOS Scholars, and is actively recruiting three additional Scholars.

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 their work and achievements. The survey showed that between 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 finishing their research, run labs or have grants with time remaining.

For more information

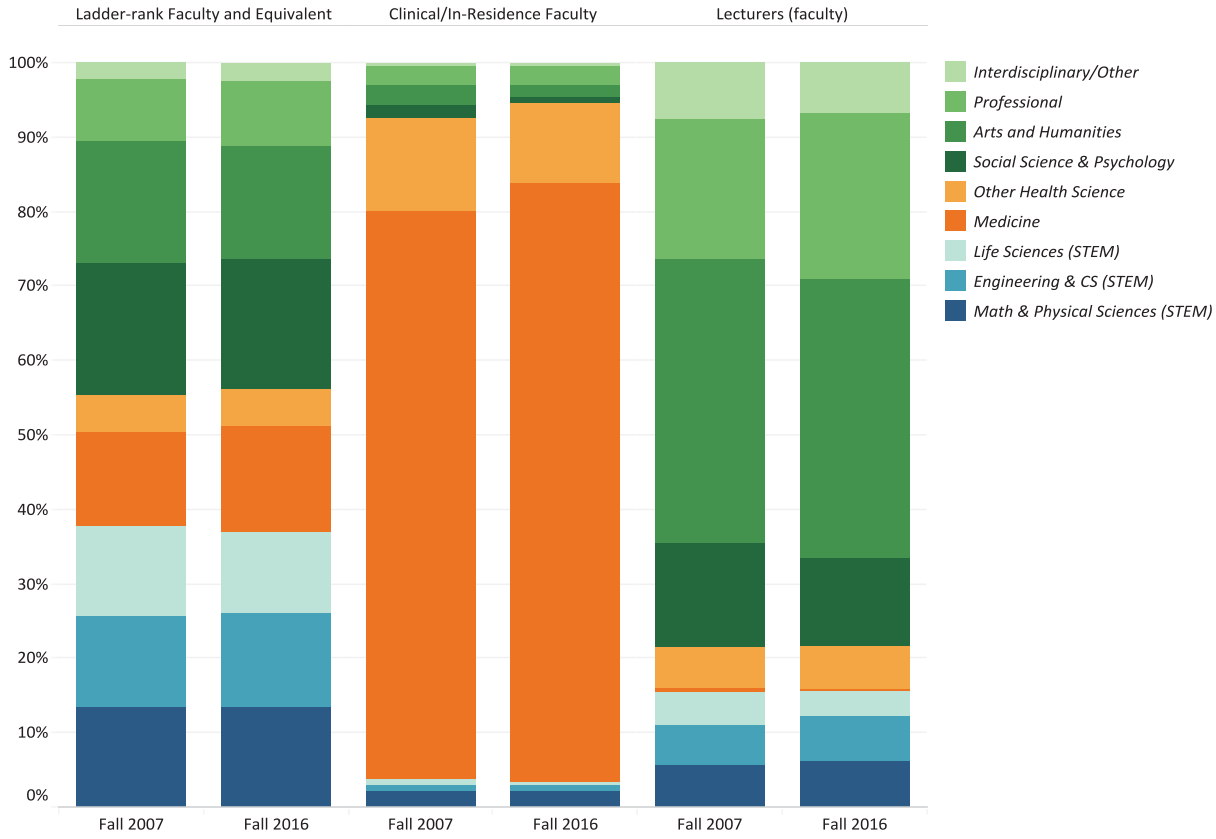
The UC Academic Senate and UCOP's Academic Personnel and Programs Department:
www.universityofcalifornia.edu/senate
www.ucop.edu/academic-personnel-programs

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

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

More than half of ladder-rank and equivalent faculty are in STEM (science, technology, engineering and mathematics) and health sciences disciplines.

5.1.1 Faculty by discipline, headcount
Universitywide
Fall 2007 and 2016



Source: UC Corporate Personnel System[1]

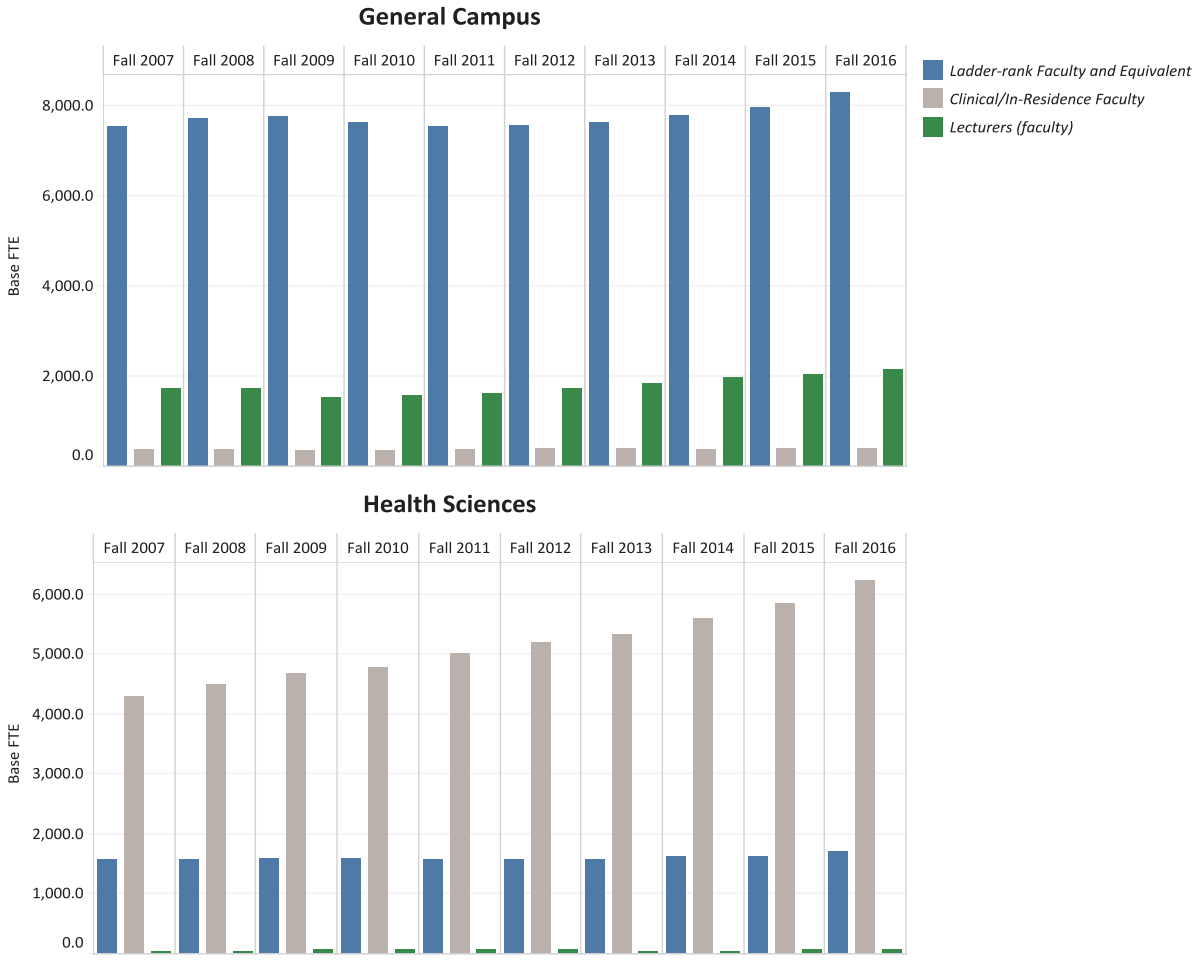
The proportion of ladder-rank faculty across disciplines has remained similar over the last ten years, with the greatest increase in medicine and health sciences disciplines (17.8% to 19.3%) and the greatest decrease in the arts and humanities (16.6% to 15.2%). In the clinical/in-residence faculty group, medicine and health sciences, which make up the largest proportion by far, increased by 2 percentage points proportionally.

Headcount in clinical/in-residence and lecturer groups has grown by around 2,700 (about a 30 percent increase) since 2007 — a much greater increase than in the headcount of ladder-rank and equivalent faculty (about 1,200 or 12 percent).

[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. Clinical/in-residence faculty include clinical faculty and professors in residence who are integral to UC's health sciences clinical and research activities.

Ladder-rank and equivalent faculty constituted 76 percent of UC general campus faculty FTE in fall 2016 and only 21 percent in the health sciences.

5.1.2 Faculty workforce FTE (full-time equivalent)
Universitywide
Fall 2007 to fall 2016



Source: Corporate Personnel System October snapshots and UC Data Warehouse — earned in October, paid through November[1]

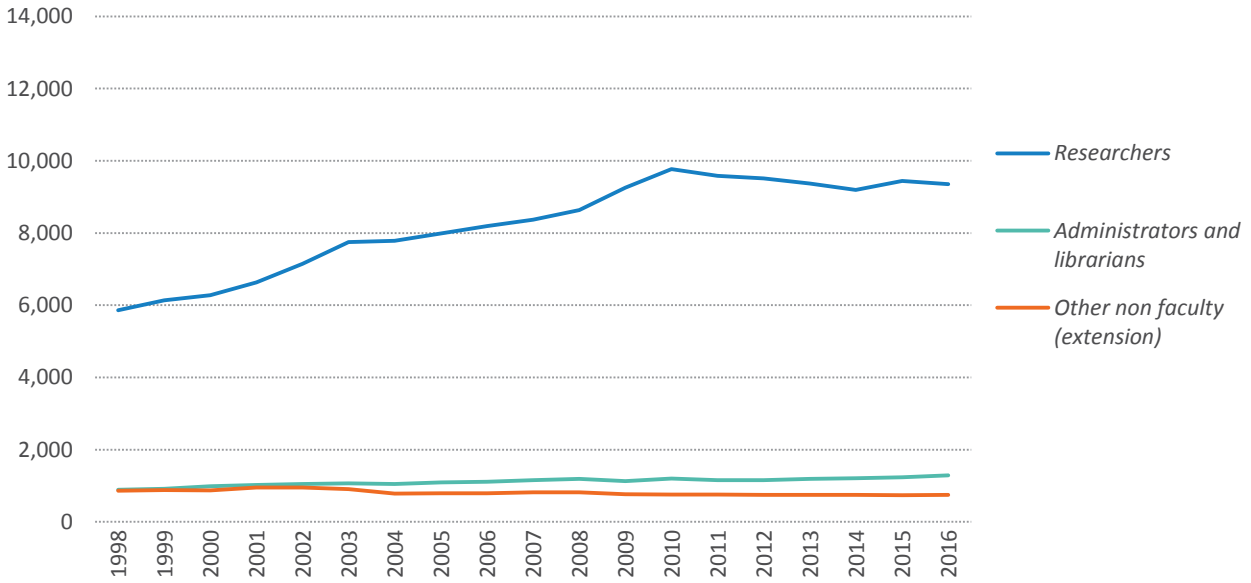
Ladder-rank and equivalent faculty numbers declined starting in 2009 as campuses reduced hiring to address budget shortfalls, but have since rebounded.

Lecturers and instructional assistants[2] tend to be more common in general campus departments and represent about 20 percent of the general campus faculty. The "Clinical/In-Residence" category[3] 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.

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

5.1.3 Nonfaculty academic workforce FTE
Universitywide
Fall 1998 to fall 2016



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

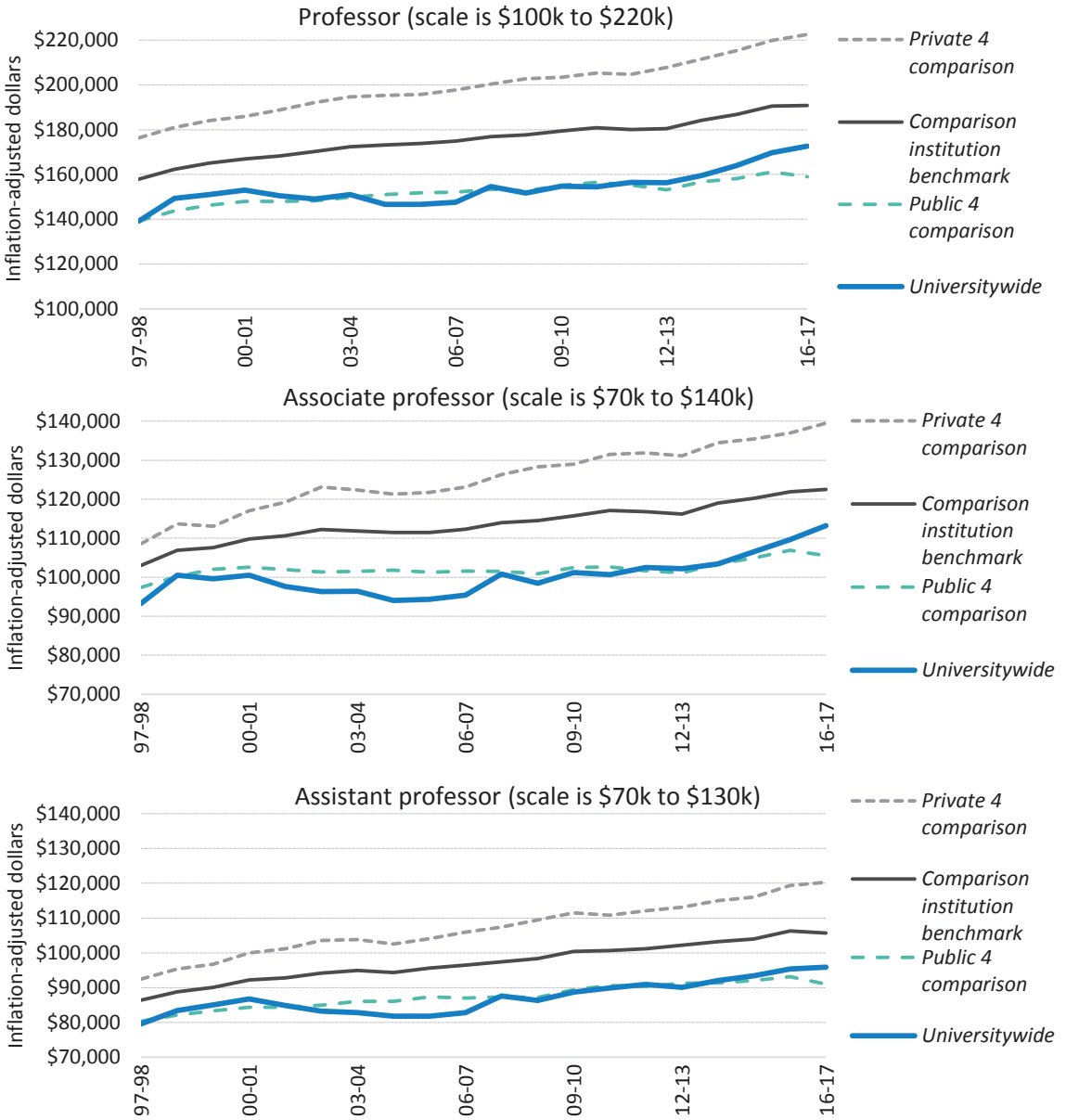
Aside from faculty, most of the nonstudent academic workforce is composed of appointees in professional research titles. The greater majority of researchers in the academic workforce are supported by contracts and grants from external sponsors, with the federal government providing about 60 percent of 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 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. In 2016, there was a small drop of less than 1 percent compared to the previous year.

Chapter 9, Research, provides additional details on the composition of the research workforce.

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 2016–17

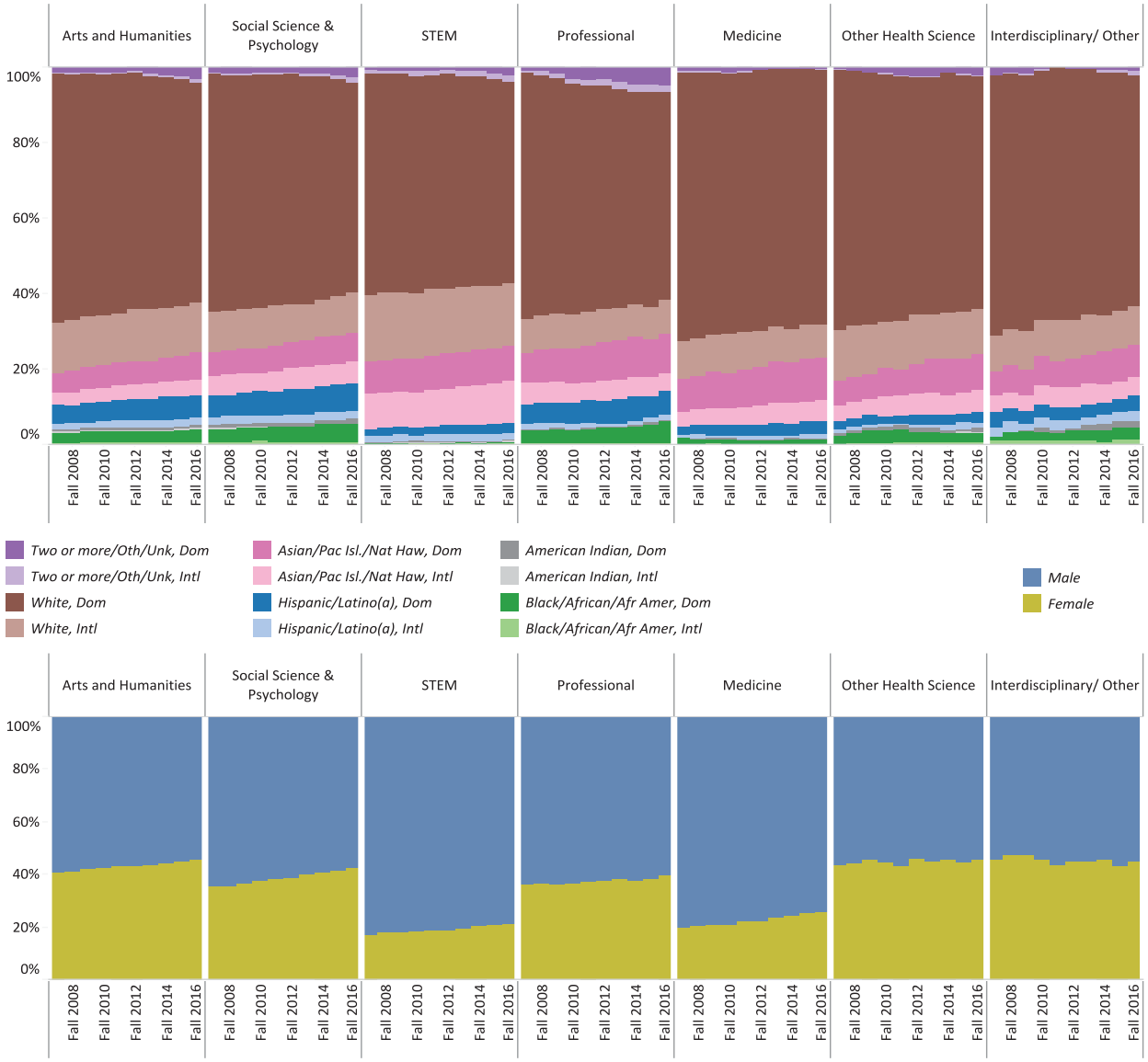


Source: UC Corporate Personnel System, AAUP faculty salary survey

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.

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

5.3.1 Ladder-rank and equivalent faculty by race/ethnicity and gender, headcount
Universitywide
Fall 2007 to fall 2016



Source: UC Corporate Personnel System[1]

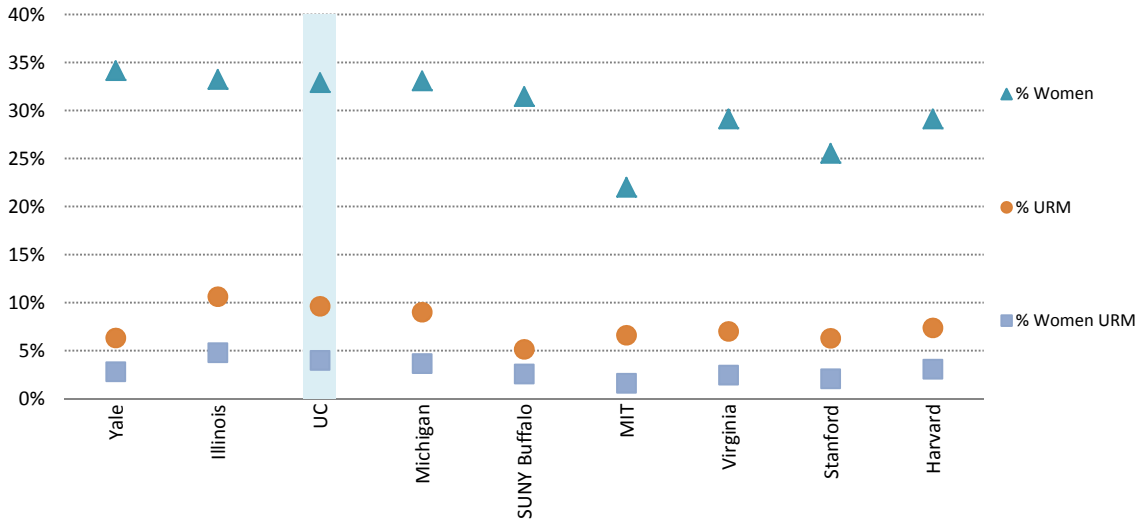
The increase in the share of ladder-rank and equivalent (LRE) faculty who are underrepresented minorities has largely been due to an increase in the Hispanic/Latino(a) group. Representation by American Indian and African American faculty remains a challenge.

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

[1] STEM includes engineering and computer science, life sciences, math and physical sciences.

UC continues to expand the portion of female and URM faculty, with greater diversity among faculty than many peer institutions.

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 2015



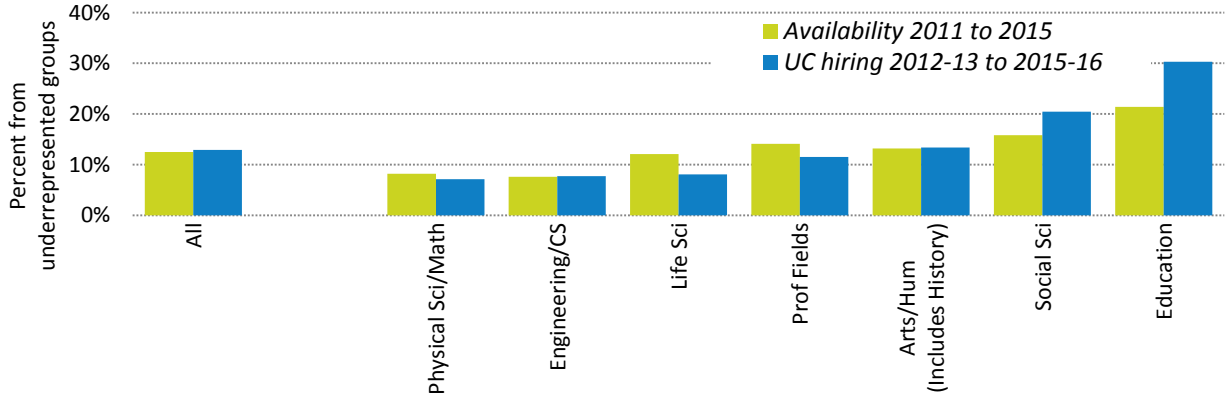
Source: IPEDS[1]

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 2015 data, UC is tied for second for the percentage of women faculty, at 33 percent. Additionally, UC places second for the percentage of URM faculty and women URM faculty, at 10 percent and 4 percent, respectively.

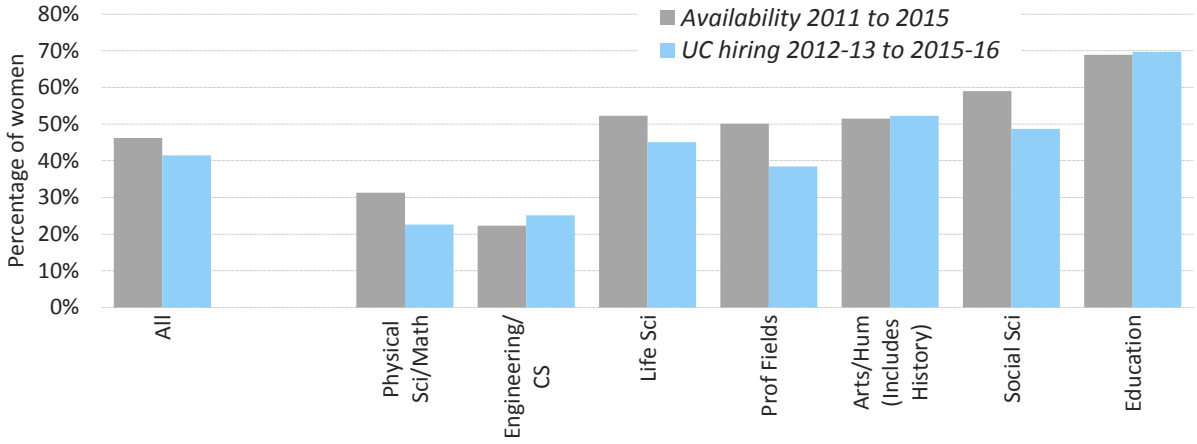
[1]UC includes UC Hastings.

UC's hiring of underrepresented and women faculty lags behind the national availability in several broad discipline groups.

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



5.3.4 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 Doctorates[1]

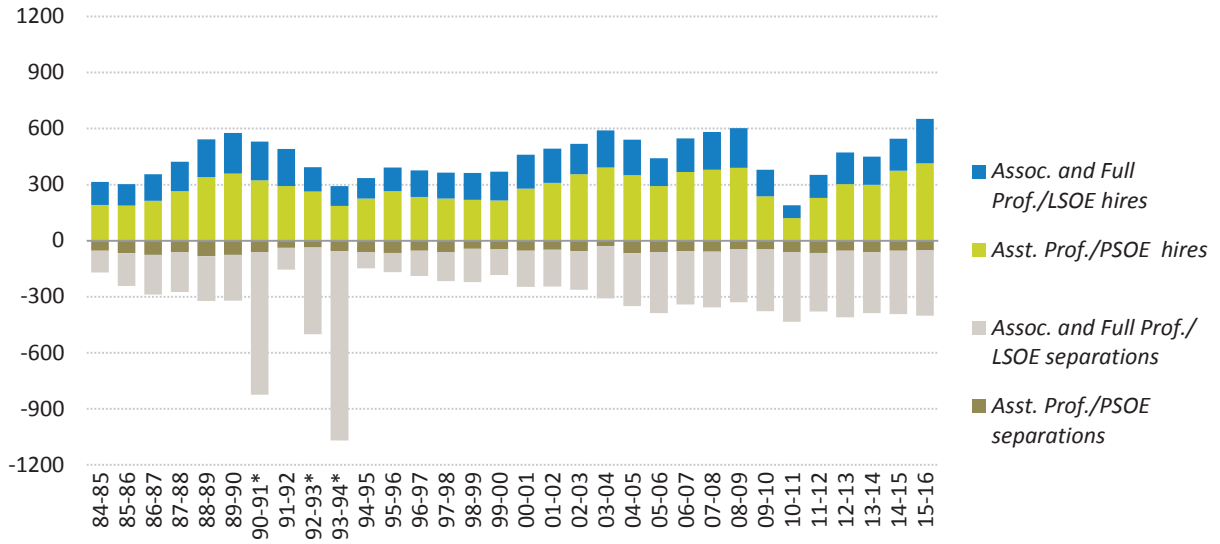
The University of California remains deeply committed to diversifying its faculty and taking full advantage of the available pools of qualified candidates. Between 2011 and 2015, underrepresented minorities (URMs) accounted for 12.5 percent of the pool of nationwide doctoral degree recipients and 13 percent of UC's new assistant professor hires.

Between 2011 and 2015, women constituted 46% of the nationwide pool of new doctoral degree recipients and 41.5 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.

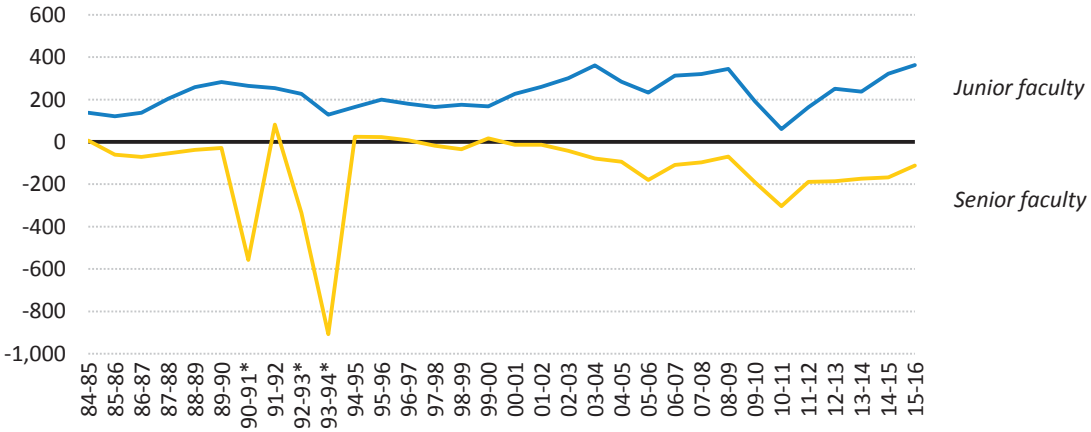
In the past few years, hiring of new faculty has started to rebound from a drop due to state budget cuts.

5.4.1 New hires and separations of ladder-rank and equivalent faculty
Universitywide
1984–85 to 2015–16



Source: UCOP Office of Academic Personnel and Program Administration[1]

5.4.2 Net change in ladder-rank and equivalent faculty
Universitywide
1984–85 to 2015–16



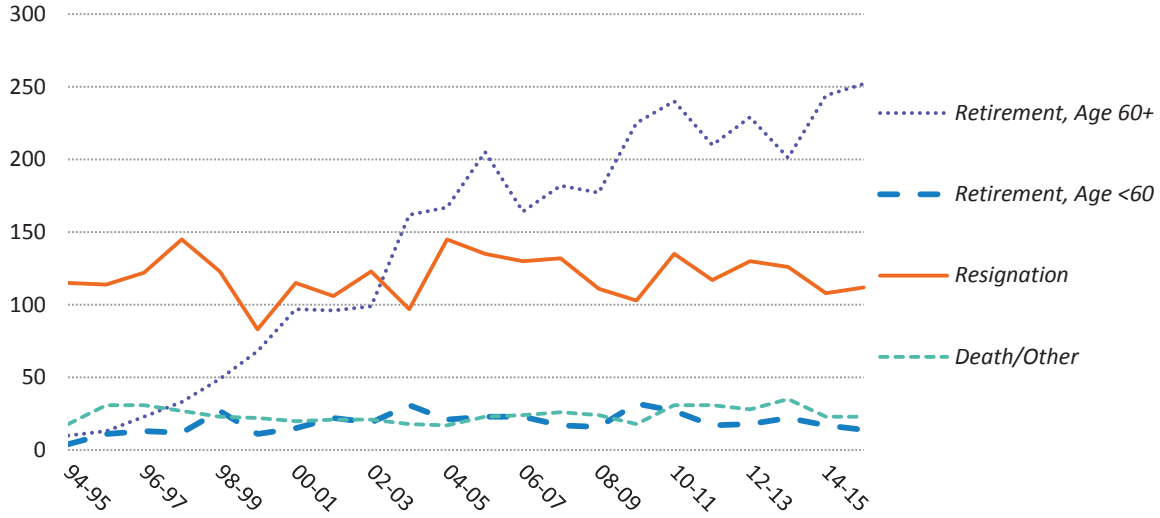
Faculty hiring decreased significantly from 2009 to 2011 in response to fiscal constraints. However, there has been an uptick in new hires since 2011–12.

Since 2003–04, faculty separations have exceeded 300 per year.

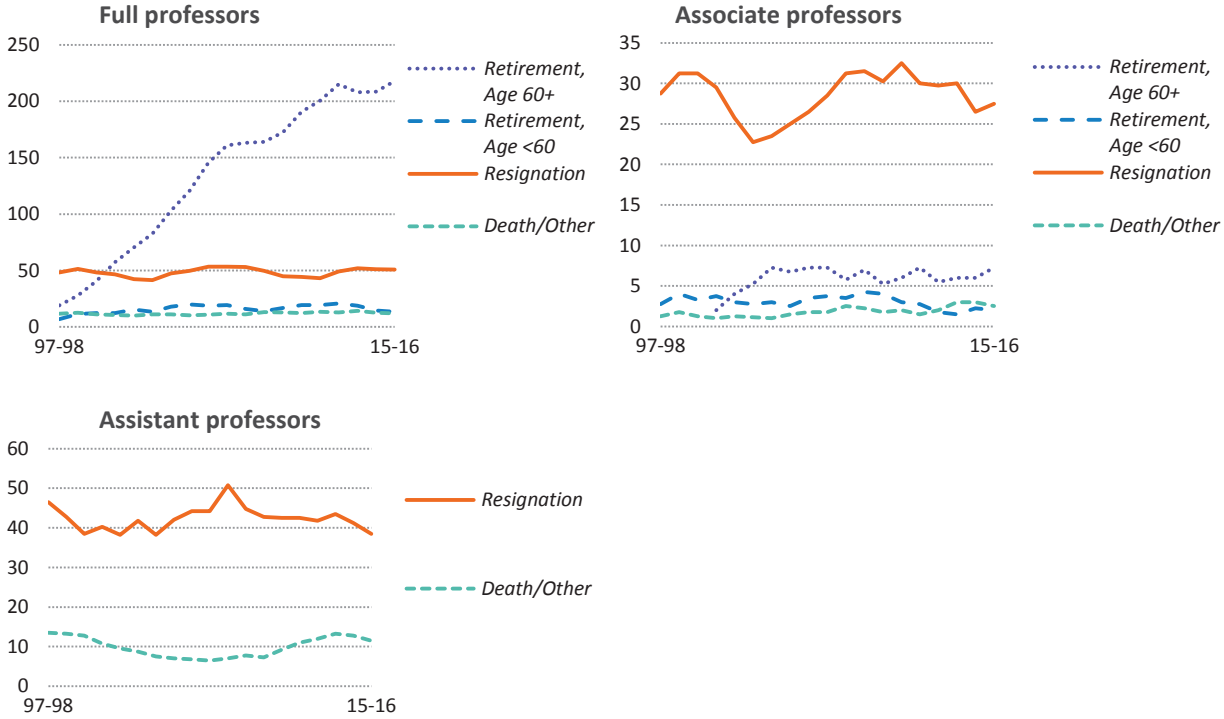
[1] Associate and full professors shown here are tenured faculty; assistant professors are nontenured, tenure-track faculty. A very small number of lecturers with security of employment are included in the assistant category. Ladder-rank associate and full professors are tenured; assistant professors are eligible for tenure.
*Years with Voluntary Early Retirement Incentive Program (VERIP).

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 2015–16



5.5.2 Departure reasons of faculty by rank
Moving four-year average, 1997–98 to 2015–16 (SCALES VARY)



Source: UCOP Office of Academic Personnel and Program Administration[1]

[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.

CHAPTER SIX
STAFF

STAFF

Workforce demographics

Like all universities, UC has both academic and nonacademic employees. The academic employees (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 size and structure, age distribution and compensation relative to market levels.

As of fall 2016, UC employed 150,994[1] nonacademic staff (or 110,254 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, support an increasing share of staff, while general funds, which are primarily state funds and student fees and tuition, constitute a shrinking proportion. Growth in staff personnel has been driven primarily by expansion in teaching hospitals, with additional 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 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 2015 systemwide staff engagement survey, employees cited performance management 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 job tracks to support employees' career development efforts.

Looking forward — staff renewal challenges

Inconsistencies in delivering an annual salary program have put pressure on UC's competitive position in employment markets. While 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 challenges from 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://www.ucop.edu/institutional-research-academic-planning/_files/workforce-profile-dashboard.pdf

UC Employees, Full Time Equivalent (FTE):
https://www.universityofcalifornia.edu/infocenter/employee-fte

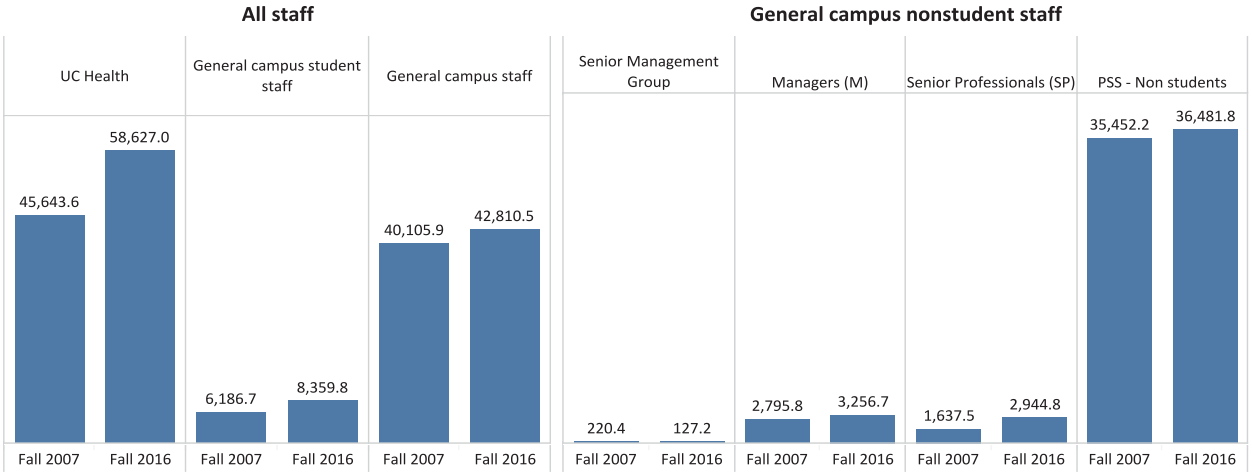
UC Regents Diversity Policy, 2007:
http://regents.universityofcalifornia.edu/governance/policies/4400.html

Staff Engagement Survey Results:
http://www.ucop.edu/staff-assembly/resources/2015-staff-engagement-survey-results.html

[1] As of the 2017 report headcounts now include employees with any earnings. In previous reports only employees with base pay were counted.

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 30 percent. In contrast, general campus staff levels (excluding student employees) grew by less than 7 percent. This is less than a third of the 24 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 2016



Source: UC Corporate Personnel System

* The fall 2007 General Campus nonstudent staff figure includes eighty-one Senior Management FTE whose positions, in 2010, were moved from the Senior Management category to the Academic category in recognition that their primary role is academic. All staff measures in this chapter exclude Lawrence Berkeley National Laboratory, Hastings School of the Law and Associated Students UCLA.

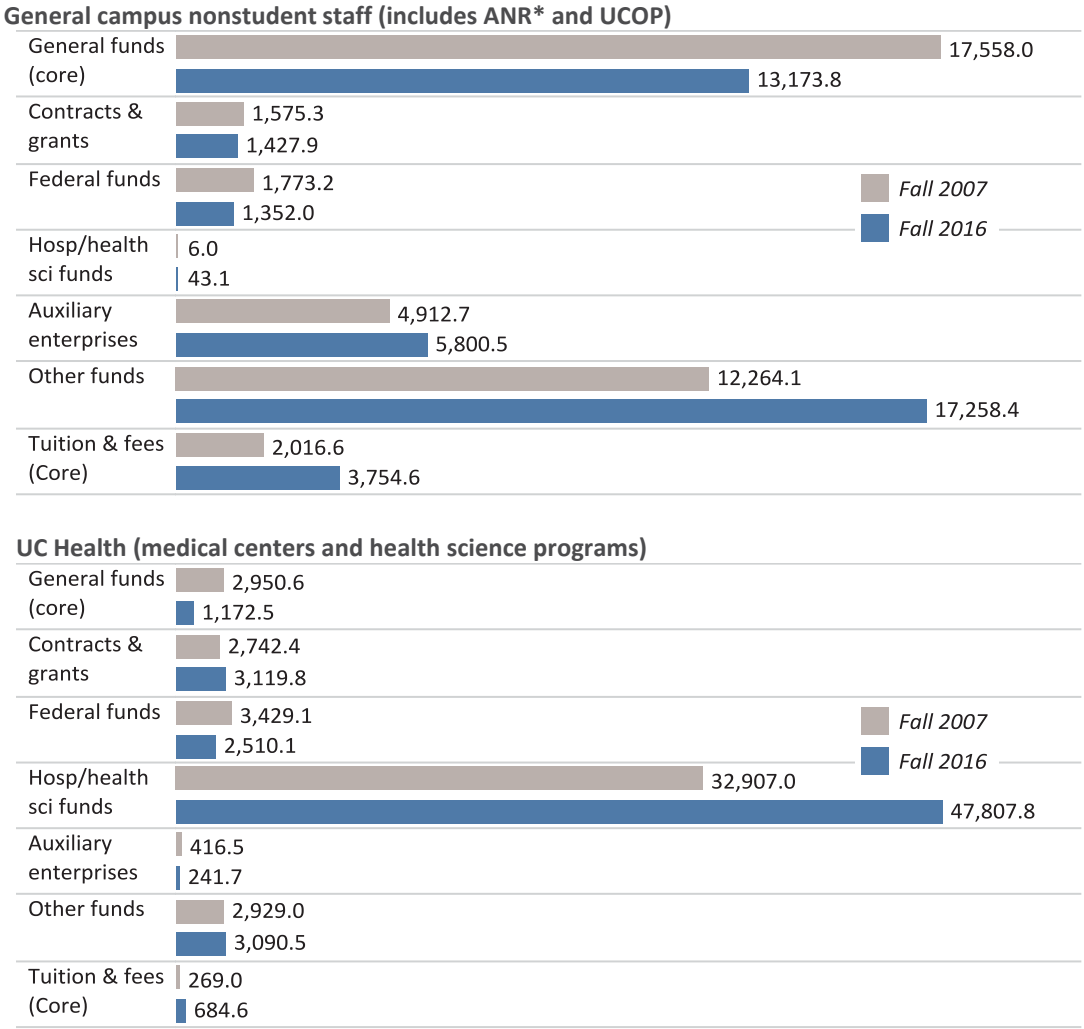
UC operates five teaching hospitals as well as schools of medicine, dentistry, nursing and other health sciences education and research programs. Together these UC Health hospitals and academic programs have experienced proportionally greater growth in staffing since 2007 than the remaining components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

Teaching hospitals and other health sciences programs accounted for nearly 75 percent of the nonacademic staff increase between 2007 and 2016 (12,984 FTE); this growth is largely related to increased demand for medical care. General Campus nonstudent staff and student employees each accounted for less than 15 percent of the growth (2,704 and 2,173 FTE, respectively). The growth in student employees is largely related to the additional 48,000 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 an increased number of 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, groundskeepers, food service workers and many others.

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 workforce, by fund source
General campus and UC Health
Fall 2007 and 2016



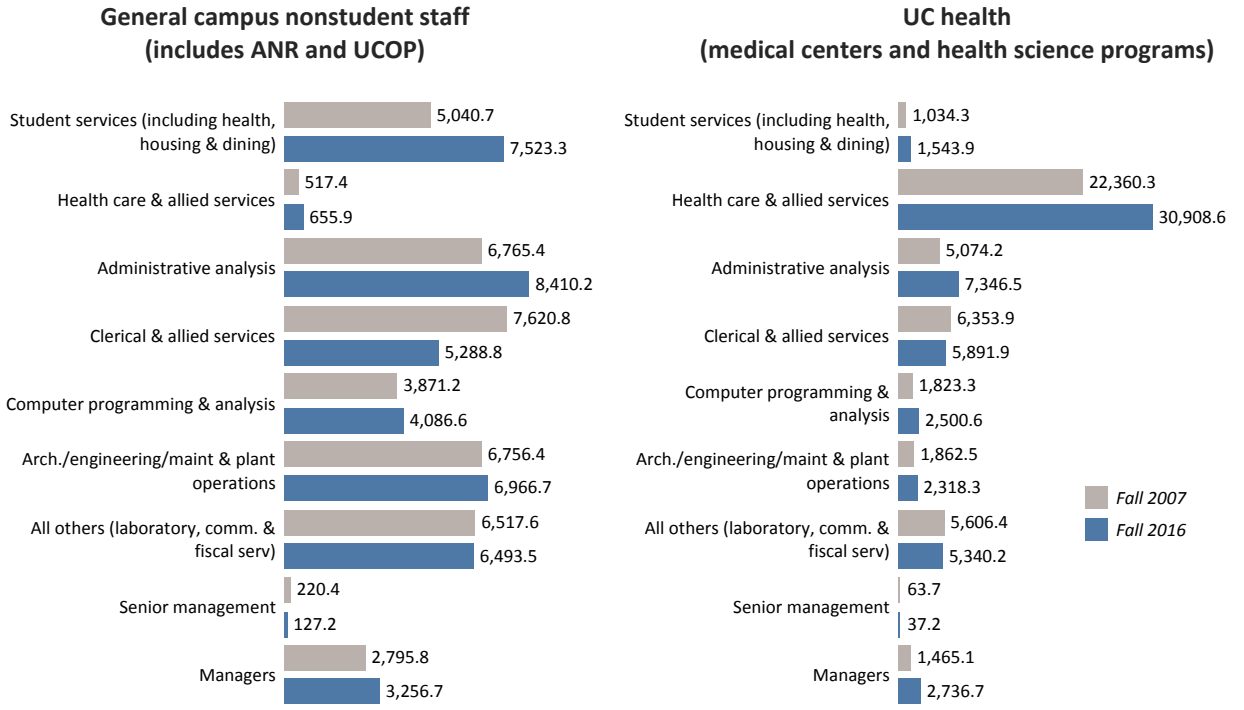
Source: UC Corporate Personnel System. Not shown are general campus staff who are also students (8,359.8 FTE in 2016).
*ANR is the Division of Agriculture and Natural Resources.

Between October 2007 and 2016, staff growth was concentrated among teaching hospital employees, due to increasing demand for health care, driven largely by 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.

Over the past nine years, changing technology and workforce needs have led to a higher need for staff in computer, health care and analytical occupations, and a reduction in clerical staff.

6.1.3 Nonstudent staff FTE, by occupation group
Universitywide
Fall 2007 and 2016



Source: UC Corporate Personnel System[1]

Technological advances have had a marked effect on staffing needs as computers increasingly perform tasks once requiring significant time and manual effort. Technology has also 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.

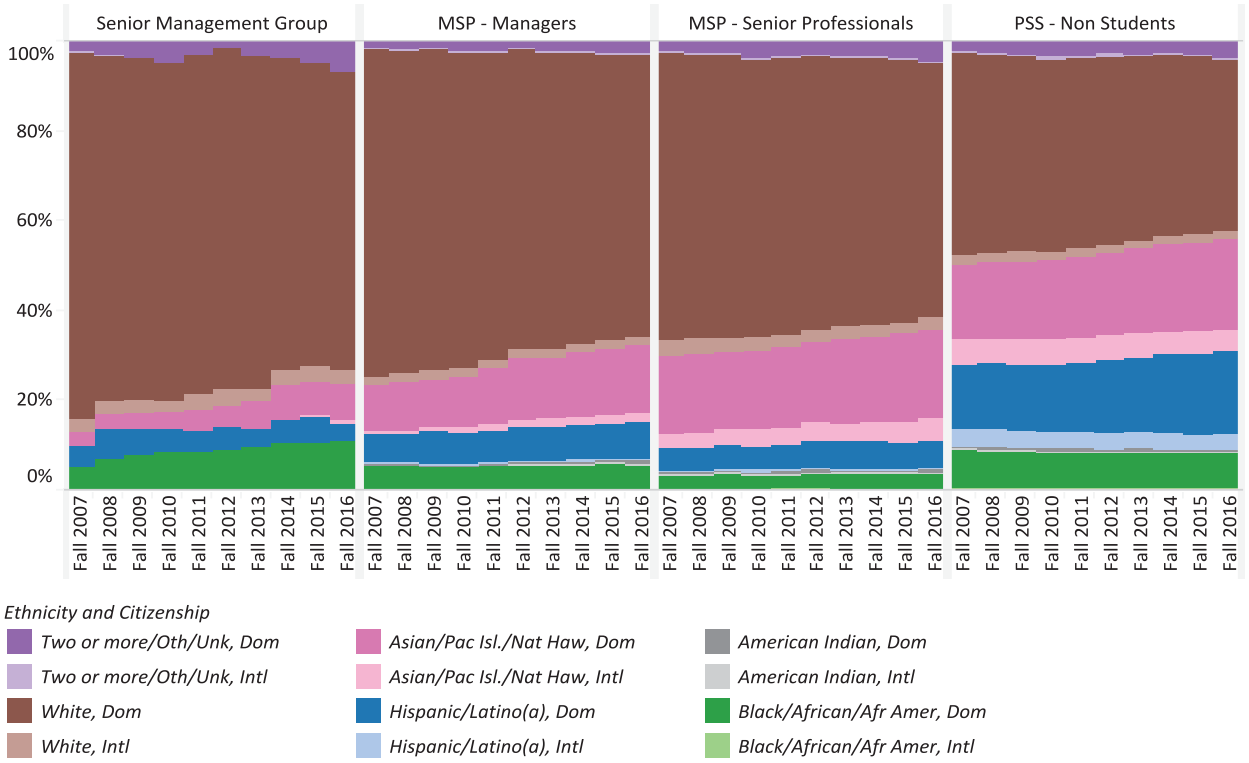
In the past nine years, student enrollment has also grown, with a corresponding increase in staff supporting student services.

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.

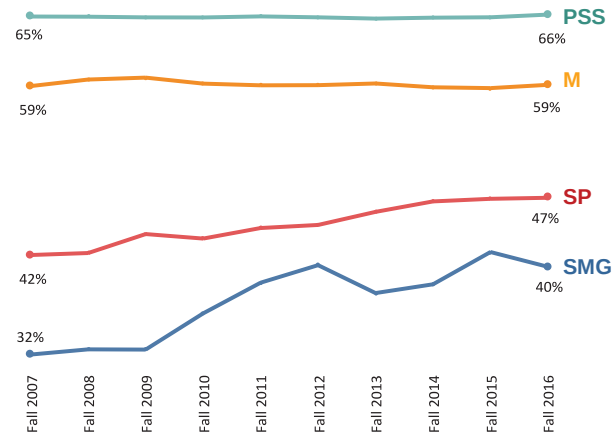
[1] Not shown are general campus staff members who are also students (8,359.8 FTE in 2016). Oct 2007 General Campus and UC Health nonstudent staff figures include eighty-one and nine Senior Management FTE staff, respectively, which were later categorized into academic positions.

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 Professional and Support Staff (PSS) and Manager levels has stayed flat, while it has grown at the Senior Management Group and Senior Professional levels.

6.1.4 Racial/ethnic distribution of nonstudent career staff
Universitywide
Fall 2007 to 2016



6.1.5 Career staff percent female by personnel program, Universitywide
Fall 2007 to 2016



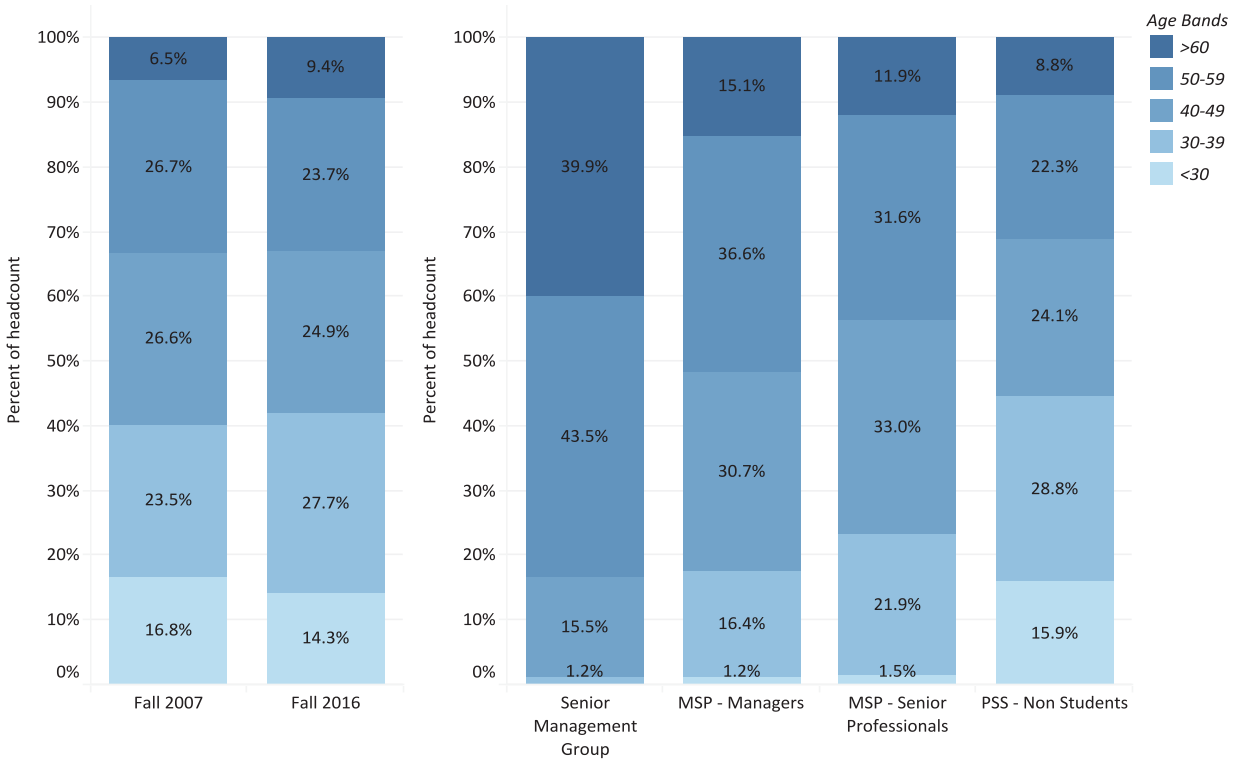
UC has sought to improve representation of domestic racial/ethnic groups that have been historically underrepresented. University employment of underrepresented racial/ethnic groups (African American, American Indian and Hispanic/Latino(a)) has grown over the past 15 years. However, ethnic minorities are still underrepresented, particularly in the Manager (M), Senior Professional (SP) and Senior Management Group (SMG) categories.

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

Overall, the average age of the UC staff career workforce was slightly higher in 2016 than in 2007. The largest growth occurred in the over-60 and 30-39 age ranges.

6.2.1 Age distribution of career staff, headcount
Universitywide
Fall 2007 and 2016

6.2.2 Age distribution of career staff by personnel program, headcount
Universitywide
Fall 2016



Source: UC Corporate Personnel System

Since 2007, the age distribution of UC's staff has changed. The groups that have seen the largest percentage point increases are the over-60 and 30–39 age ranges. The groups that have seen the greatest percentage point decreases are the below-30 and 50–59 range. 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.

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 [Note scale differences]
Fall 2016

Professional and Support Staff (PSS)

	< 30	30-39	40-49	50-59	60+
20 or More Years of Service		6 0.0%	1,312 1.5%	4,968 5.6%	1,852 2.1%
15 to 19 Years of Service		550 0.6%	3,199 3.6%	3,386 3.8%	1,377 1.5%
10 to 15 Years of Service	25 0.0%	3,261 3.7%	4,970 5.6%	3,910 4.4%	1,653 1.9%
< 10 Years of Service	14,541 16.3%	21,952 24.6%	11,981 13.4%	7,496 8.4%	2,721 3.1%

Managers and Senior Professionals (MSP) and Senior Management Group (SMG)

	< 30	30-39	40-49	50-59	60+
20 or More Years of Service		2 0.0%	352 2.9%	1,226 10.3%	492 4.1%
15 to 19 Years of Service		67 0.6%	619 5.2%	672 5.6%	258 2.2%
10 to 15 Years of Service		336 2.8%	757 6.3%	593 5.0%	259 2.2%
< 10 Years of Service	162 1.4%	1,972 16.5%	2,030 17.0%	1,476 12.4%	669 5.6%

LEGEND

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

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

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

Source: UC Retirement System

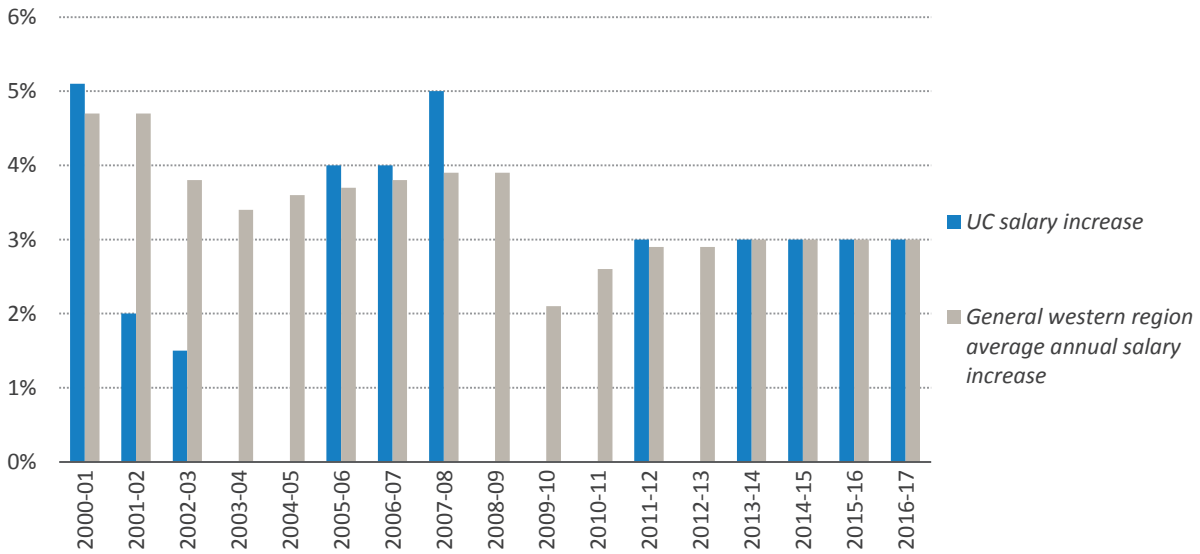
UC Pension Plan benefits are designed so that the highest benefits commence at age 60 for employees hired before July 1, 2013 and at 65 for those hired after. Actual benefits depend on total years of service and highest average compensation. To be eligible for the maximum UC contribution for retiree 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.

On average, growth rates for staff salaries over the last 16 years are below market rates in the Western region benchmark.

6.3.1 UC base salary increases compared with market averages
Universitywide
2000–01 to 2016–17



Source: UC Human Resources[1]

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 2.2 percent annually over the last sixteen years, while the WorldatWork benchmark has been 3.4 percent.

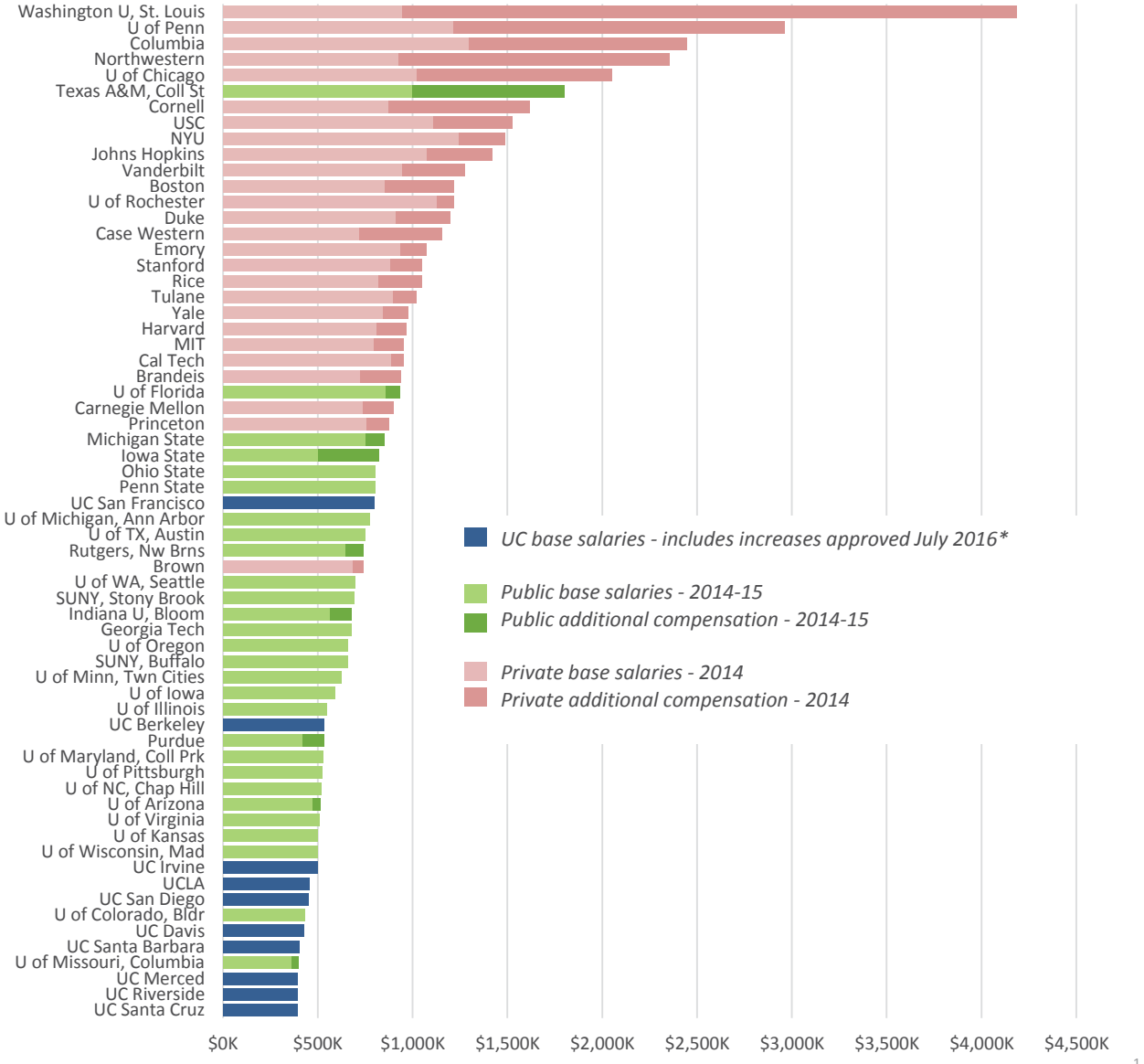
Going forward, UC employees are now contributing more to health care costs and to the UC retirement system, which could further erode the competitiveness of UC total compensation compared with the regional labor market.

The chart above presents comparative data for base salaries only.

[1] Excludes medical centers. Nonrepresented staff only.

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



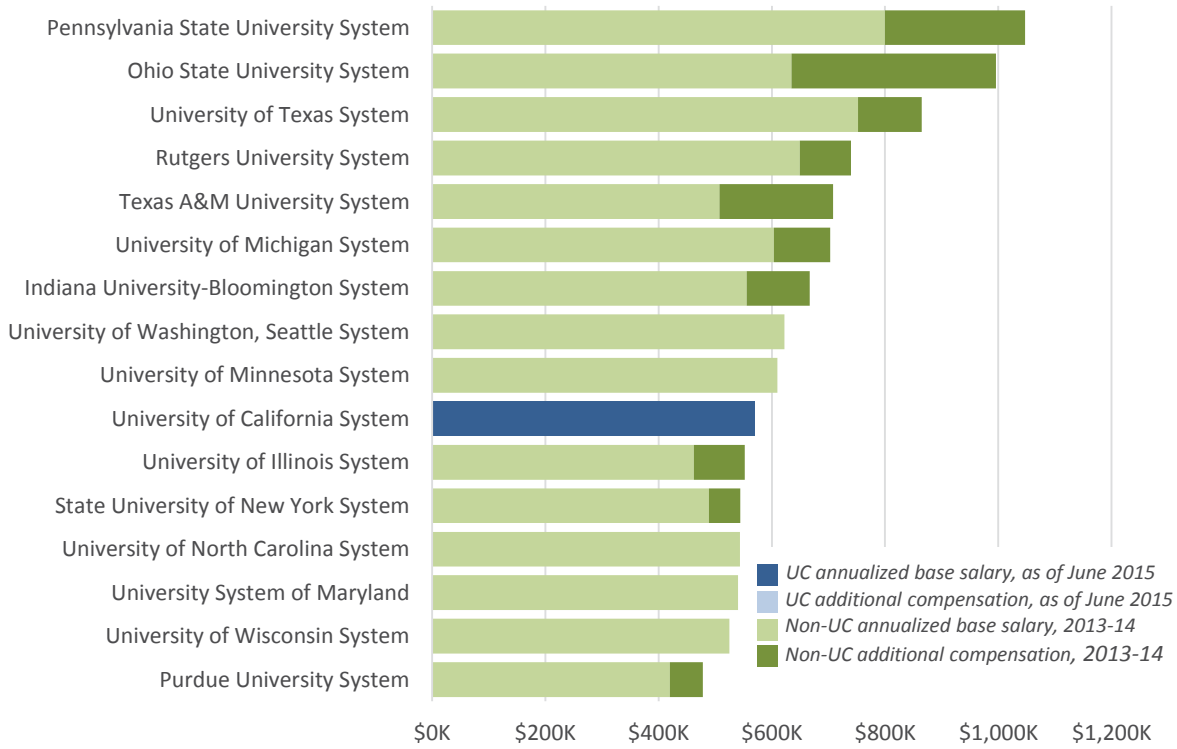
Source: *The Chronicle of Higher Education Executive Compensation Report* and institutional data sources [1]

UC Chancellors place among the lowest-paid university leaders when compared with their AAU peers. Despite recent salary increases, the placement of UC chancellors remains unchanged from the previous analysis in June 2016. 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. Eight 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. Note: Where there was a change of leadership during the course of the year, an annualized base salary was calculated from the salary reported for the partial year.

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

6.4.2 Annualized base salaries and additional compensation for system leaders
UC and comparison public institutions



Source: *The Chronicle of Higher Education* and Institutional Research & Academic Planning of the UC Office of the President[1]

The salary for the President of the UC system places tenth 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 SEVEN
DIVERSITY

DIVERSITY

Goals

The University of California is dedicated to fostering a 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, 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)
- Issues of not feeling respected reported by undergraduates of historically underrepresented groups
- The graduation gap between underrepresented and White and Asian undergraduates (presented in Chapter 3 of this report)

Evaluating diversity

UC's diversity is 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 undergraduate, graduate academic and graduate professional students. This feeds into an overview of the University by race/ethnicity and gender.

Trend data illustrate growing proportions of underrepresented and international students in the undergraduate population. Over the last 15 years, the proportion of Hispanic/Latino(a) undergraduates has grown tremendously, reflecting the growing number of Hispanic/Latino(a) students in California

and improved high school graduation rates. Five UC campuses (Irvine, Merced, Riverside, Santa Cruz and Santa Barbara) are designated by the federal government as Hispanic-Serving Institutions (HSIs). UC Davis, UCLA and UC San Diego are also emerging HSIs.

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

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

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 identifications, Muslim and Jewish students are less likely to feel respected. LGBQ students also are less likely to feel respected. Students identifying as having conservative political beliefs are less likely to feel respected.

Diversity indicators elsewhere in this report

Graduation rates for entering freshmen and undergraduate transfers by race/ethnicity are presented in Chapter 3.

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

Looking forward — diversity initiatives

Through its college preparation outreach programs, UC devotes considerable resources to offering college preparation support to more than 100,000 K–12 and community college students annually. This effort results in a greater number of students who are prepared and qualified for UC. Of the high schools served by UC, roughly 70 percent have consistently been among the lowest-performing schools in the state. Participants in these programs have higher rates of enrollment in California public college segments, and those who are accepted to UC enroll at higher rates than their peers.

UC's college preparation programs remove participants' obstacles to attending UC, encouraging them to apply and enroll at UC at higher rates than those overall for California high school graduates. The most recent data for fall 2015 show the enrollee yield — the ratio of students admitted to UC who enroll — for participants in UC academic preparation programs is higher, at 61.7 percent, than for all California high school graduates at 53.2 percent.

African American participants in a UC college preparation program were also more likely to enroll at a UC campus than were their peers who did not participate (58 percent compared to 50 percent).

In addition to funding UC's college preparation programs, the 2016–17 state budget for UC included $20 million in one-time funding for support services for "low-income students and students from underrepresented minority groups," including students who were enrolled in high schools

designated by the California Department of Education as eligible for supplemental funding under the Local Control Funding Formula (LCFF) because of their populations of low-income or educationally disadvantaged students. UC campuses are using this funding for two primary purposes: to increase the application, admission and enrollment of students from these schools; and to provide academic support services to enrolled students, focusing on those who are low-income, first-generation-college or otherwise educationally disadvantaged. Outcomes from this initiative will be reported in fall 2017.

In October 2015, the Office of the President launched the President's Diversity Pipeline Initiative (DPI) to expand the academic pipeline to the University of California for undergraduate students, graduate students and faculty who remain persistently underrepresented at UC. The Diversity Pipeline Initiative builds on existing University resources — admissions policies and practices, academic preparation (outreach) programs and community partnerships, among others. Outcomes from the first year of the DPI include:

- Admissions of African American students in fall 2016 were up by 30.6 percent from fall 2015.
- 44 percent of fall 2017 California freshman applicants were from underrepresented minority (URM) backgrounds.
- 36.4 percent of new California freshmen in fall 2016 were from URM backgrounds.
- UC college-prep programs saw a 12.7 percent increase in African American student enrollment from 2012–13 to 2015–16.

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 315 HBCU scholars have participated in the program, which offers faculty-led summer research opportunities and year-round mentoring. Twenty-seven Ph.D. students and two M.A. students are currently enrolled at UC, and three M.A. students have already graduated from UC as a direct result of the program.

The President's Postdoctoral Fellowship Program (PPFP) is a keystone program at the University of California that supports diversification of UC faculty through financial support and career development training for postdoctoral scholars that show promise to be successful faculty in the UC system. Fellows have a demonstrated record of commitment to diversity in their research, teaching and/or outreach. The fellowship is extremely competitive, selecting the top 3 percent of applicants. Since the 2013–14 academic year there have been over 500 applicants to the program annually, this year reaching over 850. The program selects approximately 20 fellows annually. The President's Postdoctoral Fellowship Program and the Chancellors' Fellowship Programs have accounted for 11.5 percent of new underrepresented minority faculty hired at UC in the last ten years. At present, 165 PPFP fellows have been hired into UC tenure-track positions since 2004.

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

Here are links to key products in the UC Information Center in each area:

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

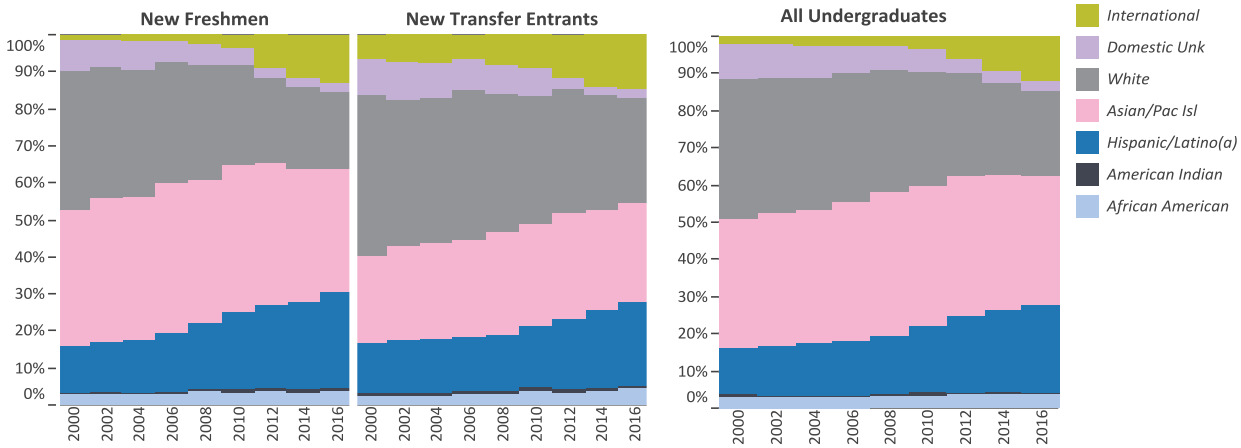
Undergraduate admissions: www.universityofcalifornia.edu/infocenter/admissions-residency-and-ethnicity

Graduate admissions: www.universityofcalifornia.edu/infocenter/academicprofessional-doctoral-and-academic-master-s-admissions

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

Each year, UC enrolls more 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 2000 to fall 2016 (selected years)

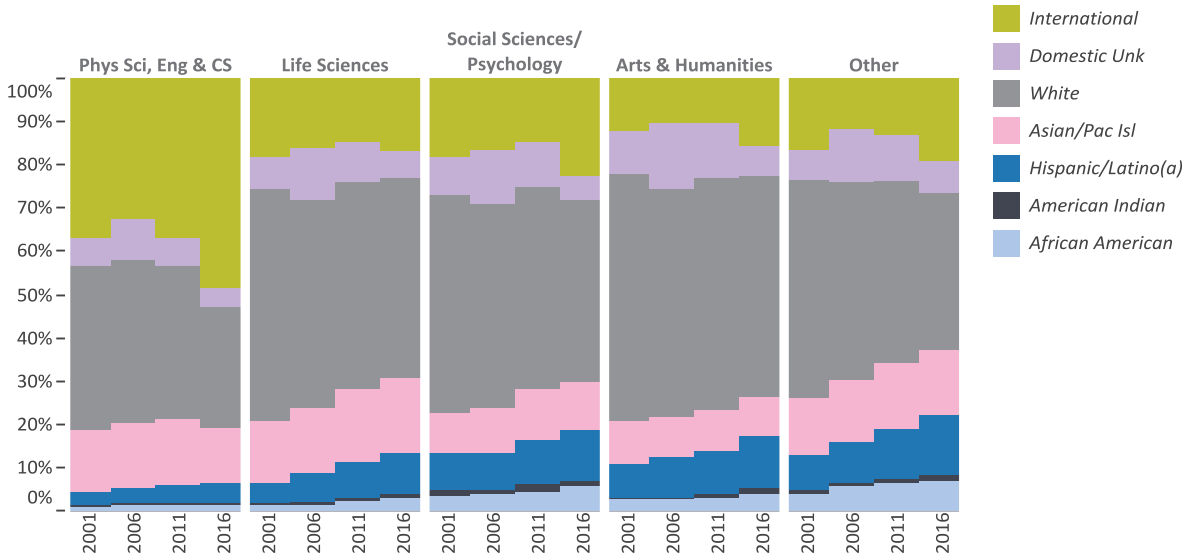


Source: UC Information Center Data Warehouse

A number of factors may 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 initiative's charge (discussed at more length in Chapter 1) 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.

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 2001 to fall 2016 (selected years)



Source: UC Information Center Data Warehouse[1]

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 2014–15, UC awarded academic doctoral degrees to underrepresented racial/ethnic groups in higher proportion than did its peers, in every field.

Proportion of underrepresented racial/ethnic groups receiving academic doctoral degrees

2014–15	UC	Other AAU Public	AAU Private
Social sciences	12%	10%	8%
Arts & humanities	12%	8%	7%
Life sciences	12%	6%	9%
Physical sciences	7%	4%	4%
Engineering & computer science	5%	4%	4%

Source: IPEDS

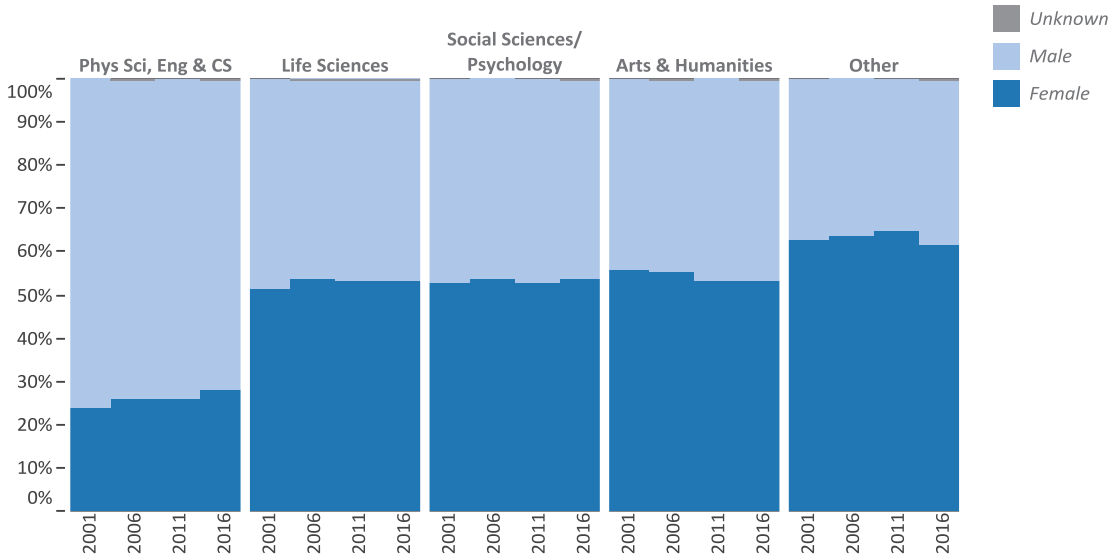
UC's graduate programs draw students from across the nation and around the world, including its own undergraduate students, who make up about one-tenth of UC's graduate students. As a consequence, UC's efforts to diversify its undergraduate students also helps to diversify its graduate academic population.

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.

Students in physical sciences/engineering/computer science are less likely to be female than in other graduate academic disciplines, though their proportion has grown over time.

7.2.2 Gender distribution of graduate academic students by discipline
Universitywide
Fall 2001 to fall 2016 (selected years)



Source: UC Information Center Data Warehouse[1]

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 almost one-in-three 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

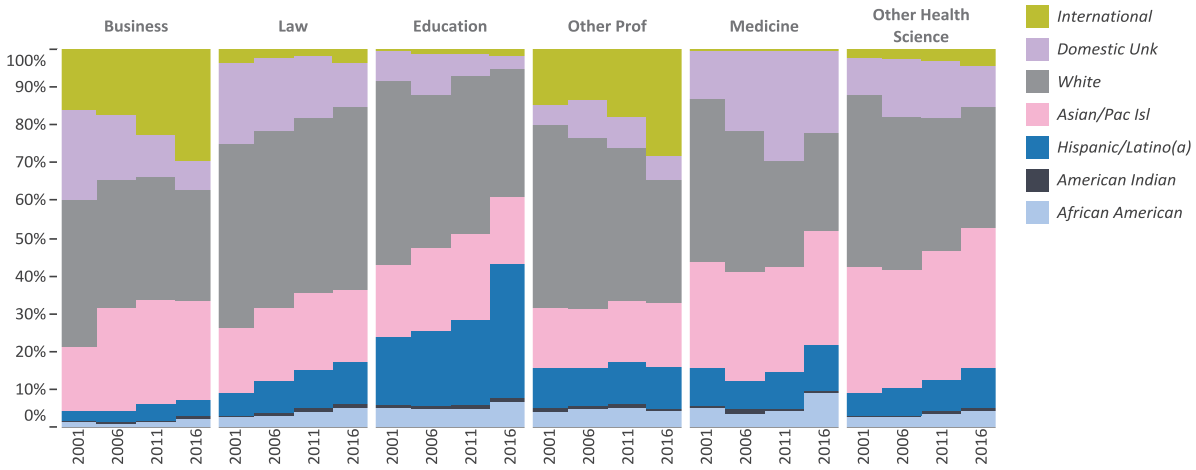
2014–15	UC	Other AAU Public	AAU Private
Social sciences	53%	57%	50%
Arts & humanities	53%	52%	52%
Life sciences	53%	52%	54%
Physical sciences	31%	33%	30%
Engineering & computer science	21%	22%	25%

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.

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 2001 to fall 2016 (selected years)



Source: UC Information Center Data Warehouse[1]

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 and law degrees.

Proportion of underrepresented students receiving professional degrees, 2014–15

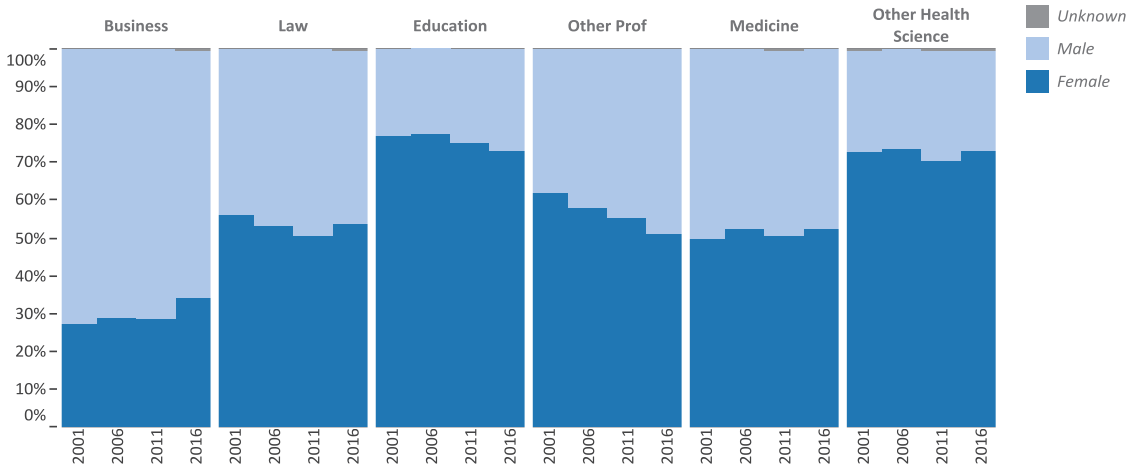
	UC	Other AAU Public	AAU Private
Education	26%	13%	17%
Medicine	16%	10%	14%
Other health science	17%	11%	11%
Law	10%	12%	11%
Business	7%	8%	8%

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.

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 2001 to fall 2016 (selected years)



Source: UC Information Center Data Warehouse[1]

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 medicine, but somewhat lower in business.

Proportion of women receiving professional degrees, 2014–15

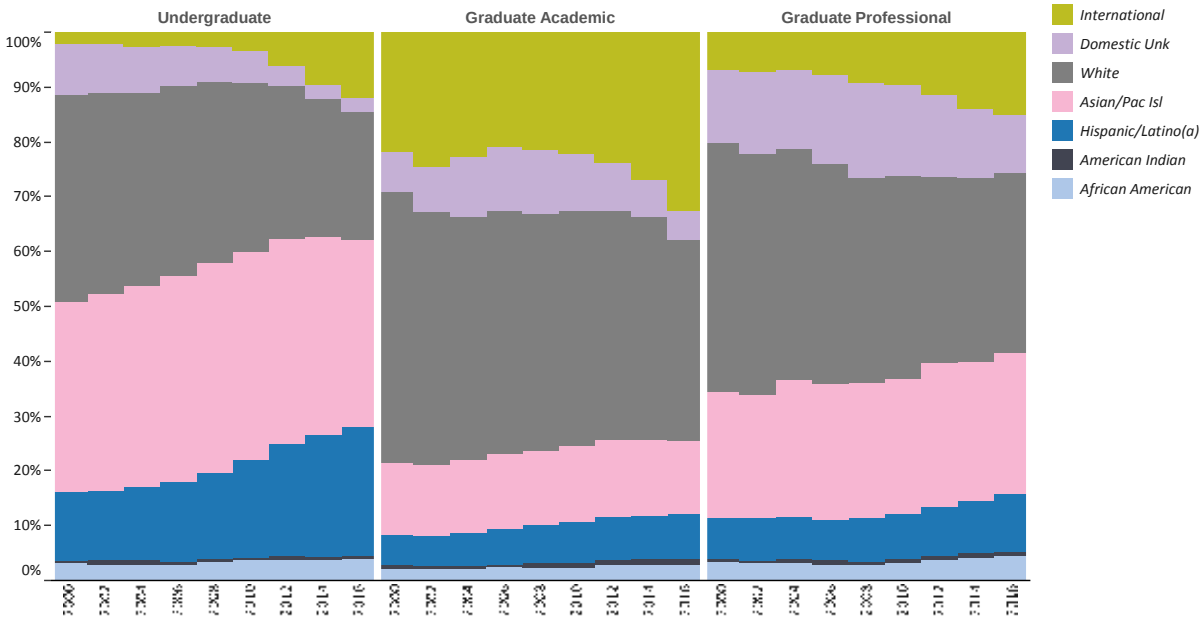
	UC	Other AAU Public	AAU Private
Education	75%	73%	72%
Medicine	51%	47%	51%
Other health science	71%	71%	73%
Law	50%	45%	48%
Business	34%	37%	36%

Source: IPEDS

[1] "Other Health Science" includes dentistry, nursing, optometry, pharmacy, public health and veterinary medicine; "Other Frof" includes programs such as architecture, library and information science, public policy and social welfare, and other small programs. Medical residents are not included.

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
Fall 2007 to 2016



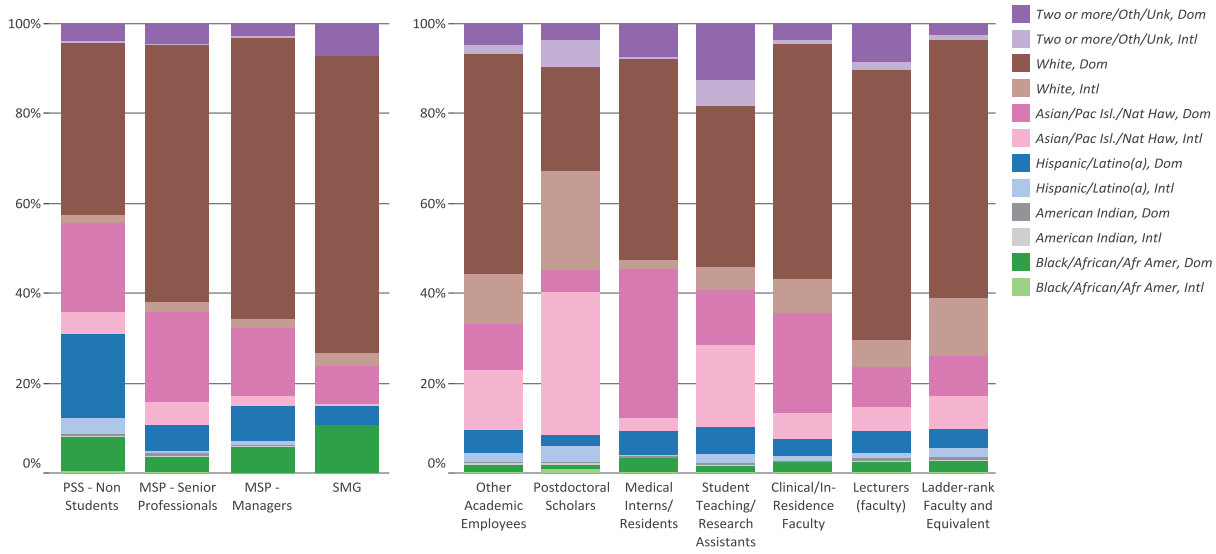
Source: UC Information Center Data Warehouse.
Undergraduates include approximately 300 postbaccalaureate teaching credential students.

UC systemwide data show that 28 percent of undergraduate students are from underrepresented groups. About 12 percent of graduate academic and 15 percent of graduate professional students are from underrepresented groups.

International students represent 32 percent of graduate academic and 15 percent of graduate professional students.

The proportion of nonwhite staff is lower among 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
Universitywide
Fall 2016



Source: UC Corporate Personnel System and UC Information Center Data Warehouse[1]

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.

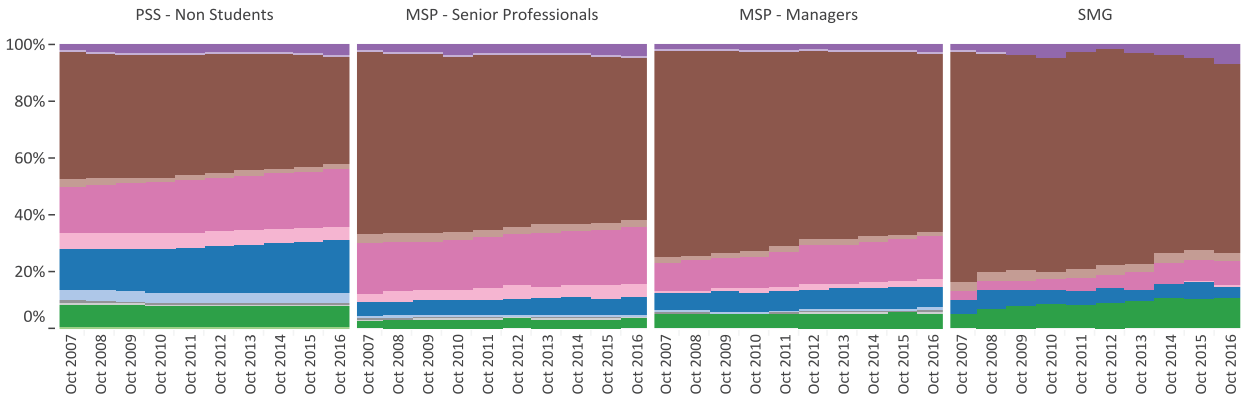
	Domestic		International
	Black/African American, American Indian, or Hispanic/Latino(a)	Asian, Pac Isl, or Nat Hawaiian	All races/ ethnicities
PSS (Professional and Support Staff)	26.9%	20.1%	11.0%
MSP (Senior Professionals)	10.3%	20.0%	8.3%
MSP (Managers)	14.2%	15.2%	5.0%
SMG (Senior Management Group)	14.9%	8.3%	3.6%
Other academics	7.3%	10.4%	28.4%
Clinical/In-Residence Faculty	6.4%	22.0%	15.7%
Lecturers(faculty)	7.9%	9.1%	14.4%
Medical Interns/Residents	8.9%	33.2%	5.8%
Postdoctoral Scholars	3.9%	5.1%	64.8%
Ladder-rank & equivalent	7.5%	9.0%	23.6%

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

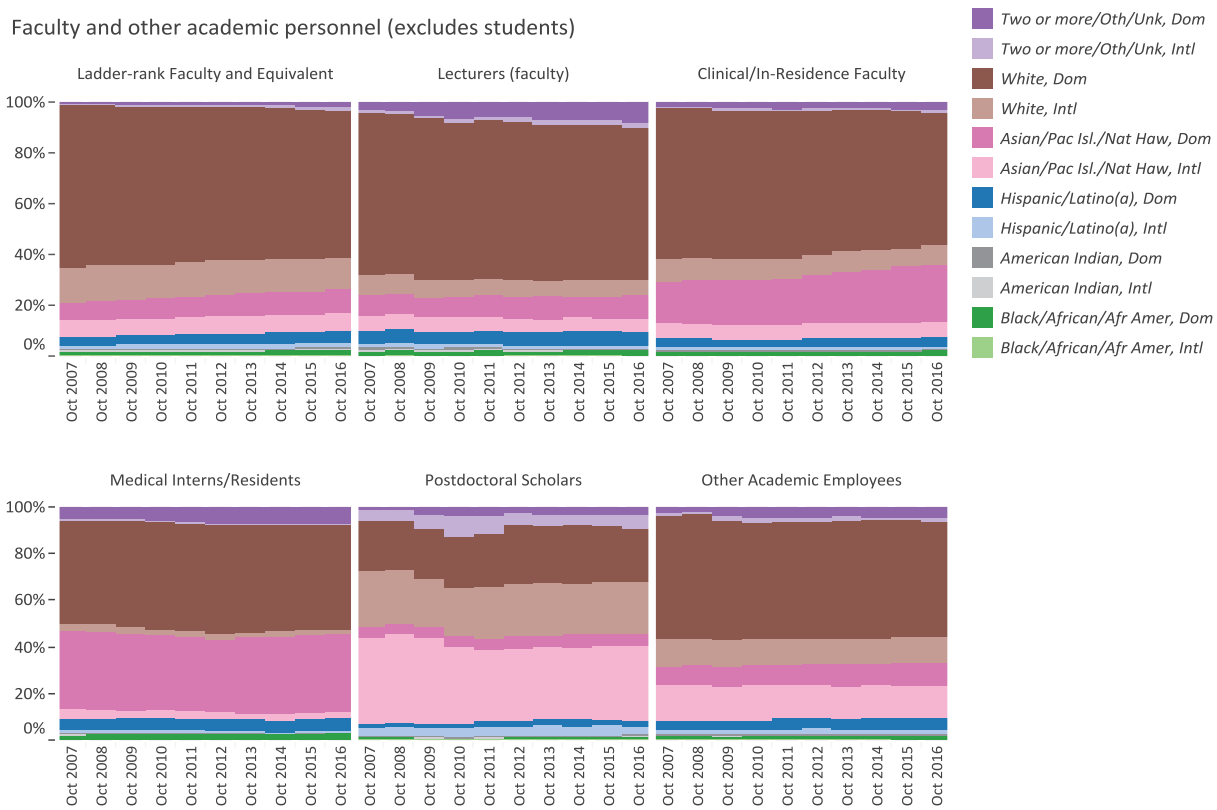
[1] International status for faculty and staff is based on citizenship status instead of IRS tax status. For more information, please see http://regents.universityofcalifornia.edu/regmeet/jan13/e1.pdf. The "Other academics" group includes only nonstudent employees and comprises many positions (e.g., librarians and administration categories) as well as academic researchers. Students are excluded in all groups.

7.3.3 Racial/ethnic distribution of staff, faculty and academic employees Universitywide Fall 2007 to fall 2016

Nonacademic staff (excludes students)



Faculty and other academic personnel (excludes students)

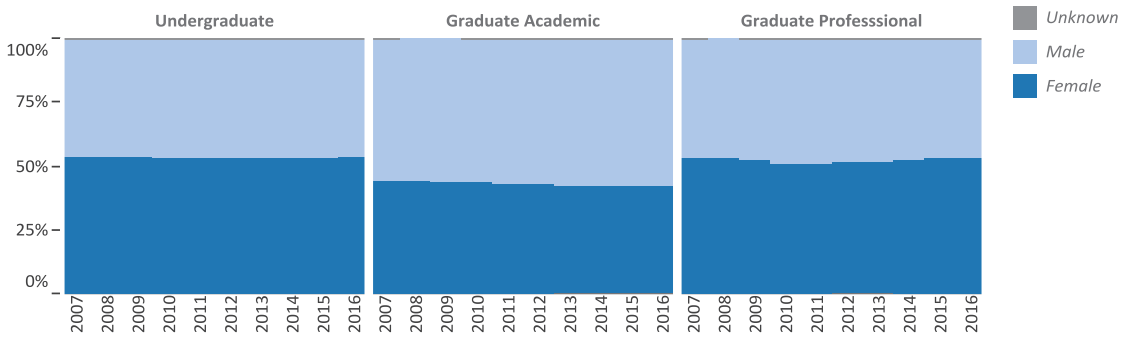


Source: UC Corporate Personnel System and UC Information Center Data Warehouse

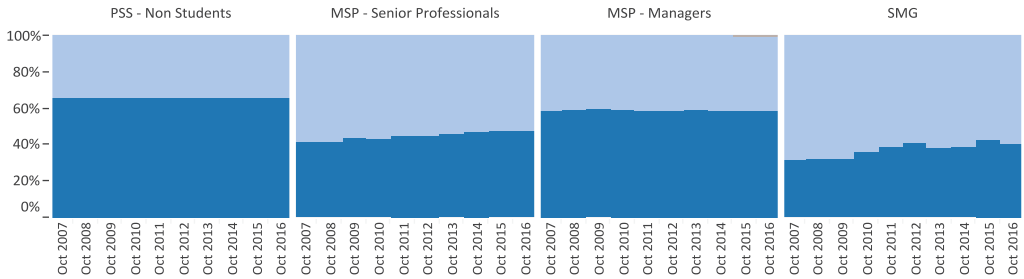
Women constitute more than 40 percent of all student, staff and academic employee groups, except for ladder-rank faculty and senior managers.

7.3.4 Gender distribution of the University community
Universitywide
Fall 2007 to 2016

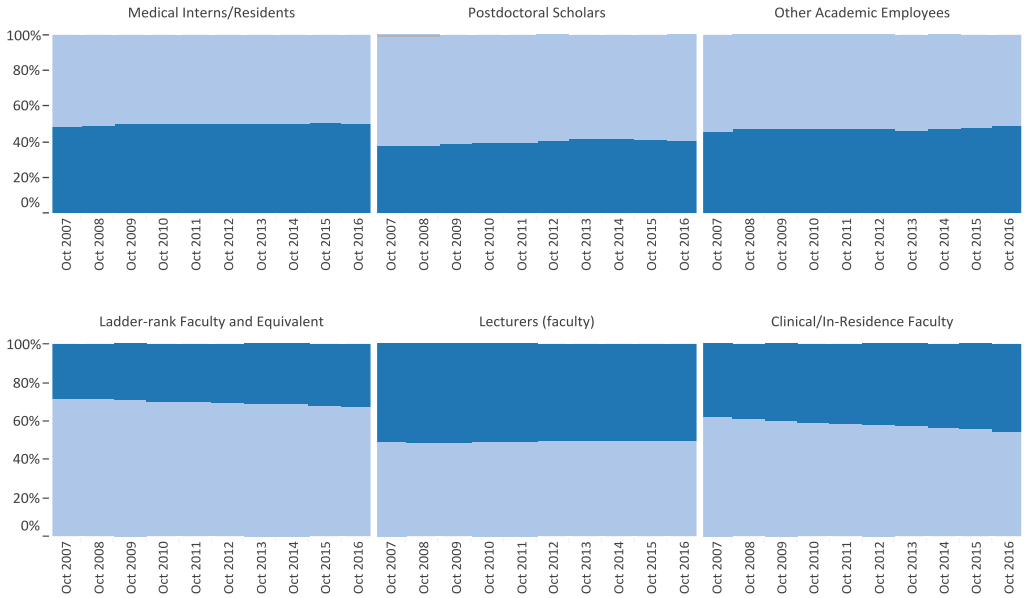
Students



Nonacademic staff (excludes students)



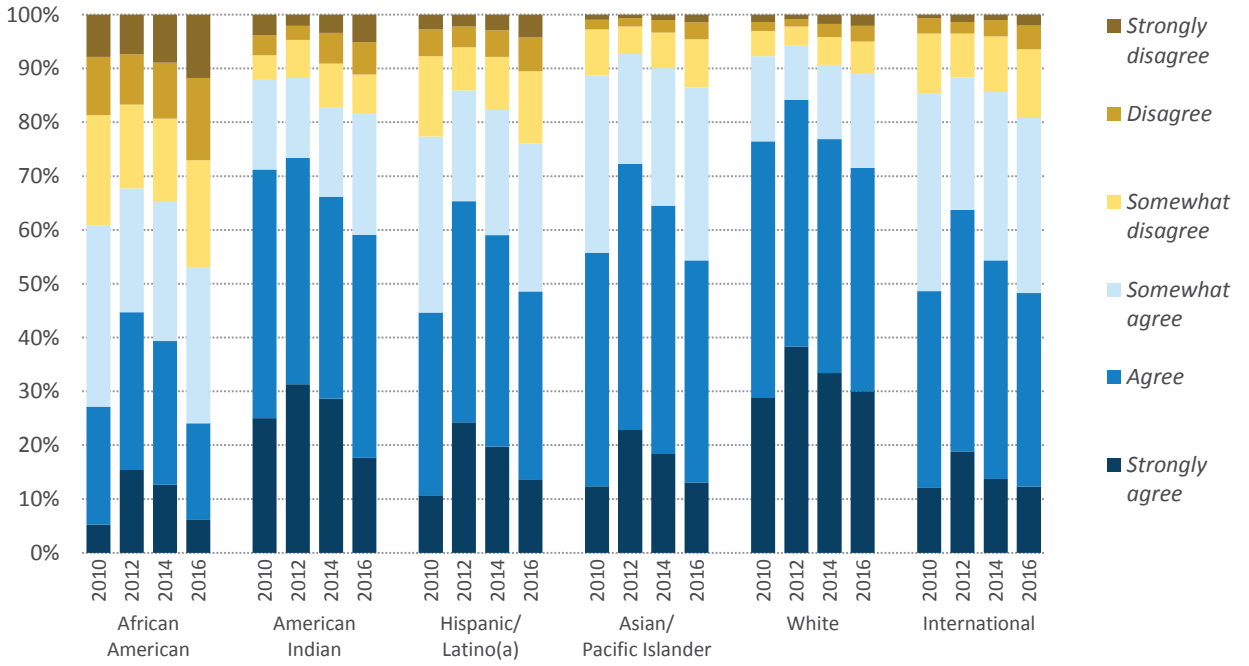
Faculty and other academic personnel (excludes students)



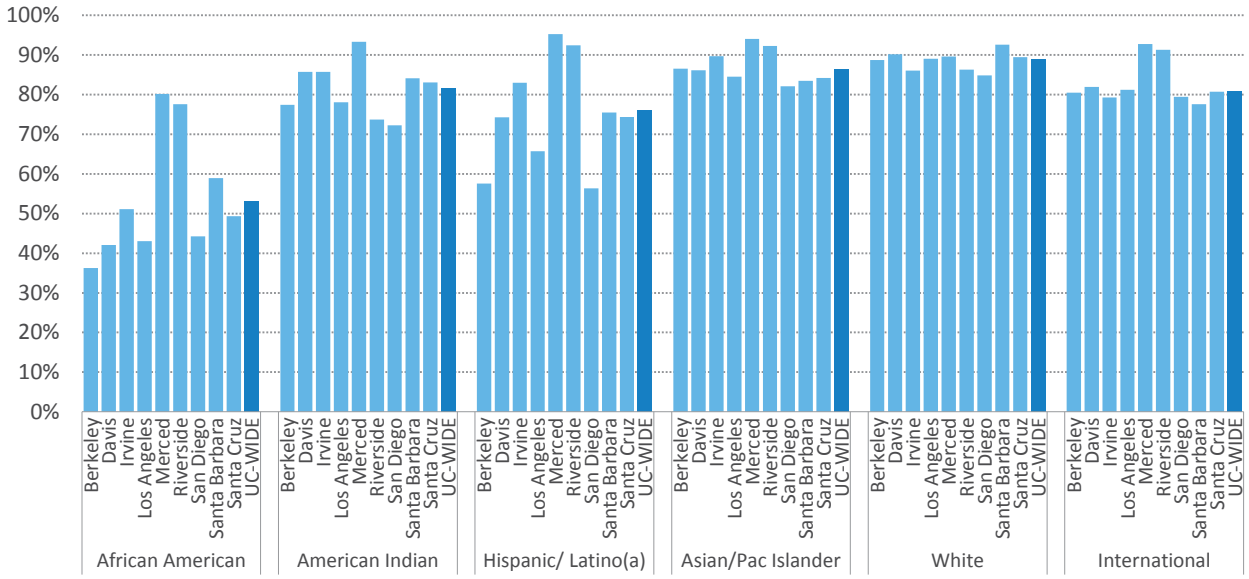
Source: UC Corporate Systems

The share of students who felt their race/ethnicity group was respected declined for all groups between 2014 and 2016.

7.4.1 Response to "Students of my race/ethnicity are respected on this campus"
Universitywide and UC campuses
Spring 2010, 2012, 2014 and 2016



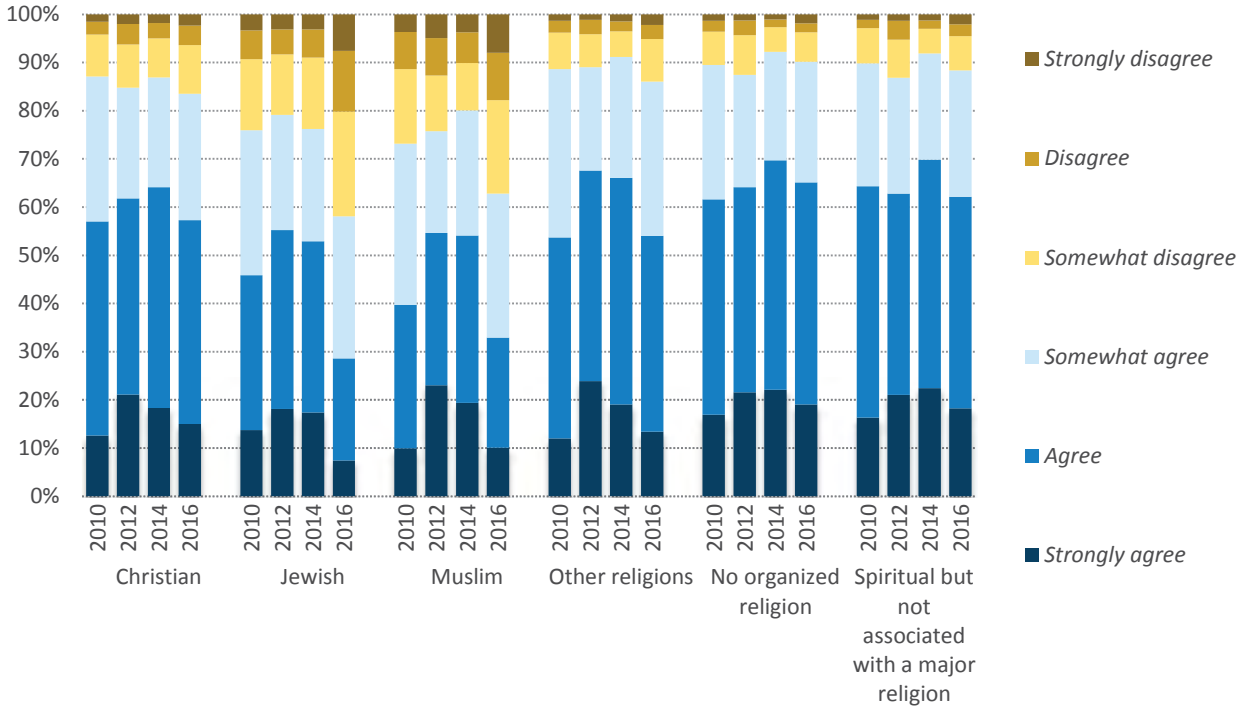
Percent that **somewhat agree**, **agree** or **strongly agree, 2016**



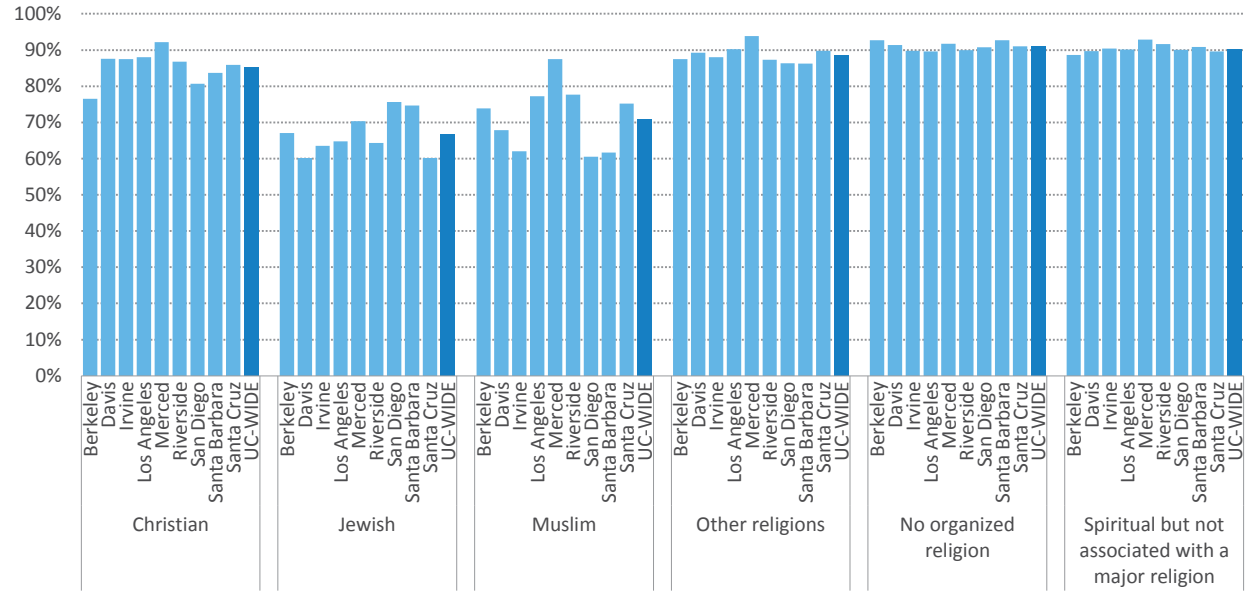
Source: UCUES

The share of students who felt their religion was respected declined between 2014 and 2016, particularly for Jewish and Muslim students.

7.4.2 Response to "Students of my religion are respected on this campus"
Universitywide and UC campuses
Spring 2010, 2012, 2014 and 2016



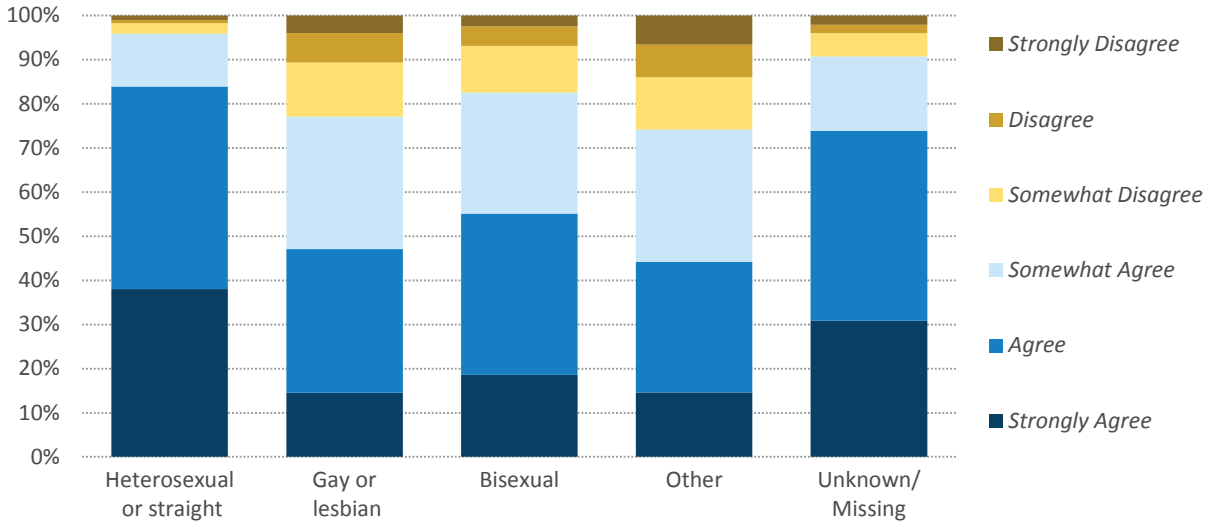
Percent that **somewhat agree**, **agree** or **strongly agree,** (2014 and 2016 combined)



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

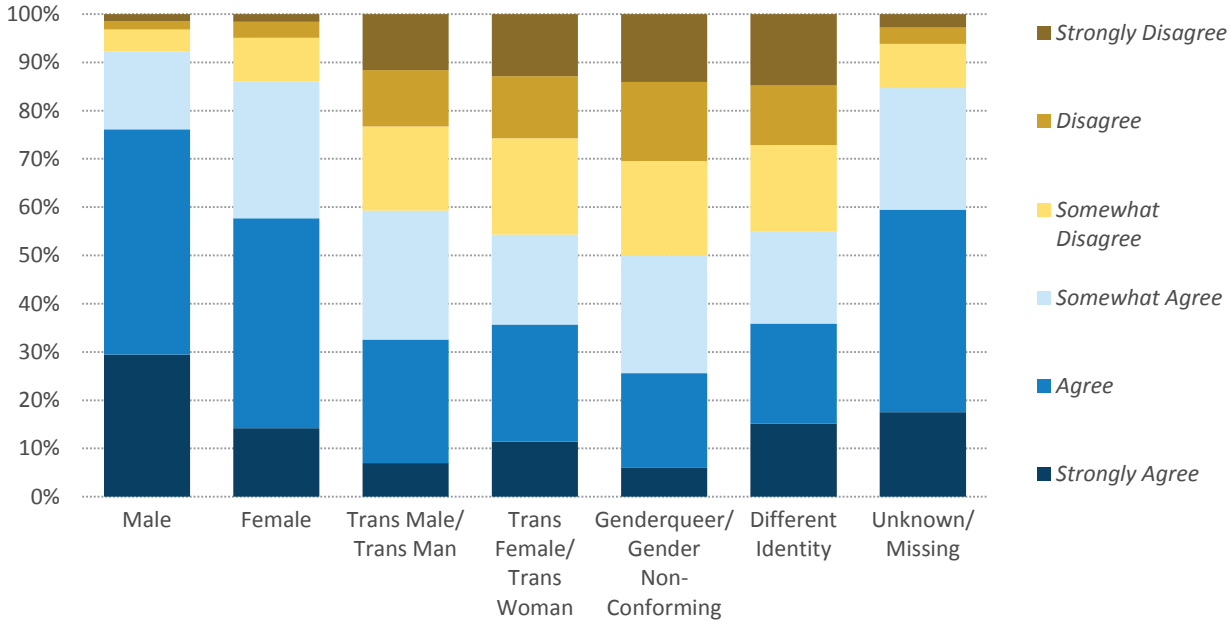
Undergraduates who identify as LGBQ and those who identify as other than male or female are less likely to feel respected on campus than those who do not.

7.4.3 Response to "Students of my sexual orientation are respected on this campus"
Universitywide
Spring 2016



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

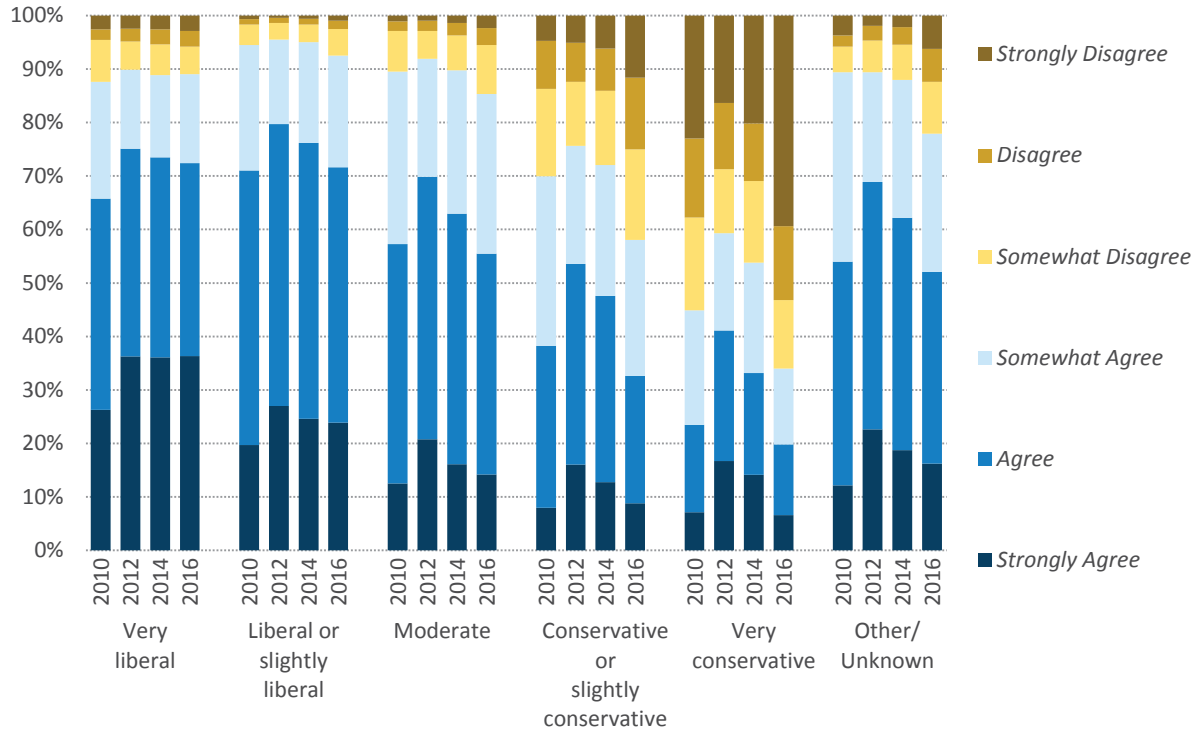
7.4.4 Response to "Students of my gender are respected on this campus"
Universitywide
Spring 2016



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

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

7.4.5 Response to "Students of my political beliefs are respected on this campus"
Universitywide
Spring 2010, 2012, 2014 and 2016



Source: UCUES

CHAPTER EIGHT
TEACHING AND LEARNING

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 with experienced faculty and researchers in hands-on research projects. 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 discipline-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 retention and graduation 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 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 doctoral and professional 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 offers adult professional and continuing education programs to Californians and people around the world. In 2015–16, there were 400,000 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 to 200,000 youth statewide through inquiry-based learning. Chapter 10 describes ANR's community programs and statewide impact in more detail.

Promoting educational effectiveness

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

UC has made great strides in promoting educational effectiveness by supporting assessment of student learning in academic programs. Assessment strategies include the development of student learning outcomes and integration of evidence of student learning into academic program reviews. Assessment efforts across UC align with the expectations of regional accrediting agencies, in particular the WASC Senior College and University Commission (WSCUC). As part of WSCUC accreditation, UC campuses assess five main core competencies of student learning: writing, oral communication, quantitative reasoning, information literacy and critical thinking. Each UC campus makes its WSCUC accreditation reports public, posting them online.

Innovative instructional offerings

UC offers an ever-expanding catalog of online courses and online programs, expanding learning opportunities for undergraduates, graduates and professional students. These courses and programs offer increased learning options for UC and non-UC students. Through the UC cross-campus enrollment system (http://crossenroll.universityofcalifornia.edu), UC provides undergraduates access to high-demand courses offered at other UC campuses, providing students increased flexibility and opportunities to complete their degrees. UC online courses are developed and taught by UC faculty at campuses across the system and count for UC credit based on departmental and programmatic requirements.

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

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

Ongoing formative assessment and data-driven approaches to teaching and learning are integral parts 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 to focus their learning. Assessment and LEarning in Knowledge Spaces (ALEKS) uses web-based adaptive tools to provide students with individualized feedback and learning pathways in entry-level math and chemistry courses. As part of the 2015 state budget framework agreement, three UC campuses engaged in a pilot study of the impact of adaptive learning technologies on student success and as a mechanism to strengthen instruction.

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

For more information

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

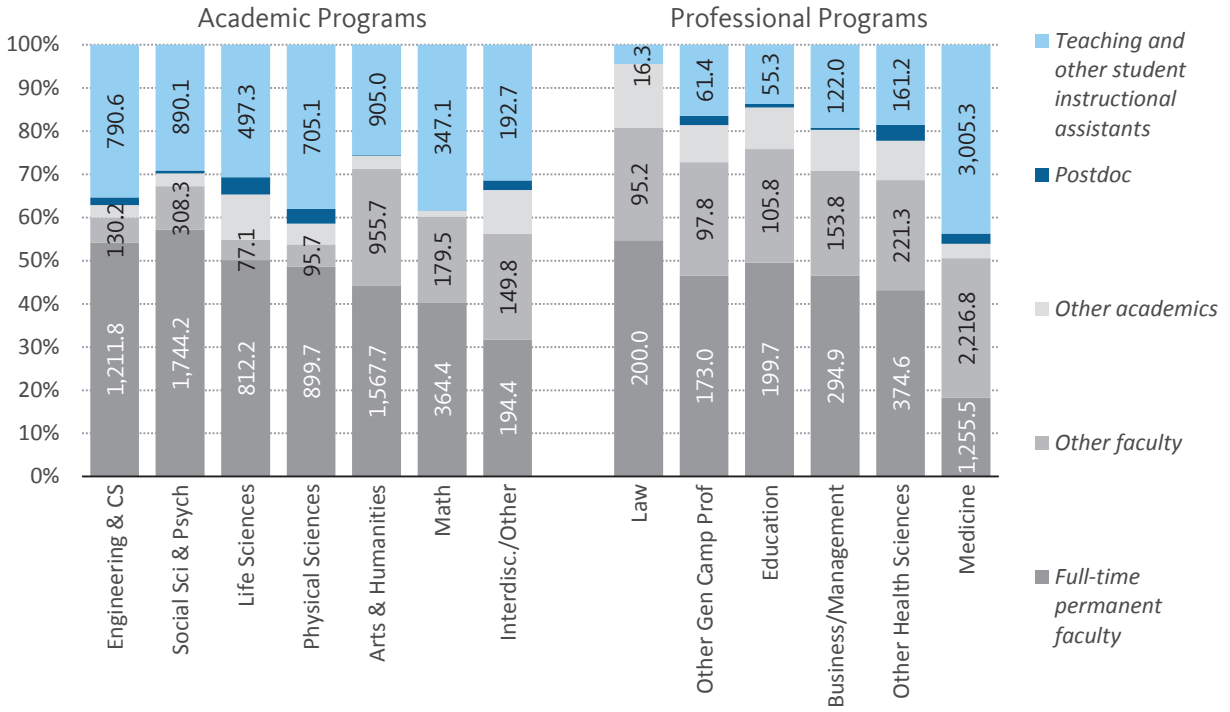
Interactive dashboard on summer enrollment:
www.universityofcalifornia.edu/infocenter/summer-enrollment

Interactive storyboard on undergraduate research experiences:
www.universityofcalifornia.edu/infocenter/uc-undergraduate-student-research

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

The composition of the instructional workforce varies considerably by discipline, with full-time permanent faculty representing about half of the workforce for general campus instruction.

8.1.1 Instructional workforce FTE composition, by employee type and discipline
Universitywide
2015–16



Source: UC Corporate Personnel System[1]

Across all general campus disciplines at UC, full-time, permanent faculty constitute about 49 percent of the total instructional workforce. Fields where full-time permanent faculty represent more than 50 percent include Engineering & Computer Science, Social Science, Psychology, Life Sciences and Law. Medical education, however, relies more heavily for instruction on faculty who also have clinical roles, and the proportion of full-time permanent faculty in Medicine and Other Health Sciences comes to 21 percent.

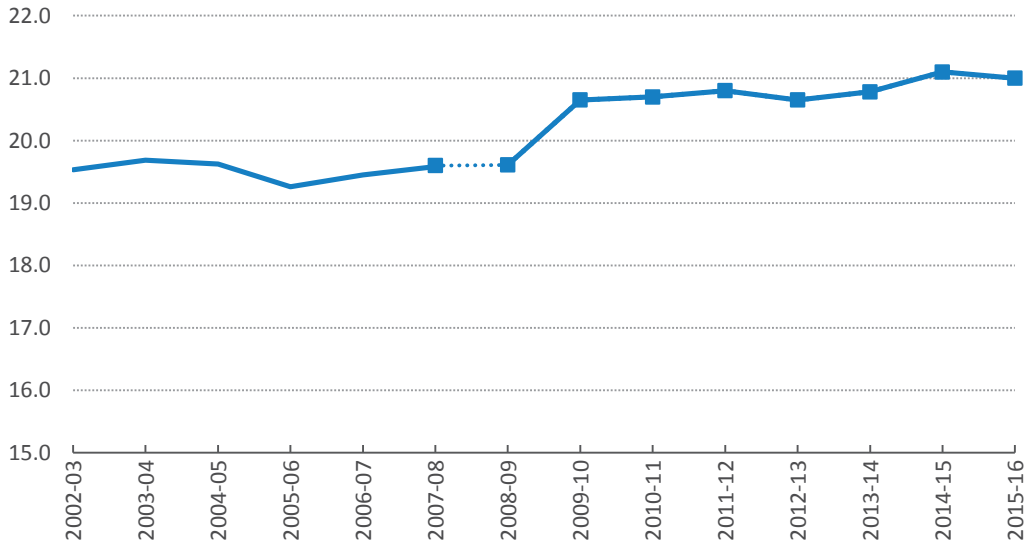
"Other faculty" in this indicator includes clinical faculty, most lecturers, adjunct faculty, faculty in residence and visiting faculty. The "Teaching and other student instructional assistants" category refers to students acting in supporting roles, such as teaching assistants, readers and tutors. They 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 the full-time-equivalent number of academic employees paid with instructional funds.

The student-faculty ratio increases when faculty hiring does not keep pace with increases in student enrollment.

8.1.2 General campus student-faculty ratio
Universitywide
2002–03 to 2015–16*



*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

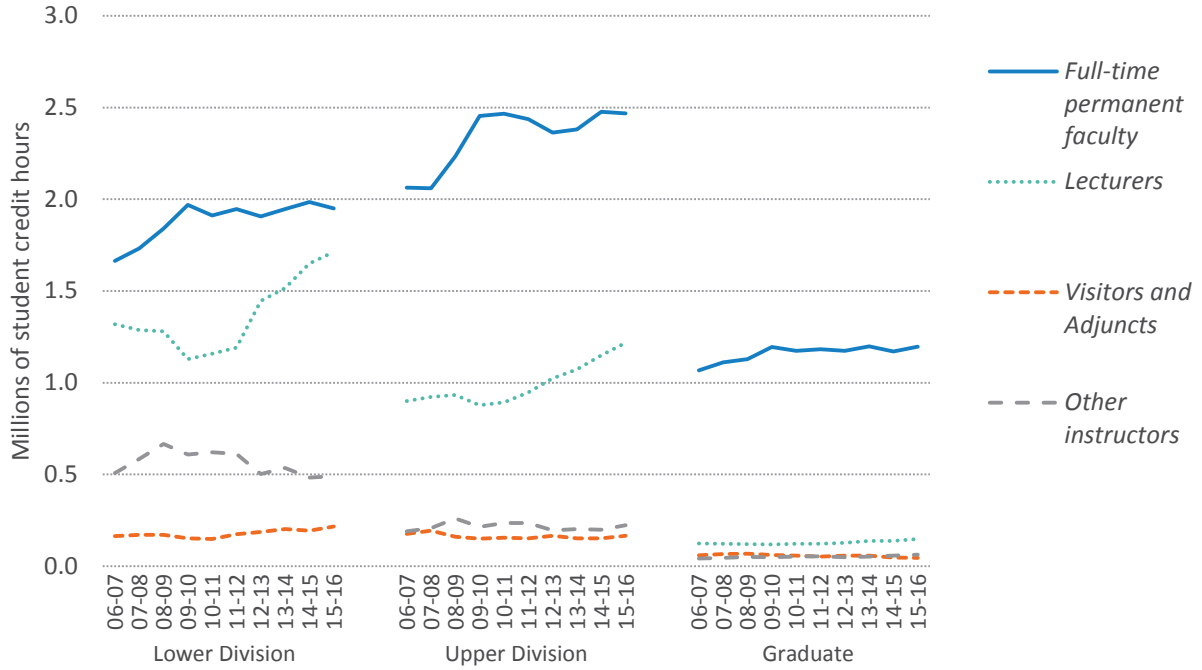
One widely used measure of academic quality is the student-faculty ratio. The student-faculty ratio reflects resources available for instruction and the average availability of faculty members to every student. Thus, lower ratios are preferable for students in terms of focused resources for instruction.

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.

As a group, lecturers 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
2006–07 to 2015–16



Source: UC Faculty Instructional Activities dataset[1]

Student credit hours (SCH) represent the number of student enrollments in a course multiplied by the number of credits earned from that course. For example, a 4-credit class with 50 students generates 200 SCH; a 2-credit class with 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.

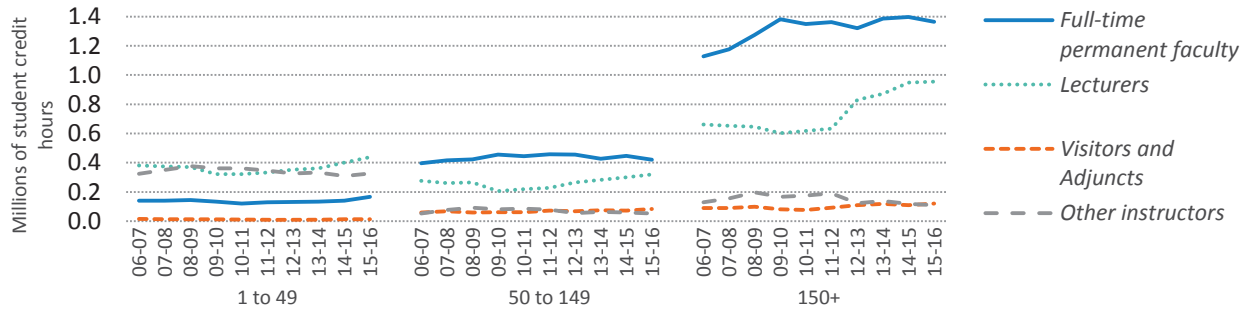
Lower-division courses, such as writing, language and other required courses, are most often taught by lecturers; introductory courses to the major are most often taught by full-time permanent faculty. Upper-division courses, which are core to the student's major, are more likely taught by full-time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

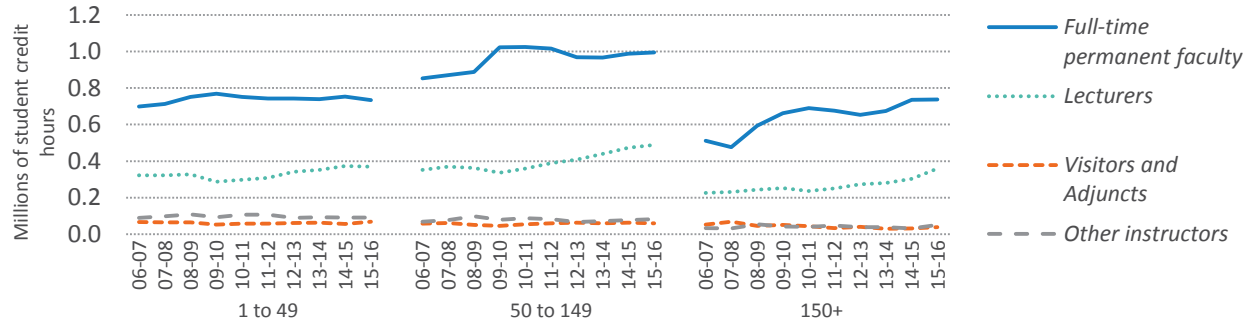
As students progress through their academic careers and enroll in upper-division and graduate classes, they receive more consistent exposure to full-time permanent faculty and smaller classes.

8.1.4 Student credit hours, by instructional staff and class type and class size
Universitywide
2006–07 to 2015–16

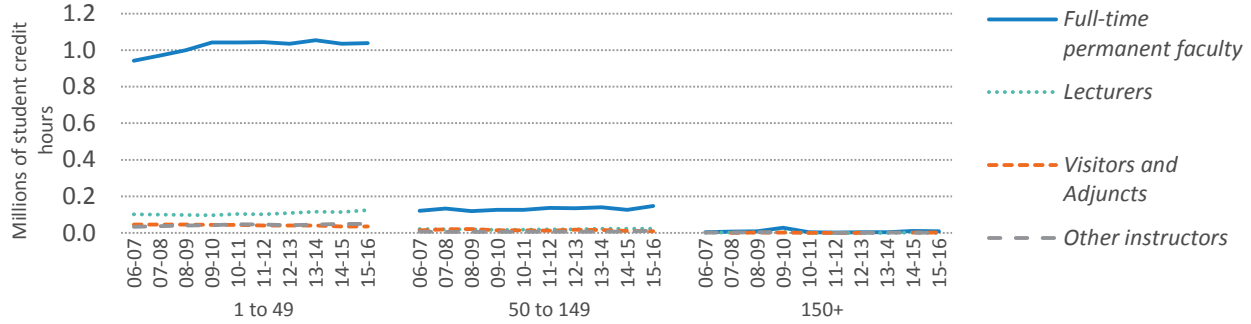
Lower-division classes (scale 0–1.5m)



Upper-division classes (scale 0–1.2m)



Graduate classes (scale 0–1.2m)



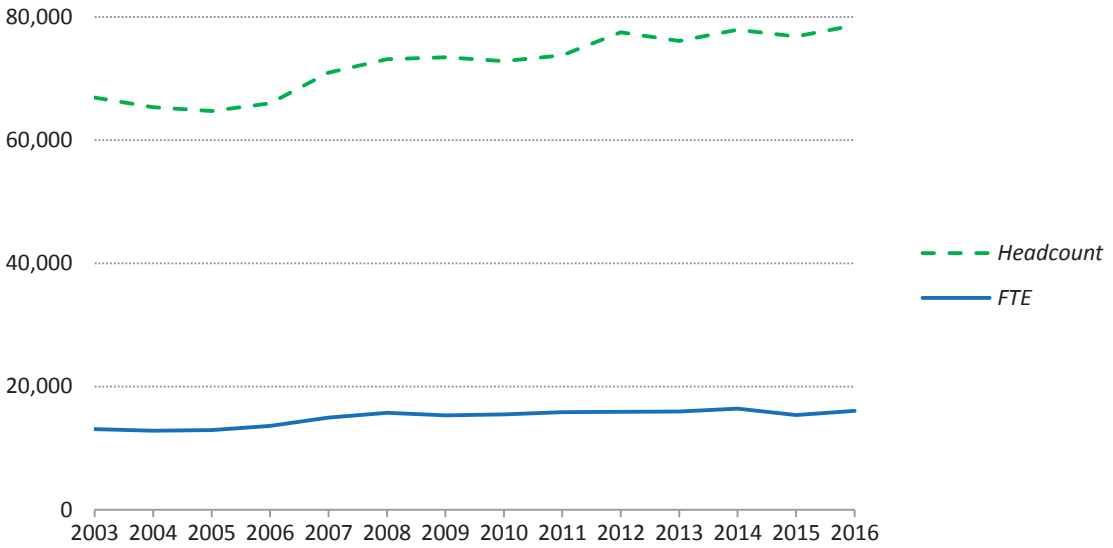
Source: UC Faculty Instructional Activities dataset

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.

Summer enrollment has increased since 2003.

8.2.1 Summer enrollment
Universitywide
2003 to 2016



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 2016, headcount and FTE summer enrollment increased by 22 percent and 18 percent, respectively.

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.

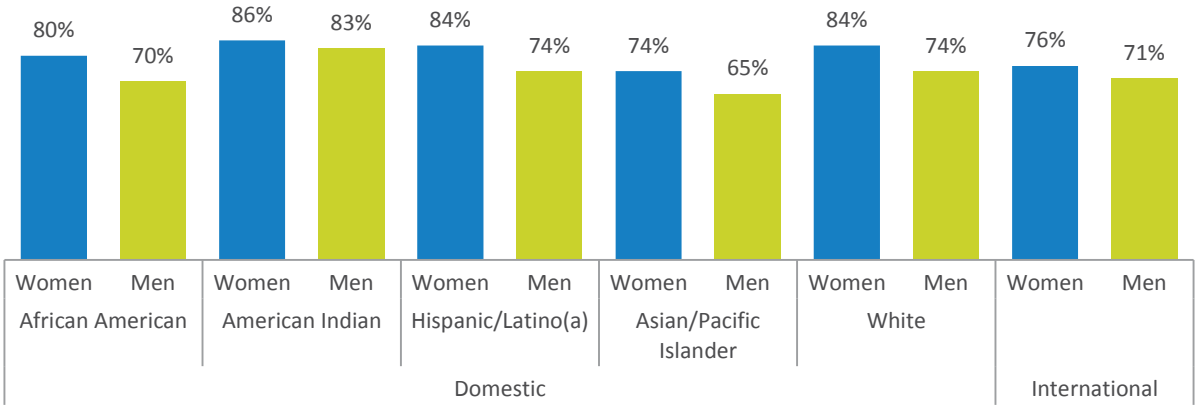
The federal government does not currently provide Pell Grant funding for summer enrollment. Because 38 percent of UC students rely on Pell support (as of fall 2016), these students may find it difficult to take advantage of summer classes and maintain timely progress to degree.

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 2016, campuses provided 29,899 students with $79 million in need-based financial aid, including $56 million in grants and scholarships. As part of the 2015 state budget agreement, three UC campuses piloted alternative pricing models for the 2016 summer session. These pilots assessed 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.

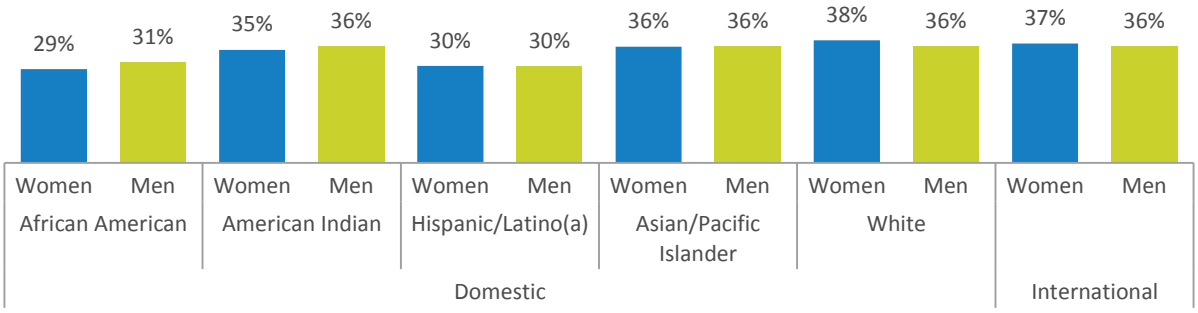
Research participation is high among UC's seniors across racial/ethnic and gender groups.

8.3.1 Students completing a research project or research paper as part of their coursework
Universitywide seniors
Spring 2016



Source: UCUES

8.3.2 Students assisting faculty in conducting research
Universitywide seniors
Spring 2016



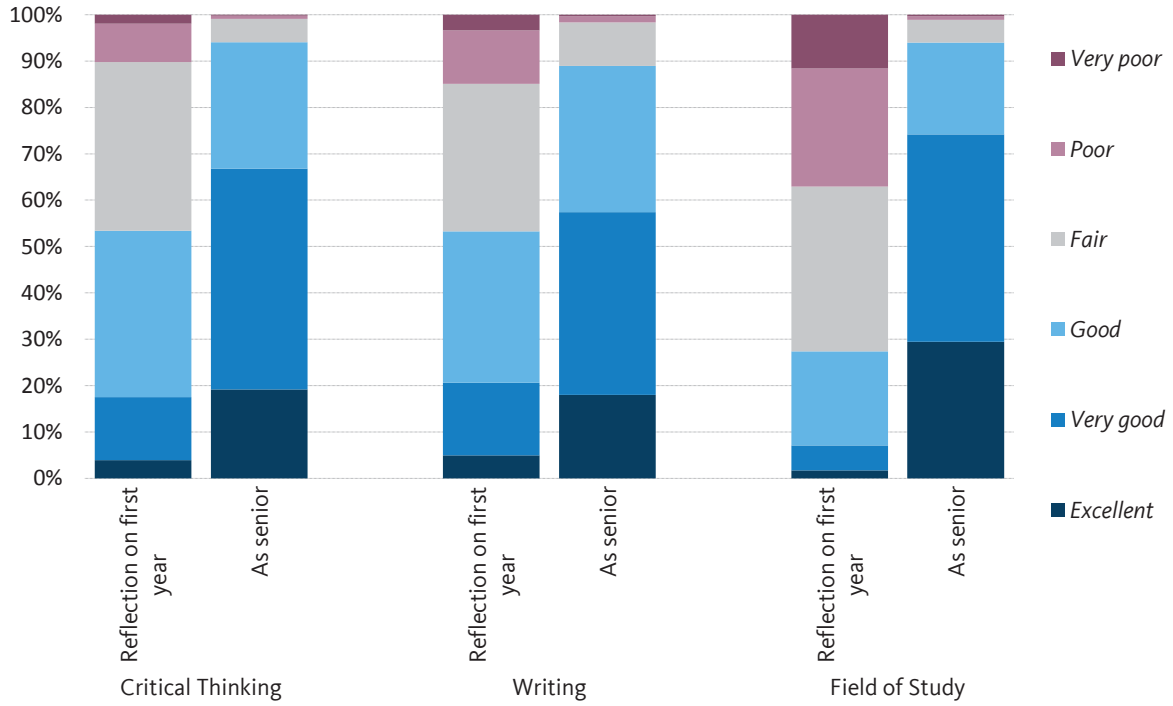
Source: UCUES

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

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

8.4.1 Self-reported skill levels from first year to senior year
Seniors who entered as freshmen
Universitywide
Spring 2016



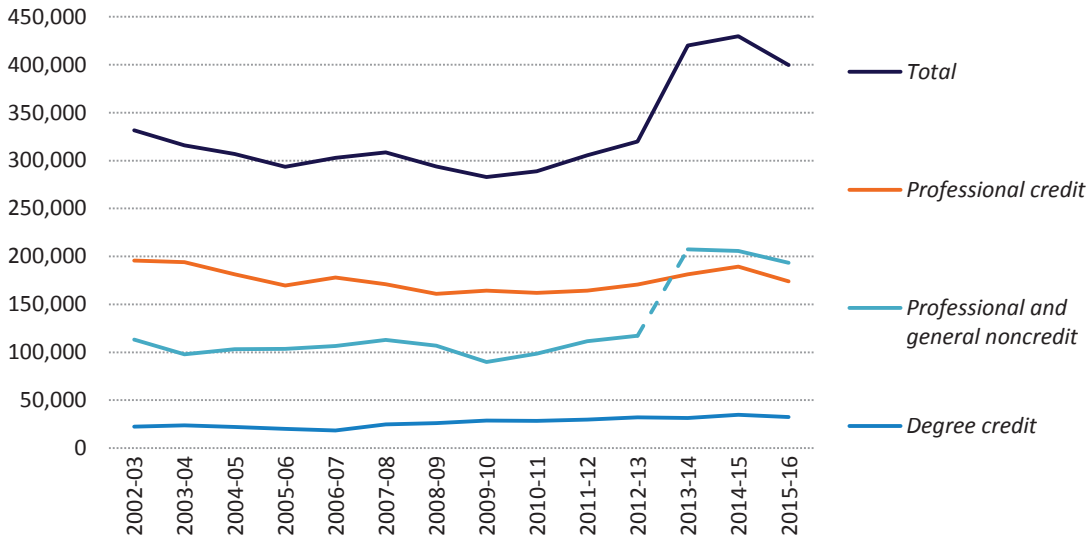
Source: UCUES

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 students self-reported significant improvements with respect to critical thinking ability, writing and understanding of their chosen field of study.

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 2015–16



Source: UC Extension Financial Statements[1]

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 Professional Certificate in Turfgrass Management program; UC Davis Extension offers a Winemaking Certificate Program.

Extension enrollment fluctuates with the economy; enrollment numbers decreased during the 2007–09 recession, for example. 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 NINE
RESEARCH

RESEARCH

The broad scope of UC research

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

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

Evaluating the research enterprise

UC's research may be assessed in a variety of ways: total 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.

A sample of research funded in 2015–16:

- UC Berkeley was awarded $12.5 million from the US. Department of Energy to support the UC/China Clean Energy Research Center for Water-Energy Solutions and Technologies.
- UC Davis received $28.8 million from the U.S. Agency for International Development to monitor the global emergence of pathogens from animals.
- UC Irvine was granted $7.0 million from the National Institutes of Health (NIH) to support the Institute for Clinical and Translational Science.
- Lawrence Berkeley National Laboratory received $15.8 million from the SLAC National Accelerator Laboratory to provide crucial accelerator components.
- UCLA received $21.9 million from the Cleveland Clinic Foundation for a multi-site clinical trial of the effects of using the sedative dexmedetomidine in cardiac surgery.
- UC Merced was granted $5.0 million by the National Science Foundation for five years of support for the Center for Cellular and Biomolecular Machines.
- UC Riverside was awarded $4.0 million by the U.S. National Institute for Food and Agriculture to study the effects of the huanglongbing pathogen on the citrus industry.
- UC San Diego received $32.6 million to support operations of the Simons Observatory in the Atacama Desert of northern Chile.
- UC San Francisco was granted $35.0 million by the Parker Institute for Cancer Immunotherapy to support cancer immunotherapy research.
- UC Santa Barbara's Kavli Institute for Theoretical Physics received $4.6 million from the National Science Foundation.
- UC Santa Cruz was granted $7.3 million by the National Human Genome Research Institute for its Genome Browser.
- UC's Division of Agriculture and Natural Resources was awarded $3.7 million by the California Department of Public Health for obesity prevention research and evaluation.

The true costs of conducting research

Direct research expenditures at UC during 2015–16 totaled over $4.4 billion, with federal funds providing more than half of the total. Private sources account for about 25 percent of research sponsorship — 13 percent from corporations and 12 percent from nonprofits. Nearly two-thirds of research expenditures in 2015–16 went to salaries and benefits. Only about 26 percent went to faculty; the majority supported staff researchers, and about one-fifth went to students and postdoctoral scholars.

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

In 2015–16, UC's indirect cost recovery was just over $1 billion. The true indirect costs of research, however, are typically much higher than the rate that research sponsors are willing to pay to UC or, for that matter, to other research universities. Rates negotiated with federal agencies range from 53 to 57 percent across UC campuses, but this rate is still 18 to 20 percentage points below the true indirect costs. Non-federal research sponsors, including corporations, nonprofits and the state of California, have policies that limit indirect cost rates to well below federal rates. The true costs of UC research exceed recovered amounts by hundreds of millions of dollars annually, which must be made up from other sources.

Research results — enhancing instruction

UC's research enhances the student experience. Faculty often incorporate their research results into their courses, providing UC students with access to insights and discoveries, sometimes before they are published. UC students also participate; the 2016 UC Undergraduate Experience Survey found over 40 percent of UC students had been involved in faculty-directed activity other than coursework, such as research or creative projects. Participation in research defines graduate education, and graduate student researchers make up a significant portion of the research workforce. In 2015–16, of UC's 56,000 graduate students, about 15,000 were employed as paid research assistants. UC also trains about 6,400 postdoctoral scholars annually.

Research results — spurring the economy

Many businesses in California are based on technology developed at UC or rely on the skills of UC graduates, an important example of how cultivating research results can benefit society. The discoveries made through research become public knowledge through publications and the patent process. These innovations enhance industries, stimulate economies, increase security 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, over 1,000 startup companies have been founded around UC inventions, with 85 percent based in California.

Research results — communicating and curating knowledge

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

The books, periodicals and journals in which research findings are published are costly, which puts them beyond the reach of many researchers, students and journalists, especially in developing regions. To ensure that research findings become public, UC has adopted Open Access policies as part of its curation efforts, whereby articles by UC authors are made available through the eScholarship repository, operated by UC's California Digital Library. Since the Open Access program began in 2012, there have been more than 45,000 publications deposited, and nearly one million article downloads worldwide.

Research results — improving global health

Clinical research projects are another example of cultivating new knowledge to benefit society. During 2015–16, UC began more than 1,000 new clinical trial research projects in addition to 2,500 already underway. Clinical trials occupy a unique position in academic research. These projects represent a crucial stage in the journey from a scientific discovery to an effective treatment. Of the research dollars that came to UC from businesses during 2015–16, 57 percent was directed toward clinical trials.

Research results — assessing climate change and charting the energy future

UC is a national and global leader in research on climate science, including monitoring atmospheric changes and global temperature rise and assessing the impacts of climate change on marine and land-based ecosystems as well as the built environment. UC scholars and students carry out some of these studies at the 39 Natural Reserve System (NRS) sites that are maintained by UC at locations around California, and that support a wide range of instructional, research and service activities. Most of UC's climate science work is funded by federal agencies, notably the Departments of Defense and Energy, the Environmental Protection Agency, the National Oceanic and Atmospheric Administration and the National Science Foundation. Each year, UC receives an average of $160 million in federal funding to pursue climate research, and Lawrence Berkeley National Laboratory receives an additional $40 million from the Department of Energy for research on energy and the environment.

UC National Laboratories — science in the national interest

The three University of California-affiliated National Laboratories — Lawrence Berkeley (LBNL), Lawrence Livermore (LLNL) and Los Alamos (LANL) — are among the nation's premiere multi-disciplinary research and development (R&D) laboratories. The University has played a major public service role as a manager of these three Department of Energy (DOE) national laboratories since their inception, consistent with the University's mission of education, research and public service. The three labs, with annual budgets approaching $5 billion and a combined workforce of nearly 22,000, perform vital energy and national security research.

The National Laboratories also support UC's educational mission. At Lawrence Berkeley National Laboratory, nearly 23 percent of employees are student assistants, graduate research assistants or postdoctoral scholars. At Lawrence Livermore National Laboratory, three percent of the workforce are postdocs, and at Los Alamos National Laboratory, almost 12 percent are postdocs or undergraduate and high school student assistants.

Looking forward — federal research funding

With federal funding supporting more than half of UC's research, the vitality of UC's research enterprise is dependent on agencies that may face reduced appropriations under the current administration. The long-term prospects for federal research sponsorship, particularly for climate and environmental science, remain uncertain.

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

For more information

UC's Budget for Current Operations 2017–18 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/2017-18budgetforcurrentoperations.pdf.

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

A map of the economic impact of UC research activity in California is here: http://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 are available here: http://ucop.edu/institutional-research-academic-planning/content-analysis/research/index.html

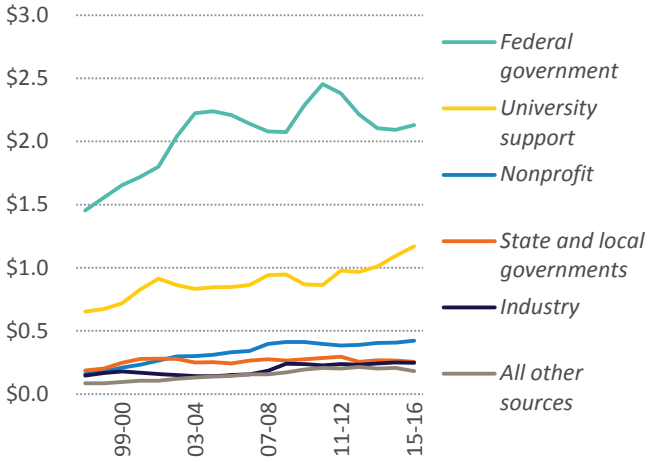
An interactive data visualization showing UC's research award history since 2001 is available online: https://www.universityofcalifornia.edu/infocenter/awards-and-proposals

Also available in the Research section of the UCOP Institutional Research and Academic Planning website (http://ucop.edu/institutional-research-academic-planning/content-analysis/research/index.html) is a series of Topic Briefs presenting detailed analysis of recent trends in UC's federal, state, corporate and non-profit funding for research and related projects.

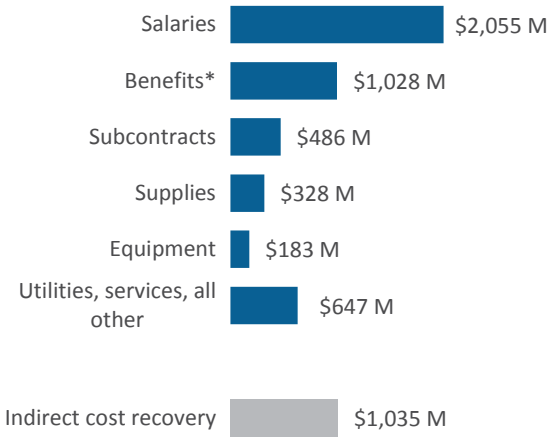
Information about the National Energy Laboratory System is available at the U.S. Department of Energy website (https://energy.gov/downloads/annual-report-state-doe-national-laboratories).

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

9.1.1 Direct research expenditures by source
Universitywide, $ billions
1997–98 to 2015–16



9.1.2 Total research expenditures by type
Universitywide, $ millions
2015–16



Source: UC Corporate Financial System[1]
*Includes post-employment benefit accruals.

UC's direct research expenditures during 2015–16 amounted to about $4.4 billion. Of this total, 48 percent came directly from federal agencies. This is the same percentage as last year, which is lower than any time in the previous 15 years. A further seven percent represents federal flow-through funds that came to UC as sub-awards from the state, corporations, nonprofit organizations or other universities. Together, about 55 percent of UC's research expenditures started as federal funds. About three-quarters of UC's federal research funds were provided by just 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 temporarily 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, but this may change with the current administration.

University support, accounting for almost 27 percent of all 2015–16 research expenditures, derives from a variety of sources. These funds include UC general funds, state government specific appropriations, endowment income and gifts.

When the over $1 billion in recovered indirect costs are included, total research expenditures during 2015–16 amounted to about $5.8 billion, representing almost one-fifth of UC's total expenditures. About a quarter of research salaries went to faculty.

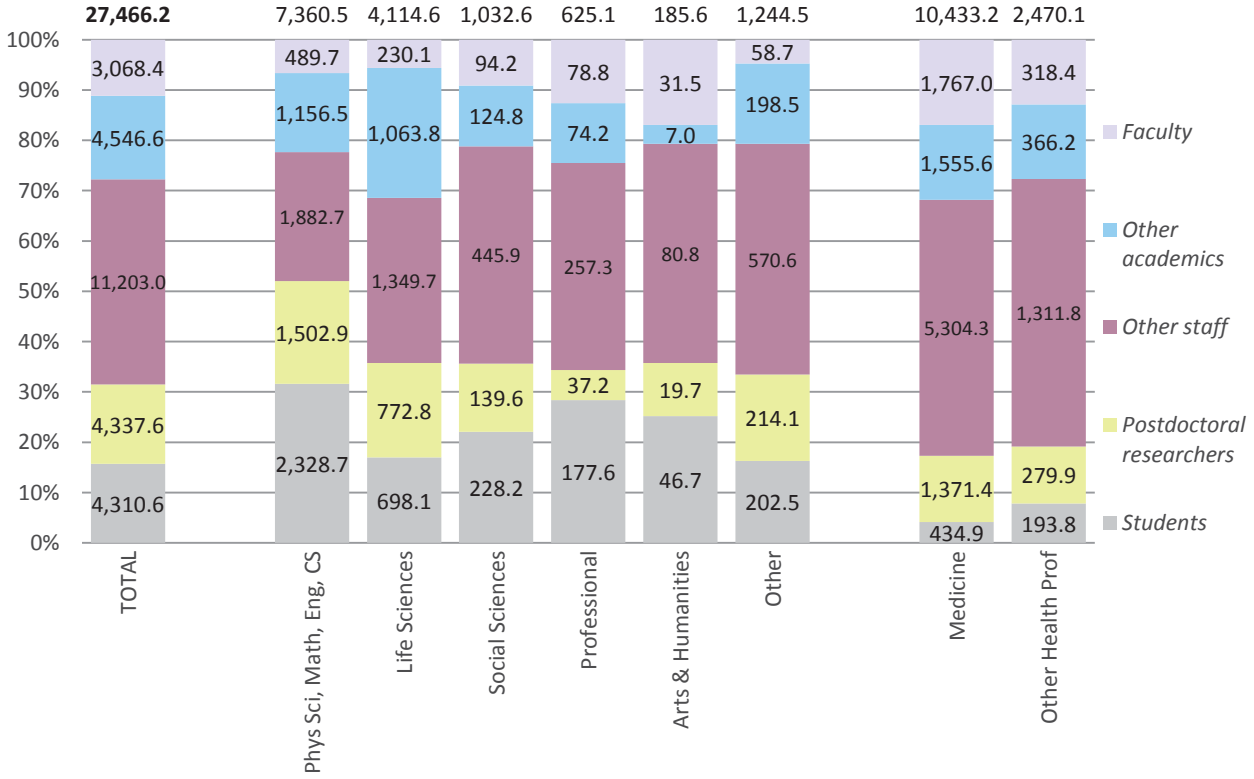
Research salary distribution ($ millions)

Faculty	543	26%
Academic researchers	325	16%
Other staff	731	36%
Postdoctoral researchers	241	12%
Students	214	10%
Total	**2,055**	100%

[1] Direct amounts have been adjusted for inflation and do not include accrual funds for postemployment retirement benefits or indirect cost recovery funds unless otherwise noted.

In 2015–16, funded research projects provided employment for about 27,500 full-time-equivalent (FTE) personnel. This represents almost 18 percent[1] of the total UC workforce when student employees are included.

9.2.1 Research workforce by discipline, FTE
Universitywide
2015–16



Source: UC Corporate Personnel System[2]

A diverse community of faculty, other academics, postdoctoral researchers, graduate and undergraduate 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.

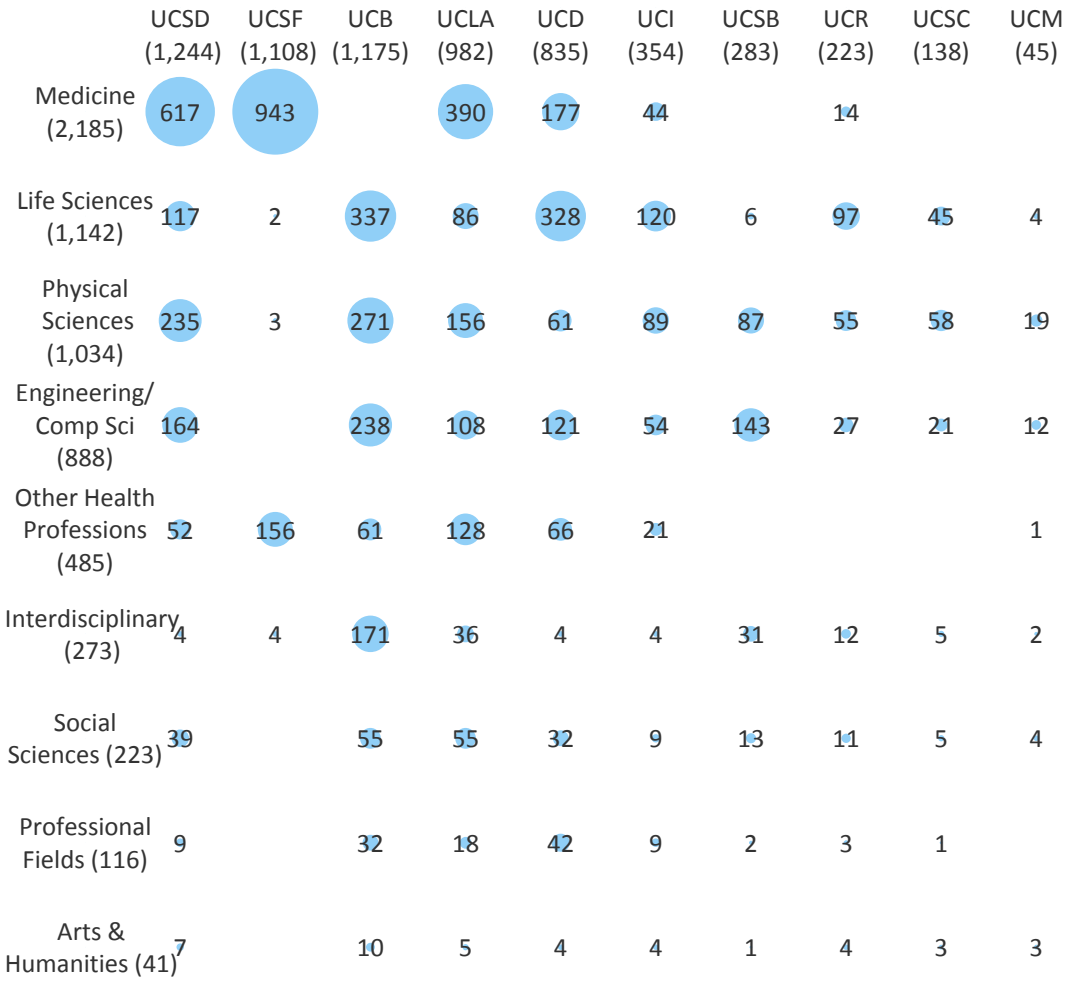
The 2015–16 research workforce is about 2 percent larger than it was the prior year, due principally to an increase in the numbers of medical researchers.

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 where opportunities for external research funding are limited, such as the arts and humanities, this work constitutes the lion's share of the total research effort.

[1] UC has about 156,000 full-time-equivalent employees, including staff, faculty and students, as of October, 2016.
[2] Data shown here represents full-time-equivalent personnel receiving earnings from research accounts.

Postdoctoral scholars 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 2016



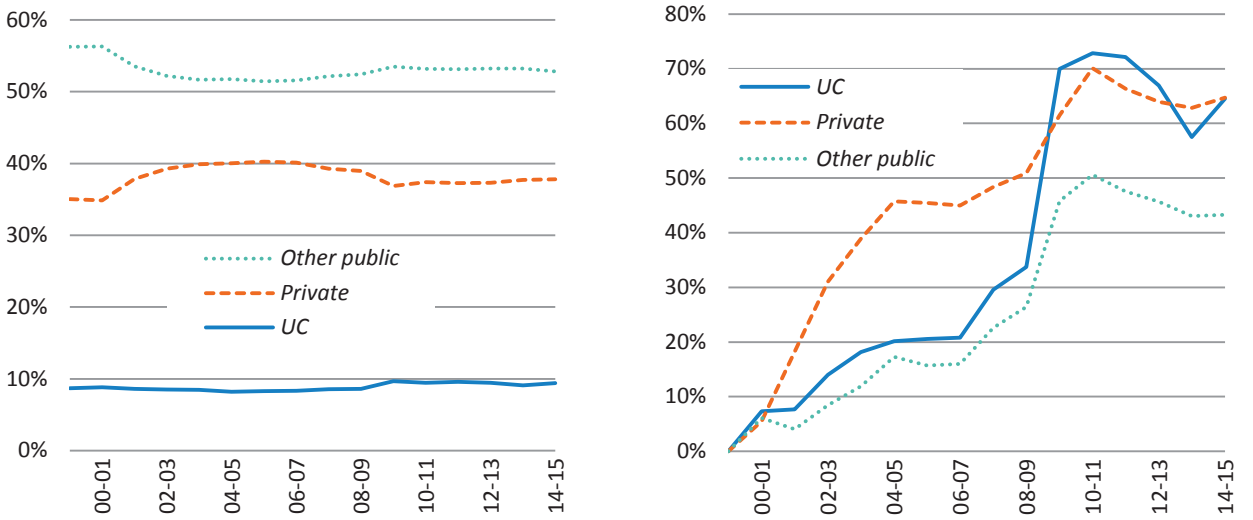
Source: UC Information Center Data Warehouse, October 2016 Payroll Data[1]

There are about 6,400 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.

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 cumulative growth
UC and comparison institutions
1999–2000 to 2014–15



Source: IPEDS

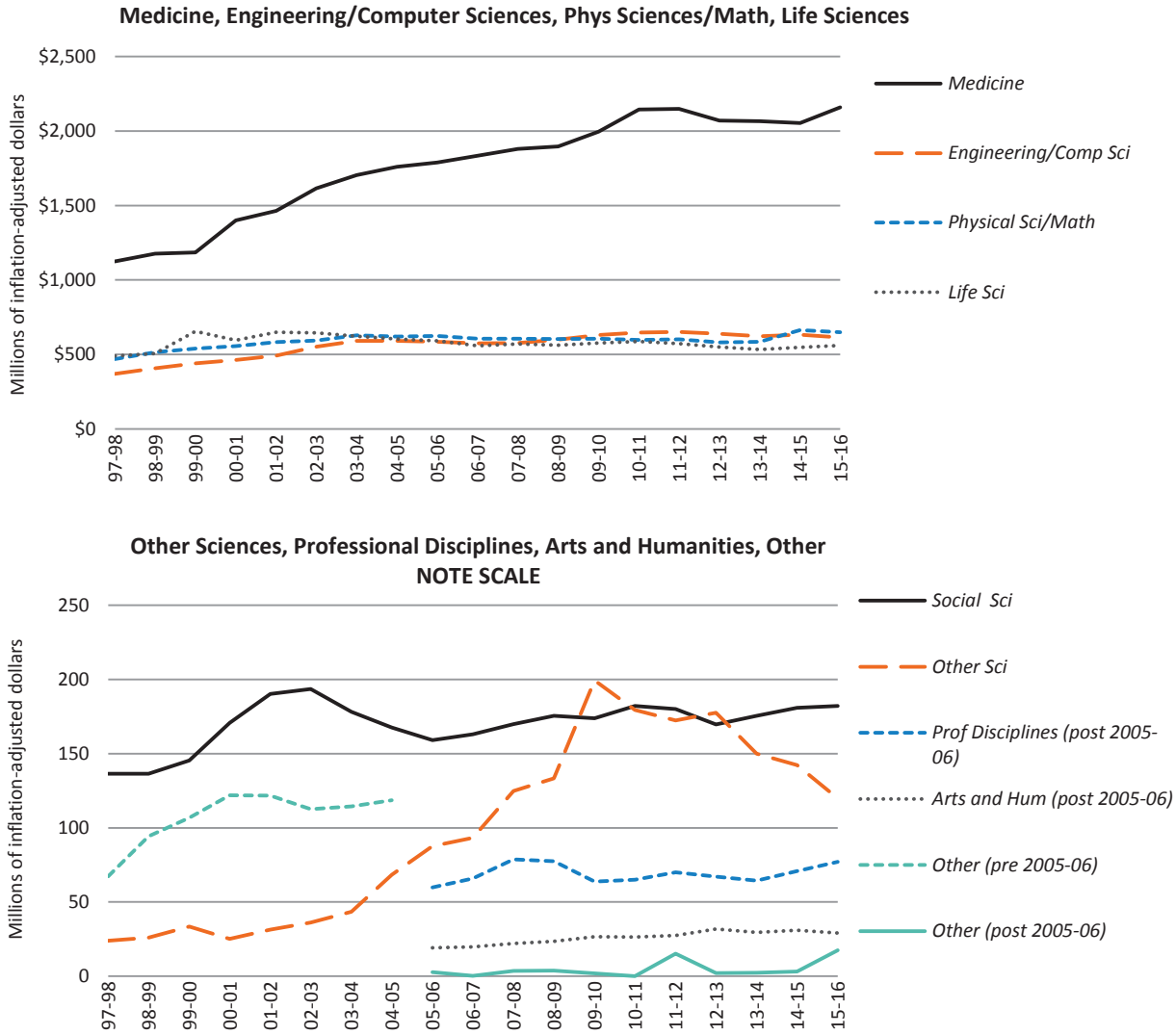
UC's contribution to academic research and development activity in the United States, as measured by research expenditures, has remained constant over the last decade, at between 9 and 10 percent. Over this period, the cumulative increase in UC's research expenditures exceeded the average growth at other 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.

Most research universities experienced a decline in research expenditures during 2012–13 and 2013–14, as stimulus funds from the American Recovery and Reinvestment Act were spent and 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 Federal Bipartisan Budget Act of 2015 called for increased agency research funding for the next two years, and this is reflected in UC's research expenditures for 2014–15 and 2015–16 (as evidenced in Indicator 9.1.1). Whether this level of research funding continues depends in large part on the federal budget priorities of the current administration and Congress.

Inflation-adjusted expenditures for research in the medical fields have increased by 92 percent since 1997–98, compared to an average of 44 percent for all other disciplines.

9.3.2 Direct research expenditures by discipline
Universitywide
1997–98 to 2015–16



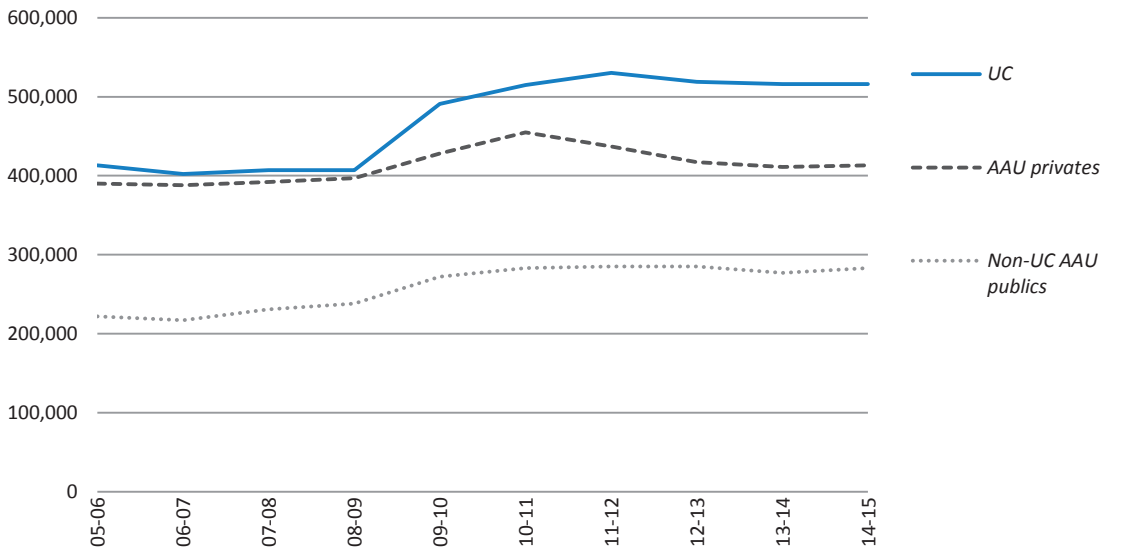
Prior to 2005–06, "Other" included professional and arts and humanities. Source: UC Corporate Financial System

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.

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

9.3.3 Average inflation-adjusted research expenditures per ladder-rank faculty
UC and AAU comparison universities
2005–06 to 2014–15

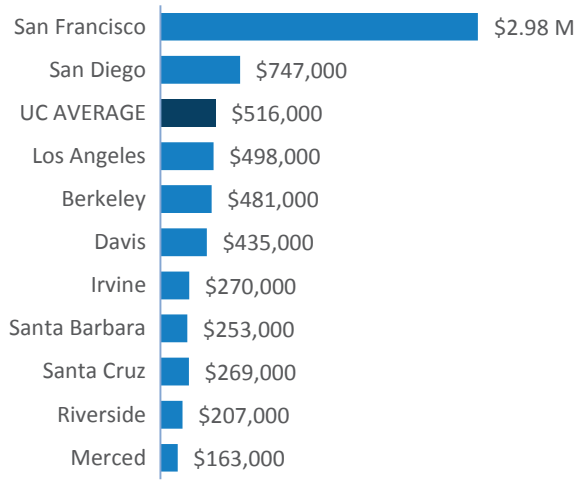


Source: IPEDS

UC faculty are extremely successful at attracting research support from both government and private sponsors. On average, UC annually conducts $516,000 in research per tenured and tenure-track faculty member, which surpasses the average of $413,000 per faculty member for Association of American Universities (AAU) private institutions, and $283,000 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.

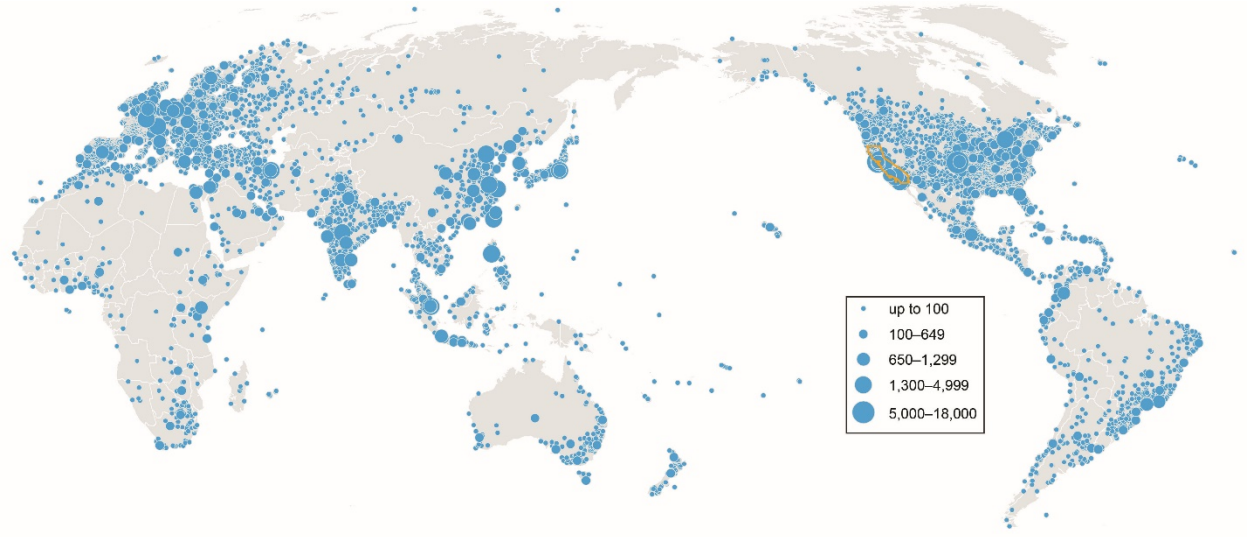
9.3.4 Average research expenditures per ladder-rank faculty
UC campuses
2014–15



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

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.

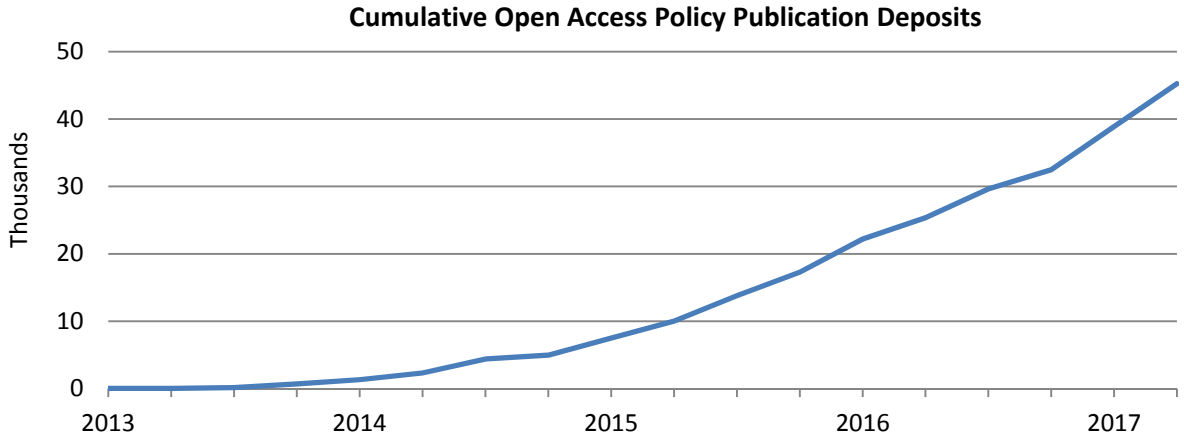
9.4.1 Open Access Project Initiative
Universitywide
March 2013 to March 2017



Source: California Digital Library

This map shows the geographic distribution and concentration of the nearly one million downloads of articles deposited under the UC Academic Senate's Open Access policy into eScholarship, a repository managed by UC's California Digital Library. There are currently over 45,000 articles covered by the Open Access policy available in the repository, 35,000 of which were deposited just in the last two years.

This increased deposite rate is due to an automated publication management system that was implemented in 2015. The recent application of these policies to all UC employees, not just Senate Faculty, by the Presidential Open Access policy promises to further accelerate the growth of publications in eScholarship. The result of this program is a broader global distribution of research findings to the public.



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

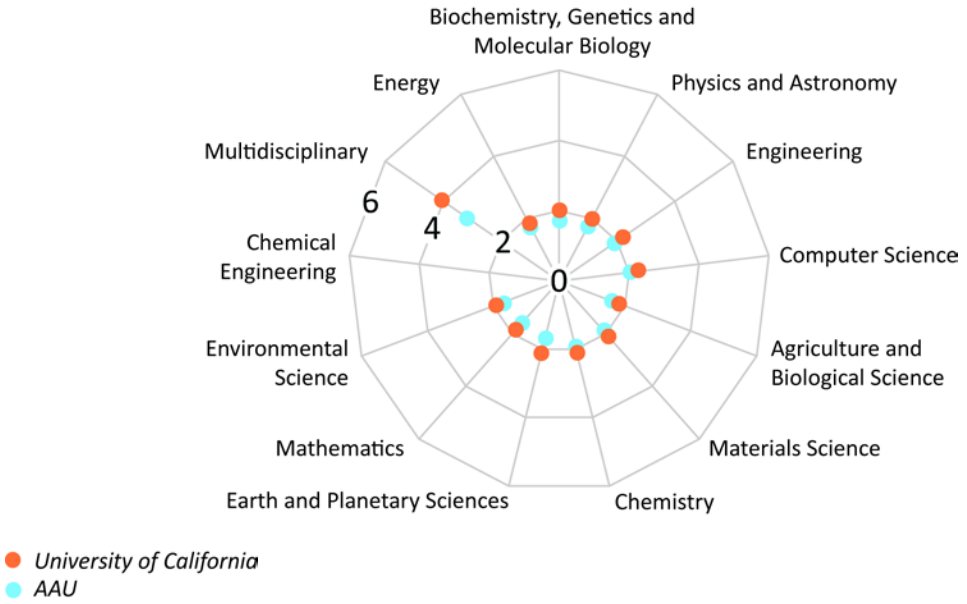
9.5.1 UC research publication performance, by discipline group
Universitywide and AAU UC-excluded average
2011 to 2016

Publication databases can be analyzed to develop measures of the output and impact of UC researchers. The SciVal® research performance system, which draws on Elsevier's Scopus publication database, shows that UC researchers generated over 337,000 publications between 2011 and 2016 — a scholarly output of about 180 publications per day across the UC system. This represents 8.9 percent of all research publications in the United States.

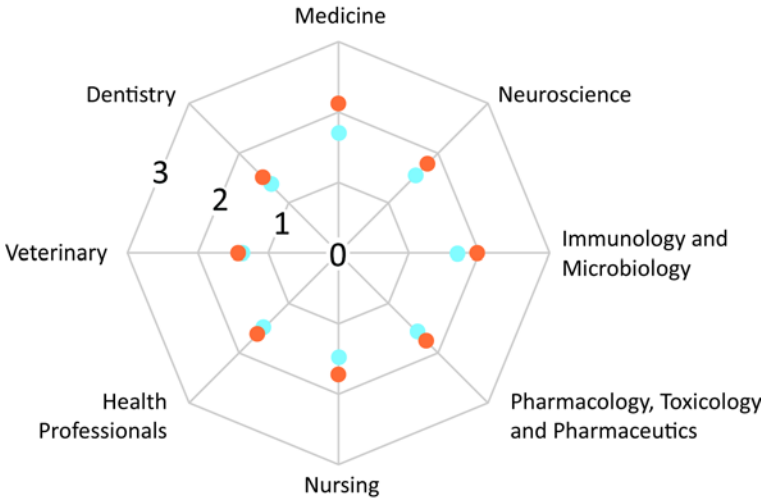
The quality and impact of UC research publications can be quantified as well. The SciVal® system measures the Field-Weighted Citation Impact (FWCI) to assess research performance, compiling publication citation data across disciplines and comparing the citations of UC research output to state, national and global norms. With the global level set to a baseline of 1.0, the FWCI for the UC system as a whole is 2.05 across all disciplines, higher than both the U.S. average of 1.46 and the AAU average of 1.73. For UC as a whole, the average number of citations per publication is 12.9.

UC's publication impact is particularly high in the fields of arts and humanities, economics, computer science, engineering and medicine.

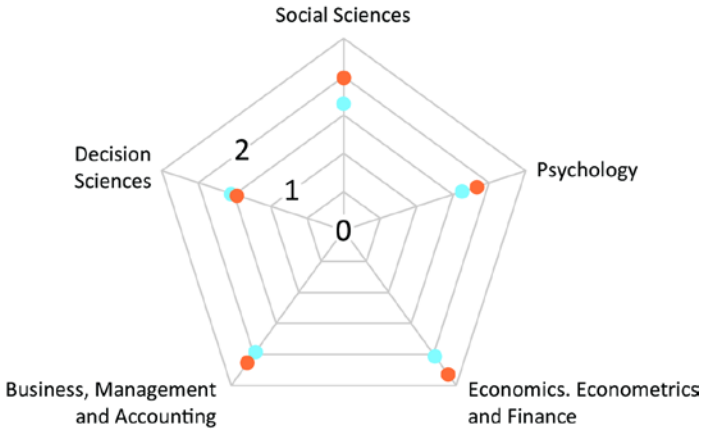
Science and Engineering



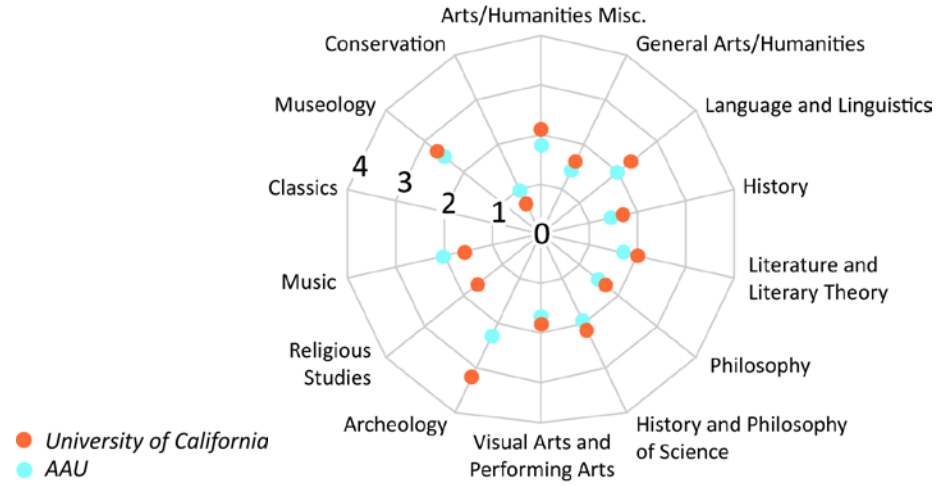
Health Sciences



Social Sciences



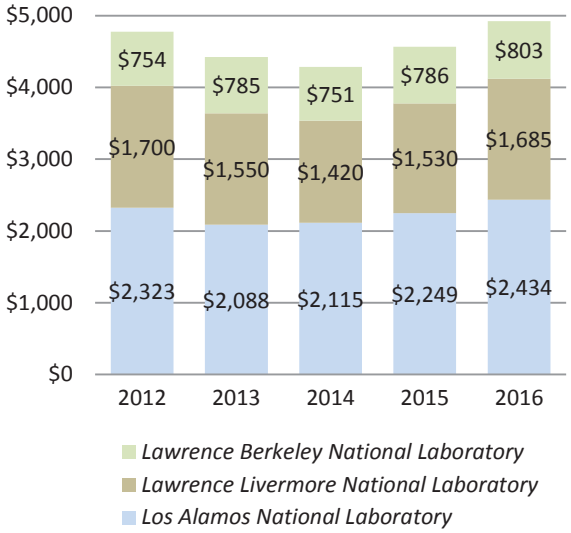
Arts & Humanities



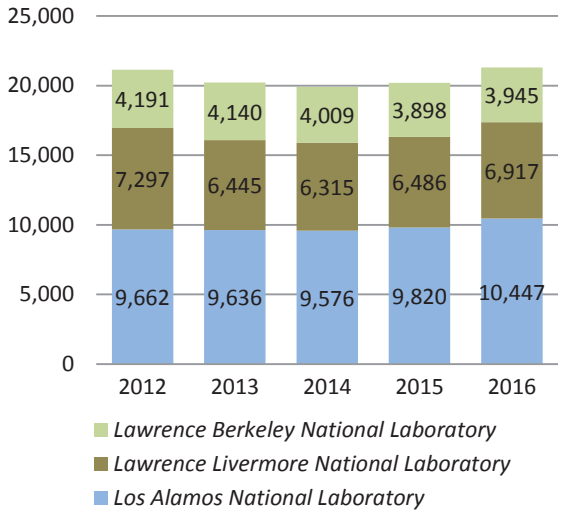
Source: SciVal ® database, Elsevier B.V., http://www.scival.com (downloaded April 19, 2017)

The three UC-affiliated DOE National Laboratories conduct critical research on national nuclear security, alternative energy, conservation technologies and climate science.

9.5.2 Annual expenditures, $ millions
UC-affiliated National Laboratories
2012 to 2016



9.5.3 Workforce headcount totals
UC-affiliated National Laboratories
2012 to 2016



Source: UC National Laboratories, US DOE

Of the 17 National Laboratories funded by the U.S. Department of Energy, three are managed by the University of California. Lawrence Berkeley National Laboratory, conducts unclassified research across a wide range of disciplines, including new energy systems, quantitative biology, nanoscience environmental solutions and integrated computing as a tool for scientific discovery.

Lawrence Livermore and Los Alamos National Laboratories are national security laboratories, working to ensure the safety, security and reliability of the nation's nuclear deterrent, to reduce global threats and to solve emerging energy challenges.

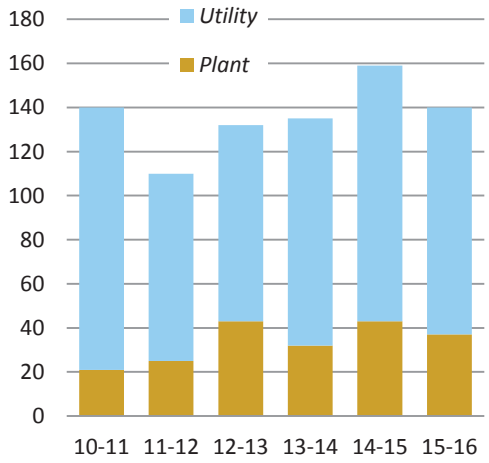
Together, the three labs operate annual budgets approaching $5 billion with a combined workforce of nearly 22,000.

The National Laboratories also offer specialized research facilities accessible to UC faculty and the broader academic community. This provides researchers with some of the nation's most advanced tools of modern science, including cutting-edge, high-performance computing platforms for scientific research, advanced light sources and neutron sources. The three UC-affiliated National Laboratories offer nearly forty such designated user facilities and shared R&D facilities – including LBNL's National Energy Research Scientific Computing Center, LLNL's National Ignition Facility, and the Los Alamos Neutron Science Center.[1]

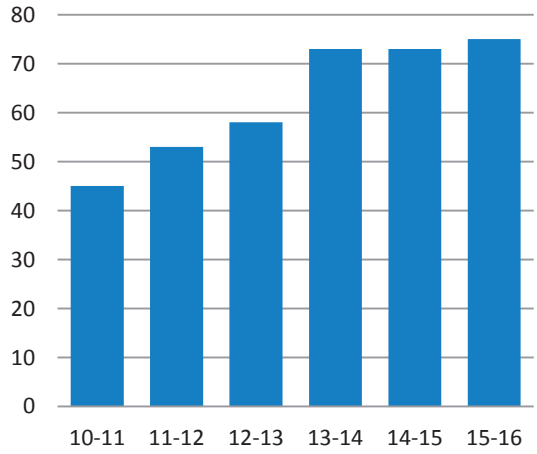
[1] https://energy.gov/technologytransitions/technology-transitions-facilities-database

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

9.5.4 New licenses for UC technology issued to California businesses
2010–11 through 2015–16



9.5.5 UC startups formed per year in California
2010–11 through 2015–16



Source: UC Innovation Alliances and Services

Research is part of UC's mission, and much of this research is basic, foundational research. Some UC research leads directly to new inventions and innovations; bringing 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 issued exclusively to the licensee. Plant licenses cover sexually and asexually reproducing plant varietals, and are often licensed via nonexclusive licenses to nurseries and distribution centers. From the high-tech centers of San Diego and Silicon Valley to the agriculture of the Central Valley, UC technology is licensed throughout California. As of 2016, UC's license portfolio in California included more than 1,200 utility and plant licenses to more than 550 separate companies.

UC technology licenses active in California, 2016

	Utility	*Plant*	*Total*
Active licenses	642	577	1,219
Number of licensees	407	150	557

UC startups are independently operating companies that were formed to commercialize a UC technology. The number of startups in California has increased to about 75 companies each year.

CHAPTER TEN
PUBLIC SERVICE

PUBLIC SERVICE

The public service mission

As a service to the state of California and its residents, UC's 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. 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 (AES) and to connect that research with local communities throughout each state through Cooperative Extension (CE). These two divisions, AES and CE, are under the leadership of the UC systemwide Division of Agriculture and Natural Resources (ANR). ANR coordinates the AES 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.

ANR operates a vast, statewide network of researchers and educators dedicated to the creation, development and application of knowledge in agricultural, natural and human resources. ANR develops and delivers science-based solutions for healthier food systems, healthier environments and healthier Californians. Overseeing 3,000 local partnership programs, ANR maintains and enhances connections that engage UC with the people of California (see map indicators 10.1.1 and 10.1.2 in this chapter).

Across all campuses and divisions, the University operates at least 21,000 community-based programs (a conservative estimate). These programs can be explored via a UCOP-produced interactive map, *UC in California: Impact Beyond Campus Borders*, which highlights UC-operated community-based programs across the state and allows searching legislative districts, counties, regions and campuses.
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. California's $57 billion agriculture sector (2015) is a major contributor to the food supply of not just the state, but the nation and the world. California's continued success in agriculture depends on adopting scientific and technological innovations derived from the results of research. ANR works with communities and industries to enhance California's agricultural economy; to ensure safe and secure food supplies; to manage pests and diseases; to improve water quality, quantity and security; to increase science literacy in agriculture and nutrition; and to improve energy security and green technologies.

Environmental stewardship

UC's public service mission includes an extensive portfolio of environmental stewardship activities. ANR manages a wide network of conservation and

sustainability programs addressing critical issues such as drought, climate change and invasive species, contributing to improved environmental quality and natural resources conservation. The public service impact of ANR academics is greatly extended by the statewide California Naturalist Program, which uses a hands-on science curriculum and citizen science to foster a diverse cadre of volunteers, working with federal, state, local and nonprofit 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.

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.

Beyond these functions, 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, UC's 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 (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 local, statewide and national nutrition policy.

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 for educators at more than 10,000 schools each year. CSMP professional learning opportunities are aligned with state-adopted standards and are collaboratively designed by K-12 and university educators to enhance learning for all students.

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. UC contributes more than $32 billion to the gross state product and attracts over $8 billion in annual funding from outside the state.

True to its land-grant mission, the UC system touches 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 California counties, regions, campuses, UC system and California elected representative districts: http://ucal.us/maps

Division of Agriculture and Natural Resources: http://ucanr.edu

Natural Reserve System: http://www.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://csmp.ucop.edu/

UC Information Center dashboards

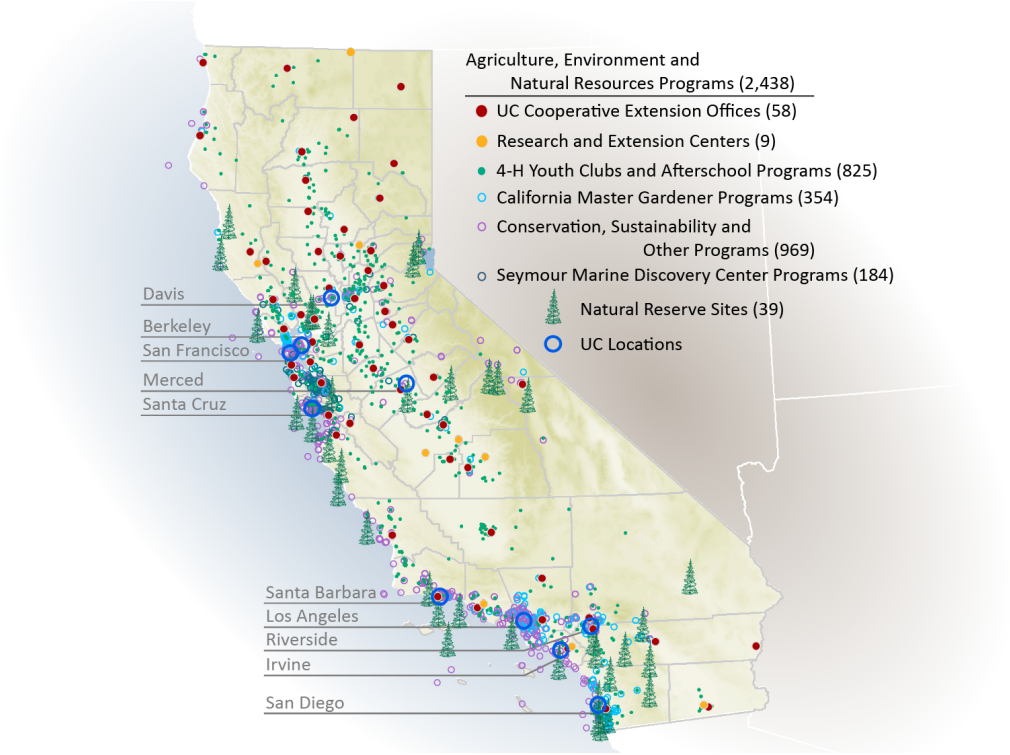
UC's role in educating California's workforce: http://www.universityofcalifornia.edu/infocenter/degrees-awarded-glance

Stem degree pipeline: http://www.universityofcalifornia.edu/infocenter/uc-stem-degree-pipeline

UC's alumni employment outcomes: http://www.universityofcalifornia.edu/infocenter/uc-undergraduate-alumni-outcomes

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
Spring 2017



Source: UC campuses

UC's Division of Agriculture and Natural Resources (ANR), as the state's land-grant arm, brings the power of UC research to all 58 California counties to help solve local agricultural and natural resource issues. In 2016, ANR included 115 Cooperative Extension Specialists and about 600 affiliated Agricultural Experiment Station researchers located in 40 departments on the Berkeley, Davis, Riverside and, more recently, Merced campuses. One hundred and sixty five Cooperative Extension Advisors conducted research, outreach and education from locally based Cooperative Extension (CE) offices. Nine statewide Research and Extension Centers (RECs) offer researchers places to conduct field experiments and educational opportunities for the public.

The statewide network of local CE sites and RECs is often the face of UC to Californians with no other connection to the University. In 2016, locally based CE programs had contact with around one million adults and youth to provide science-based outreach. CE disseminated agriculture and natural resources research results through close to 1,000 community-based classes, workshops, demonstrations and field days. Through participation in CE programs, growers adopt best practices resulting in increased yield, reduced inputs, increased efficiency, increased economic return and conservation of natural resources.

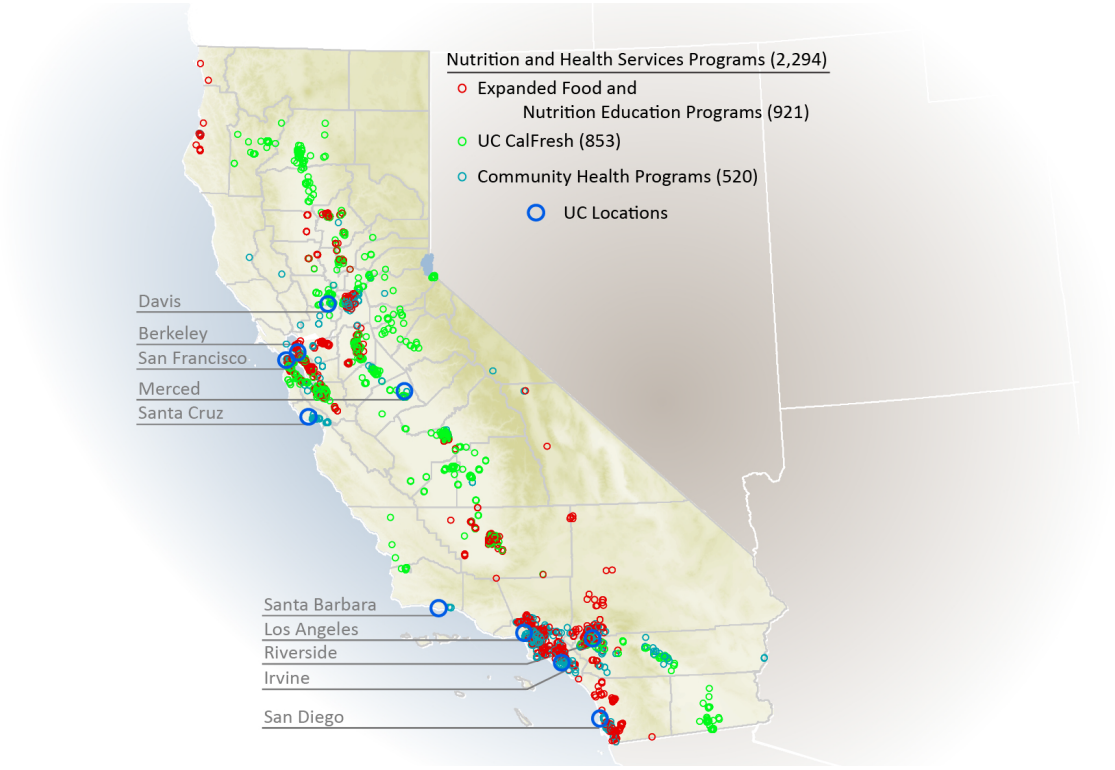
In addition, ANR operates eight statewide programs and two institutes with multidisciplinary approaches to complex issues. During 2016, ANR's California

Naturalist Program trained and certified naturalists who contributed close to 35,000 hours of public service conducting scientific research, environmental monitoring, restoration and conservation. The statewide UC Master Gardener Program, managed by ANR, extends research-based information about home horticulture and pest management to the public in more than 50 counties. Over 6,200 active UC Master Gardener volunteers donated over 418,000 hours — the equivalent of 200 full-time employees, which would have cost $11.5 million if the time had not been donated. Finally, UC operates the statewide 4-H Youth Development Program, managed by ANR, which uses a positive youth development framework and experiential, inquiry-based science learning. Approximately, 200,000 youth ages 5 through 19 participated in the UC 4-H program during 2016. Youth who participate in 4-H programs have been shown to be 25 percent more likely to contribute to their communities and to see themselves going to college.

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.

UC promotes healthy outcomes across the state by leveraging partnerships with local communities.

10.1.2 UC nutrition and health programs
Spring 2017



Source: UC campuses

Through around 2,300 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.

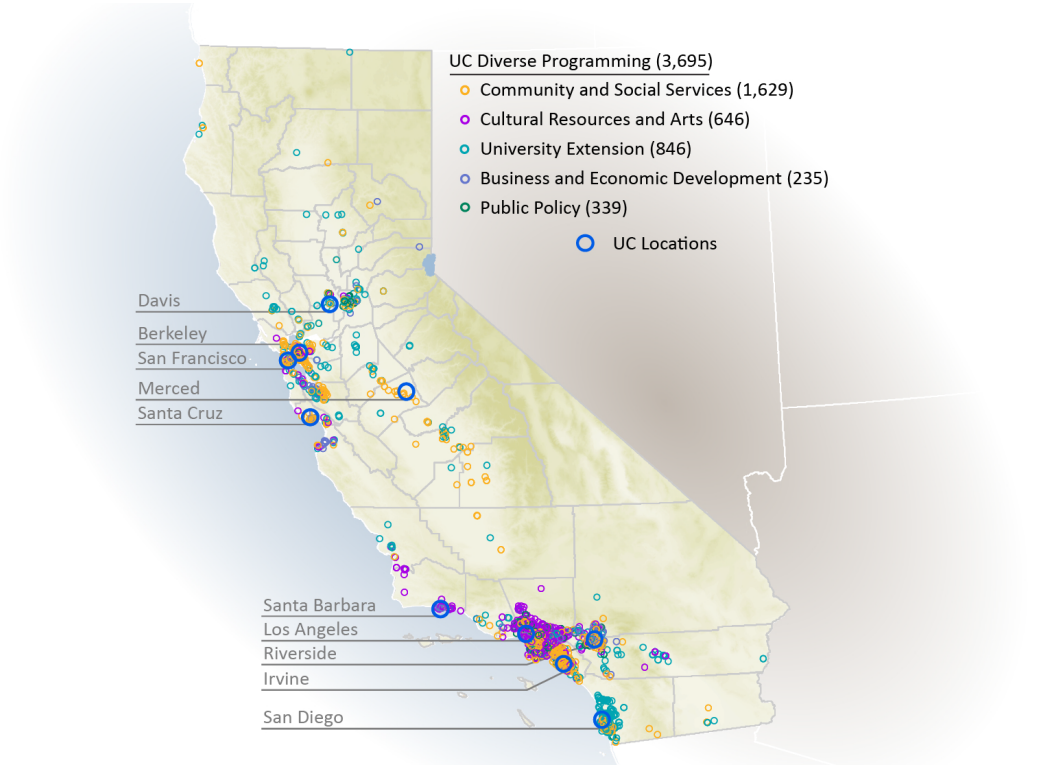
ANR's two main nutrition education programs are the UC Expanded Food and Nutrition Program (EFNEP), in 24 California counties, and the UC CalFresh Program, in 31 counties. EFNEP delivers research-based nutrition education to limited resource families with young children to improve healthy lifestyle choices. In 2016, of the 6,000 limited-resource adults participating in UC EFNEP 90% improved nutrition practices and 85% improved their skills managing their food budget. The UC CalFresh Program focuses on youth, utilizing schools as the hub for community engagement. During 2016, the program was delivered in 237 preschools and 409 K-12 schools, afterschool programs and 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/.

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
Spring 2017



Source: UC campuses

UC administers around 1,630 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.

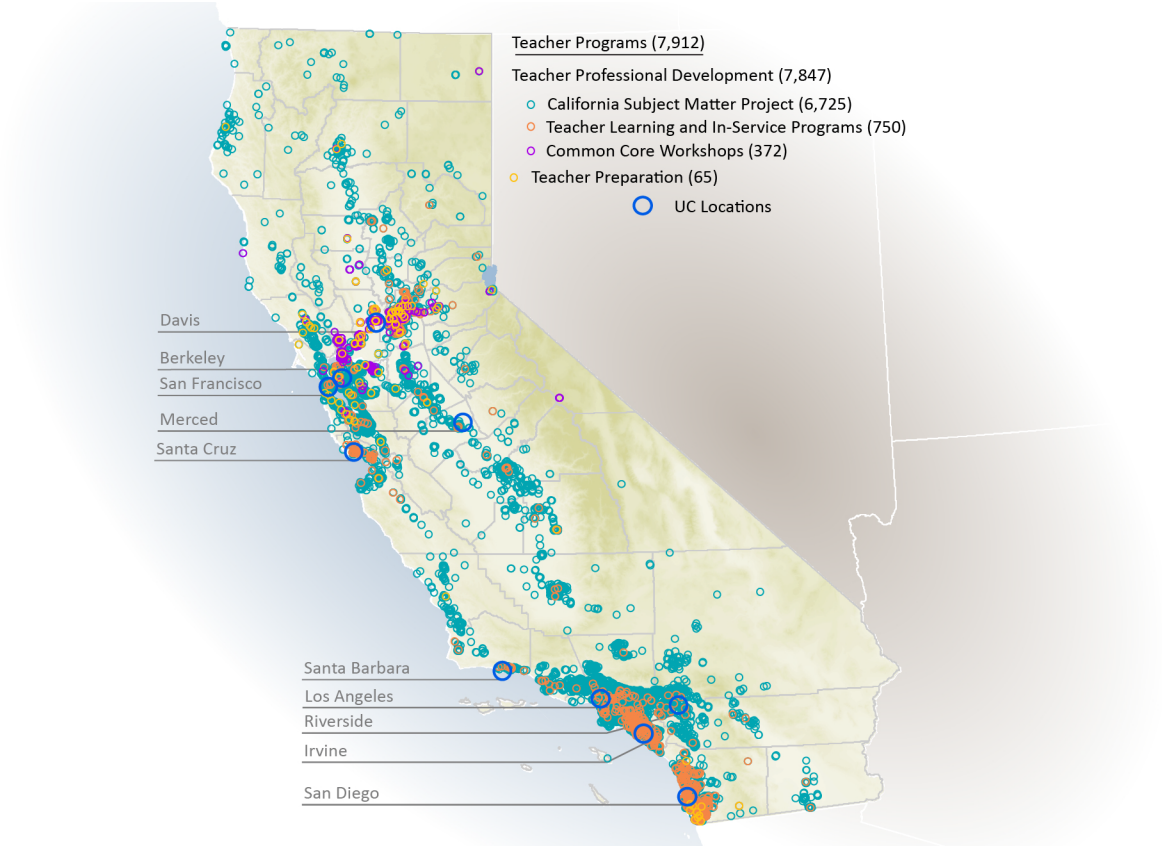
UC manages ~650 arts education and outreach programs that teach art, dance, drama, music and digital arts in the community. These programs expose students and community members to art and culture through performing arts, theater, cultural events and other activities.

UC's public service mission incorporates a focus on local business and economic development. The University operates 235 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 500,000 course registrants, about 850 UC University Extension programs offering some 17,000 different courses, encourage lifelong learning for all Californians. Additionally, about 340 public policy programs engage 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 teacher professional development and teacher preparation programs
Spring 2017



Source: UC Campuses

The University of California plays an important role in preparing teachers for their careers and providing them professional development. UC manages more than 7,800 teacher professional development programs and 65 teacher preparation programs.

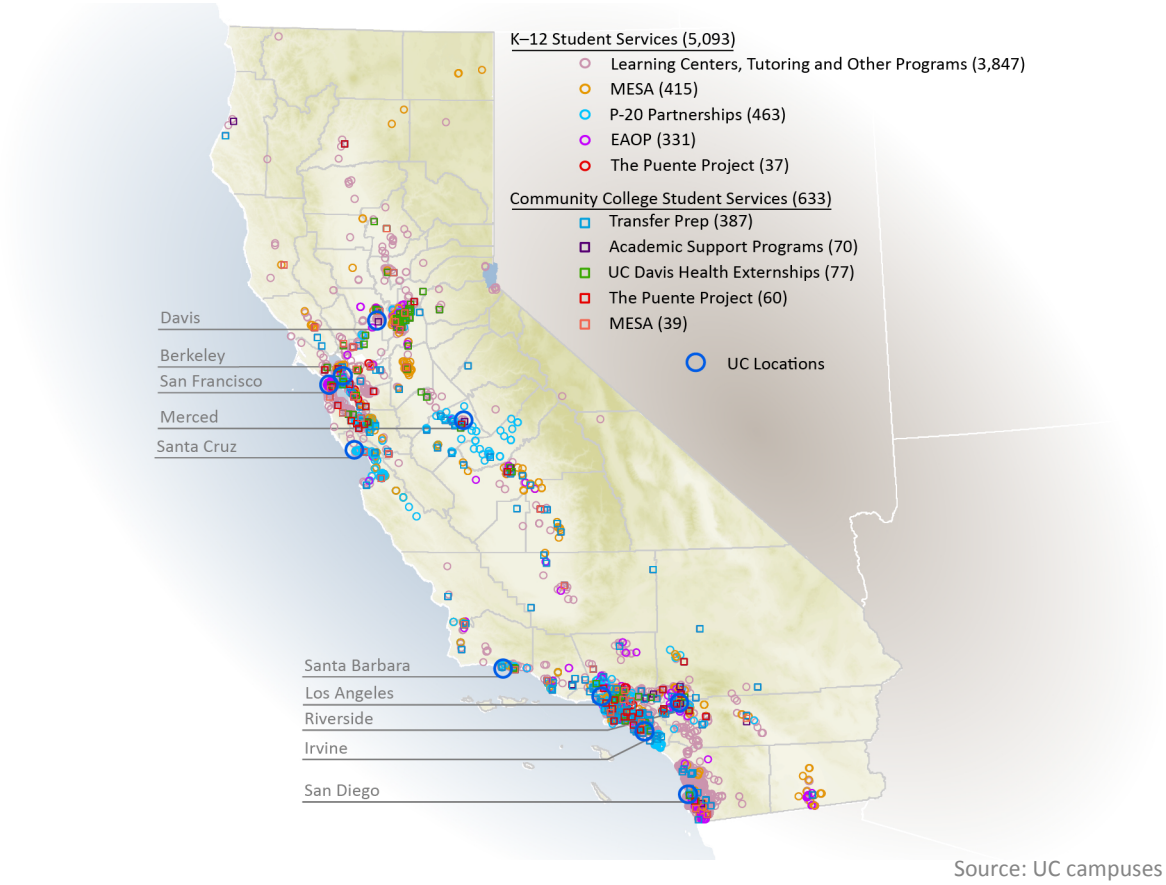
The California Subject Matter Project, for example, creates sustainable teacher learning communities throughout California. Its network of nine discipline-based projects supports professional development to improve instructional practices and student achievement.

Teacher professional development activities include teacher workshops related to Common Core State Standards, writing, mathematics and in-service teacher training.

Teacher preparation programs include CalTeach, a component of the Science and Mathematics Initiative (SMI). Through this program, UC recruits and prepares its undergraduates majoring in mathematics and science for teaching careers, and provides special coursework and field experiences in K–12 schools. Since its inception in 2005, CalTeach has served more than 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 K–12 and community college student services programs
Spring 2017



Source: UC campuses

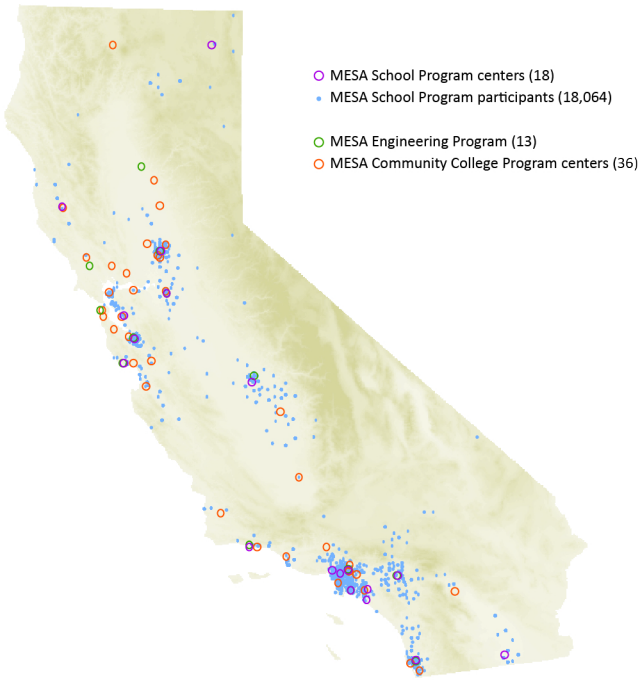
UC engages K–12 and community college students in California through Student Academic Preparation and Educational Partnerships (SAPEP) programs. Activities are centered on student academic preparation, community college articulation support, school and community partnerships, and online and technology-assisted 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 160,000 K-12 students at more than 1,100 public schools in 2015-16. Students who participate in SAPEP programs are more likely to complete "a–g" courses (80 percent of SAPEP participants vs. 43 percent of California public high school graduates in 2015-16) and attend California public two- and four-year universities (64 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
Spring 2017



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 (MCCP) and MESA Engineering Program (MEP) — MESA serves more than 25,000 California students annually.

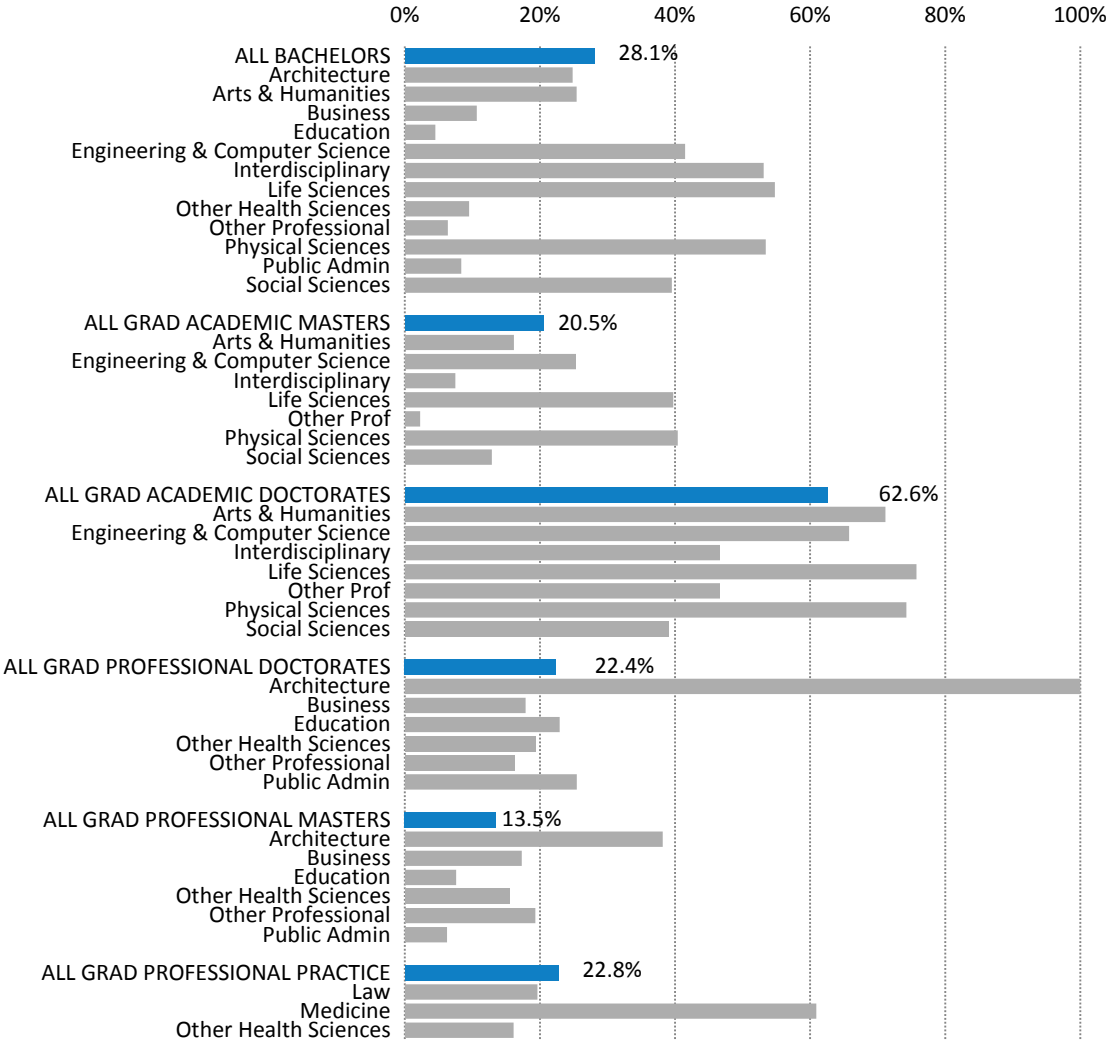
MESA Schools Program (MSP) centers are housed in 18 locations and serve more than 18,000 students at about 400 K–12 schools. Centers offer classes before, during and after school on activities that reinforce math and science content standards. MESA activities include workshops aimed at strengthening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

MESA Community College Program (MCCP) manages 36 centers at community colleges, serving around 4,000 students annually. 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. Serving about 3,000 students annually, these centers assist college students in attaining four-year degrees in engineering and computer science by providing tutoring and academic skills workshops. In partnership with local industry leaders, MEP centers also provide career and professional development opportunities for students.

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
2014-15



Source: IPEDS[1]

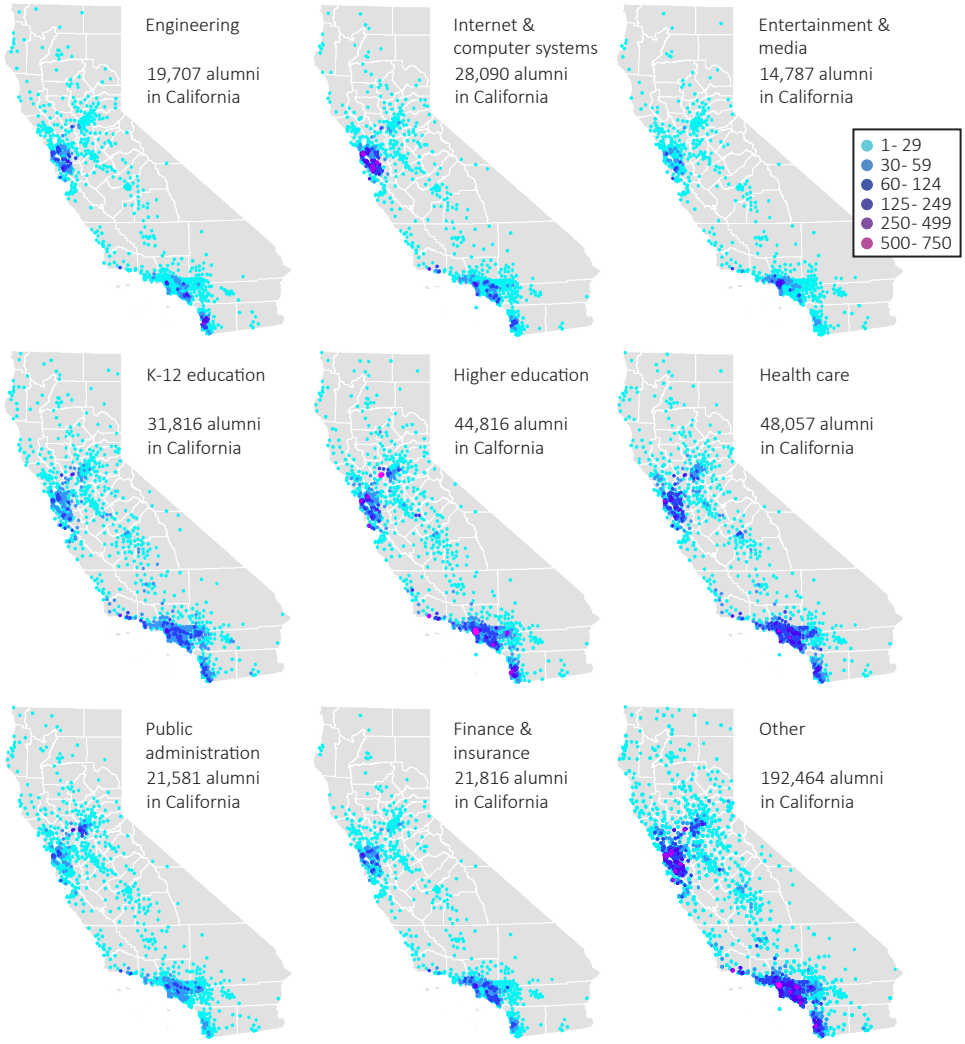
As California's economy becomes increasingly dependent on technology-dependent industries, the University of California plays an important role in educating the state's highly skilled workforce. UC contributes significantly to Science, Technology, Engineering and Mathematics (STEM) degrees, awarding 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.

Of UC's more than 1.8 million living alumni, many reside within California.

10.3.2 Location and industry of employment of UC alumni, in California
Fall 2015



Source: UC campuses, EDD; Other includes industries such as retail & wholesale, manufacturing, transportation, construction, legal services and others.

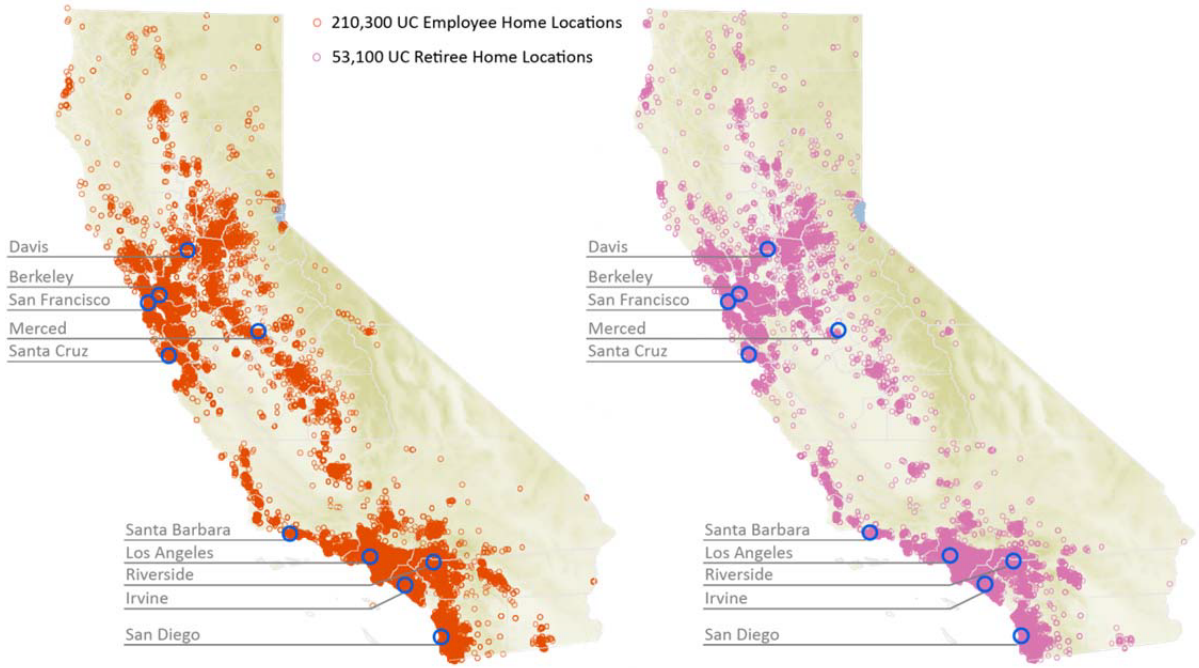
More than 1.2 million UC alumni live and work in California. They are leaders, volunteers and contributors to the vitality of its communities, businesses and culture.

More than 510,000 recent graduates of the University of California (since 2000) were employed in California in 2015, according to California's Employment Development Department (EDD).

Campus alumni offices maintain recent residential address information for more than 85% of those alumni. These maps display the distribution across California of UC graduates in each of 8 different industries, as reported by EDD. The industry with the largest employment of young UC graduates is health care, employing about 12 percent of these alumni, followed by higher education.

UC is one of California's largest employers, with close to 200,000 employees.

10.3.3 Faculty, academics and staff employees; retirees, in California
Faculty, academics and staff, 2016; retirees, 2017



Source: UC Information Center Data Warehouse

The University of California employs approximately 210,000 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 shown on this map, 53,000 of UC's retirees reside in California, and their UC pension benefits also contribute to the communities in which they reside.

CHAPTER ELEVEN
UC HEALTH

UC HEALTH

Overview

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 authorized 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.P.H. (Doctor of Public Health) degree.

UC's 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 18 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 is within the health sciences. In 2015–16, expenditures for delivery of health care services at UC Health medical centers, including UCSF Benioff Children's Hospital Oakland, rose to about $10.2 billion, more than one-third of the University's total operating expenditures. Other major UC Health expenditures include $2.7 billion for instructional activities and $2.2 billion spent on research.

In fall 2016, about 42 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 2016, 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); four schools of nursing; 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, about $2.2 billion, were for medical research, including related health science fields such as public health and veterinary medicine. More than half of the funding for this research was provided through federal agency awards to UC.

Clinical trial research is an increasingly important component of UC's medical research enterprise. UC initiated over 3,000 clinical trials over the last five years, with more than 2,700 underway during 2015–16. Of the $2.5 billion UC received that year in medical research awards, about 20 percent of the total was targeted for clinical trials, and 88 percent of these 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.

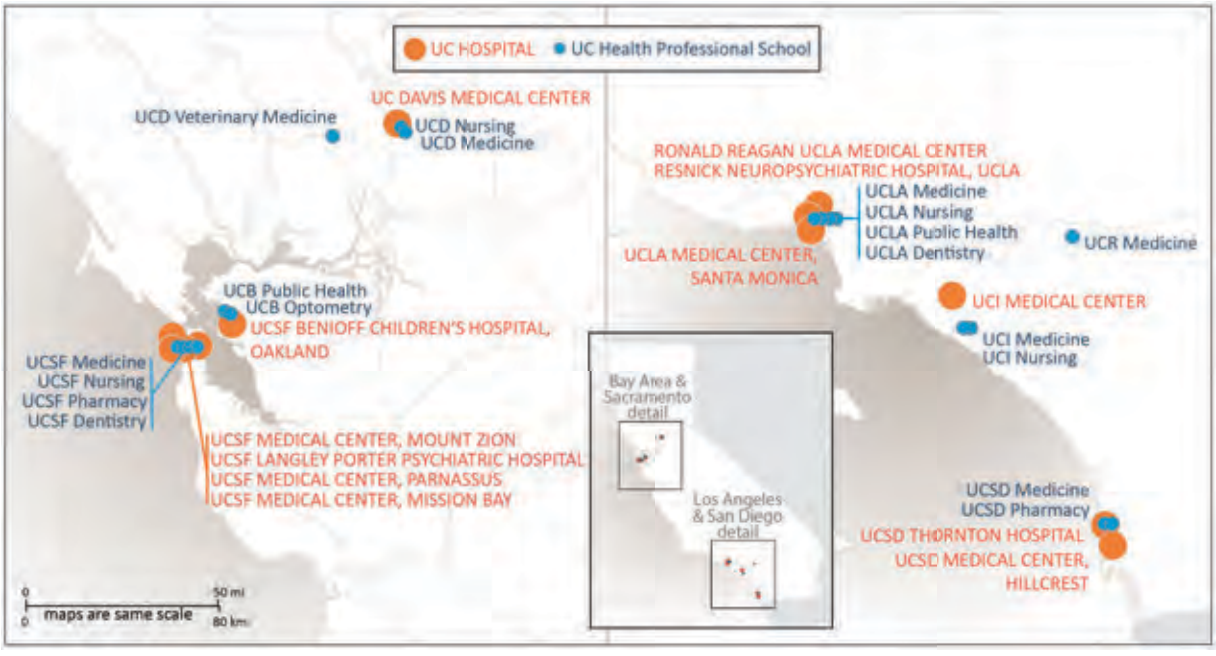
the journey from a scientific discovery or innovation to an effective therapy or treatment that could significantly enhance global health.

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 collectively serve as California's fourth-largest health care delivery system, with about 42,000 employees, including 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. In 2015–16, UC medical centers managed 368,000 emergency room visits and nearly 4.9 million outpatient visits, as well as more than 167,000 inpatient admissions resulting in more than one million inpatient days. More than 60 percent of UC patients are covered by Medicare or Medi-Cal or 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).

In addition, this chapter includes information and performance indicators for various aspects of the University's health sciences system, including 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 30 percent from 2016 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, primarily 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. 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 other major endeavors to help meet current and future health care needs. Significant among these, 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. The first new allopathic (M.D.-granting) medical school to open in California in more than 40 years, UC Riverside School of Medicine will graduate its first class of students in summer 2017. Of UCR's inaugural class of medical students, 100 percent matched into a residency program; thirty-three of the 40 students will be staying in California; 10 matched in residency programs in inland Southern California. Also of note, in January 2017, UC Irvine received approval to transition its Program in Nursing Science to the Sue and Bill Gross School of Nursing at UC Irvine.

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 across 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. LSFV delivered $179M in savings for FY 2015, $373M for FY 2016 and is on track to deliver $280M for FY 2017.

UC Health's governance model

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 restructured 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 provides strategic direction and oversight, makes recommendations to the Board, and takes action pursuant to delegated authority, on matters pertaining to the university's health professional schools, academic health centers, health systems, non-hospital clinics and student health and counseling centers.

For more information

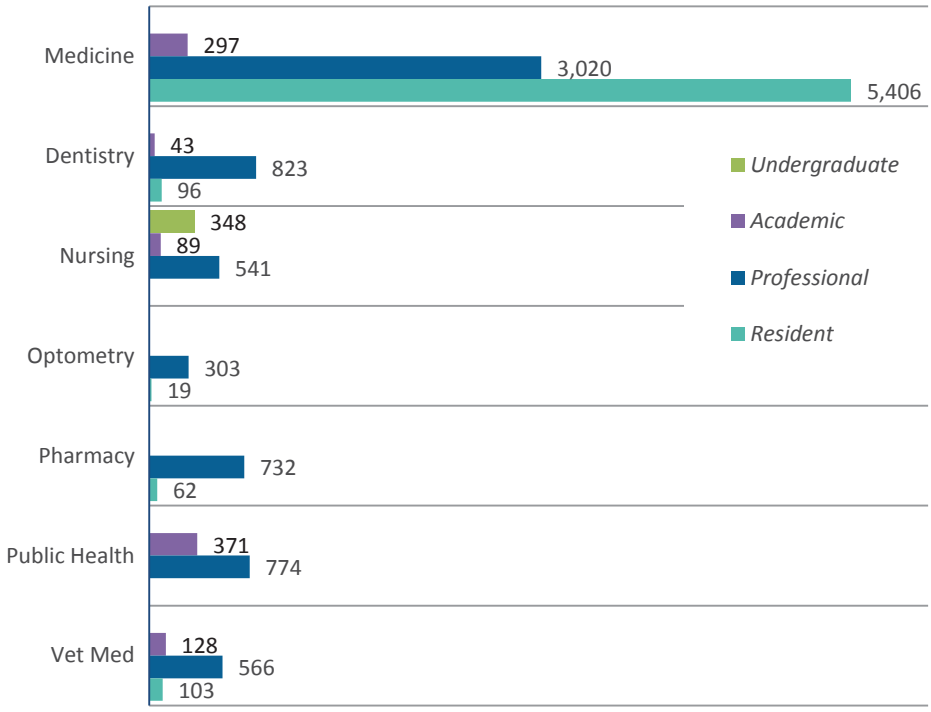
UC Health:
http://health.universityofcalifornia.edu

UC Health: At a Glance:
http://www.ucop.edu/uc-health/_files/uchealth-at-a-glance.pdf

UC Health Topic Brief:
http://www.ucop.edu/institutional-research-academic-planning/_files/UCHealth-a-century-of-health.pdf

Medicine is by far the largest health sciences professional discipline.

11.1.1 State-supported health sciences students, by discipline
Universitywide
Fall 2016

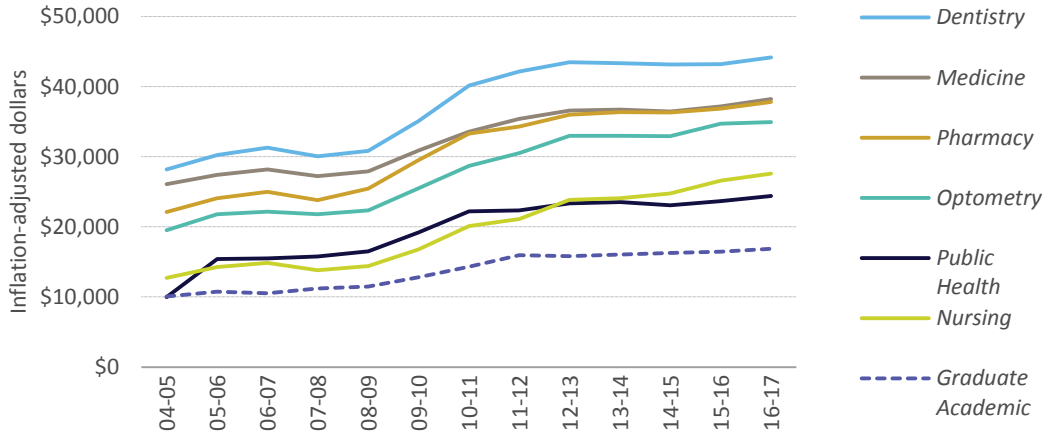


Source: UC Information Center Data Warehouse

Health sciences students are in one of four program categories: undergraduates (for nursing only), academic programs, professional degree programs or residency programs. Academic programs lead to a master's or Ph.D. Professional degree programs lead to degrees such as M.D., D.D.S and D.V.M. 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.

Health science professional degree fees have leveled off after incurring sharp increases during years of declining state support.

11.1.2 Average total charges[1] for health professional degree students
Universitywide
2004–05 to 2016–17



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.

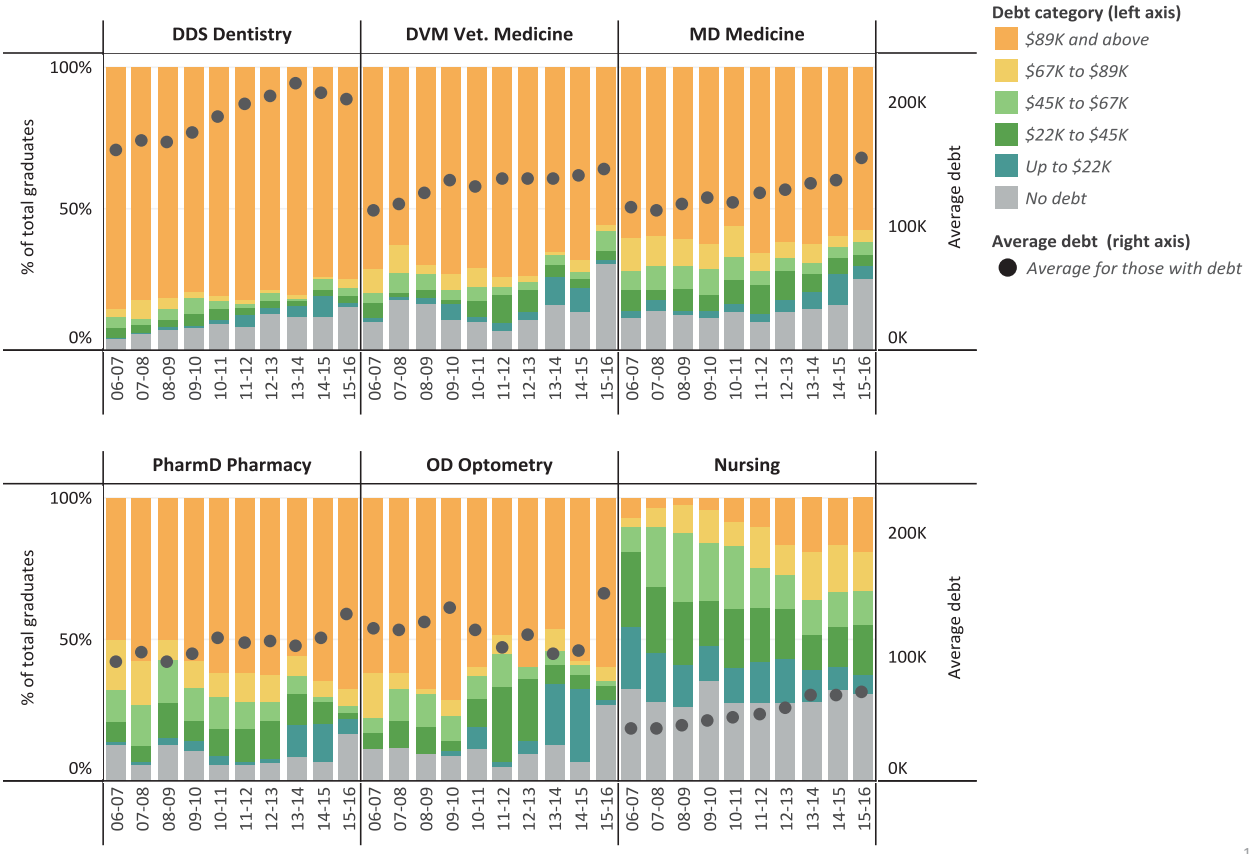
Professional degree fees (now referred to as professional degree supplemental tuition) vary across programs and across campuses; the figures shown above are the averages across all campuses with the associated programs.

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 health sciences professional degree students borrow to help pay for their education and average debt levels are increasing.

11.1.3 Health sciences professional degree student debt at graduation
Universitywide
2006–07 to 2015–16



Source: UC Corporate Student System[1]

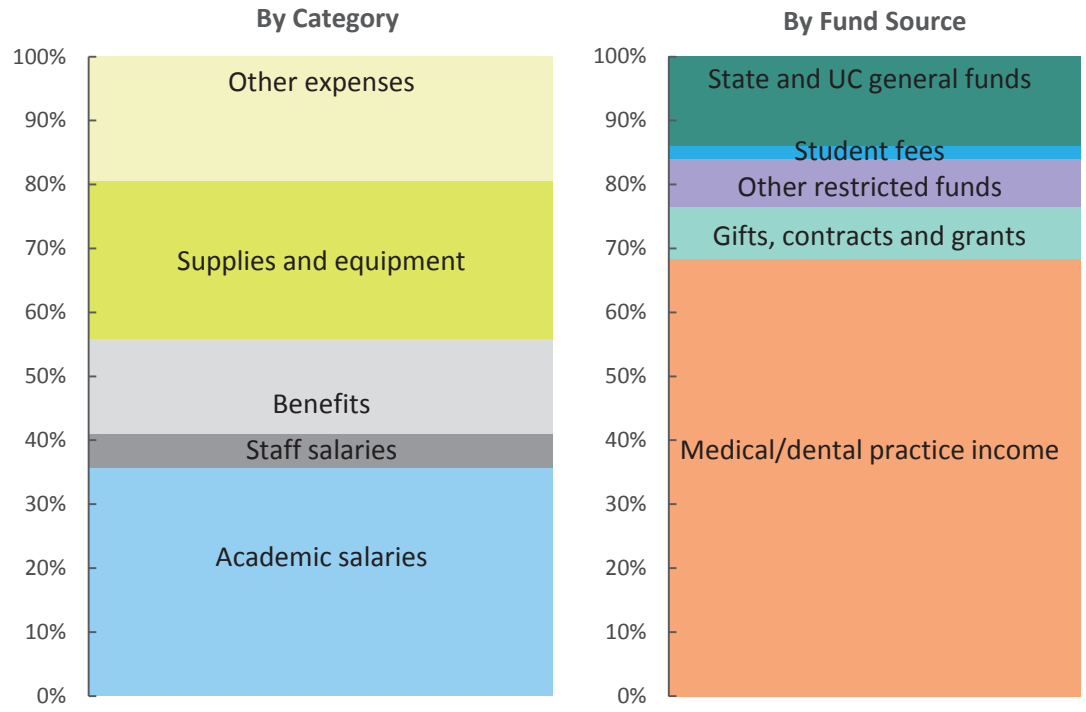
Increases in tuition over the past decade have coincided with increased debt burdens for health professional degree students. Increases in the average student debt of graduates of UC schools of dentistry, veterinary medicine, medicine, pharmacy, optometry and nursing are illustrated in the figure shown 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.

Medical and dental practice income supported over half of the instructional expenditures in the health sciences in 2015–16 (primarily for their respective educational programs).

11.1.4 Health sciences instructional expenditures
Universitywide
2015–16



Source: UC 2017–18 Budget for Current Operations and UC Budget Office

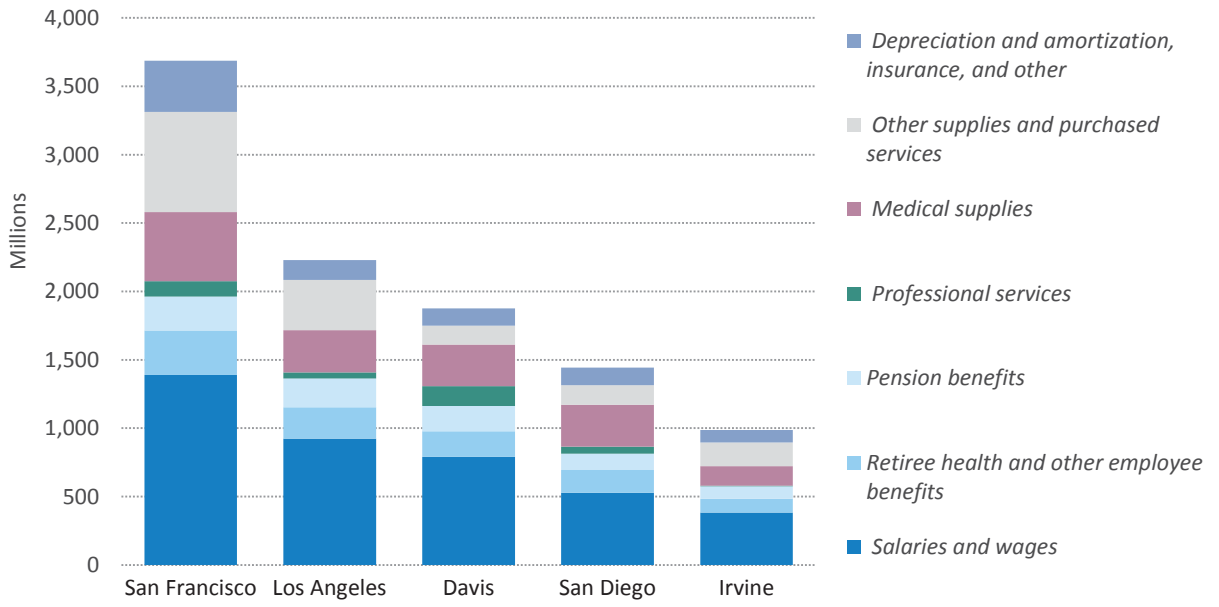
The continuing financial success of the medical centers is crucial to the programmatic success of the University's health professional schools, especially the schools of medicine. Overall, approximately $1.2 billion from the medical centers goes to health system support. Roughly 65 percent is in the form of professional and purchased services, such as support for a director of the residency program, building maintenance, or office and medical supplies, while 35 percent is in the form of cash support for programs, such as the recruitment of new program faculty.

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.

In 2015–16, UC's five medical centers represented a health care delivery enterprise of about $10.2 billion.

11.2.1 Medical center operating expenses
Universitywide
2015–16

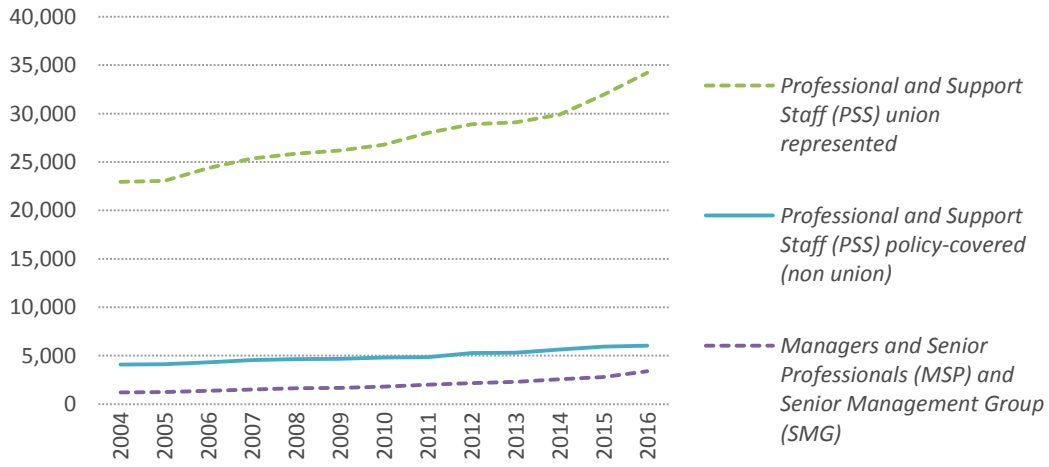


Source: UC Medical Centers Audited Financial Statements

In 2015–16, operating expenditures for UC's five medical centers amounted to about $10.2 billion (including depreciation and amortization). The amount shown for San Francisco includes the UCSF Benioff Children's Hospital Oakland.

The majority of medical center staff members are in UC's Professional and Support Staff (PSS) personnel program; the majority of these are unionized.

11.2.2 Medical center staff headcount by personnel program
Universitywide
Fall 2004 to fall 2016



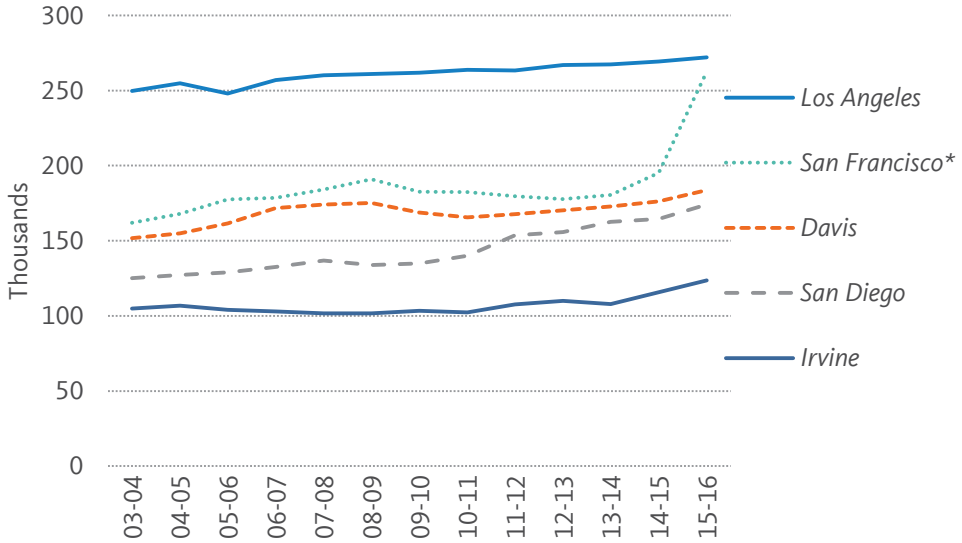
Source: UC Corporate Personnel System

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.

The UCSF Benioff Children's Hospital Oakland is included beginning with fall 2016.

UC hospitals provide more than 900,000 inpatient days a year and serve a significant number of patients statewide.

11.2.3 Hospital inpatient days
UC medical centers
2003–04 to 2015–16



* Includes UCSF Benioff Children's Hospital Oakland beginning with 2015–16.
Source: UC Medical Centers' Audited Financial Statements[1]

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.

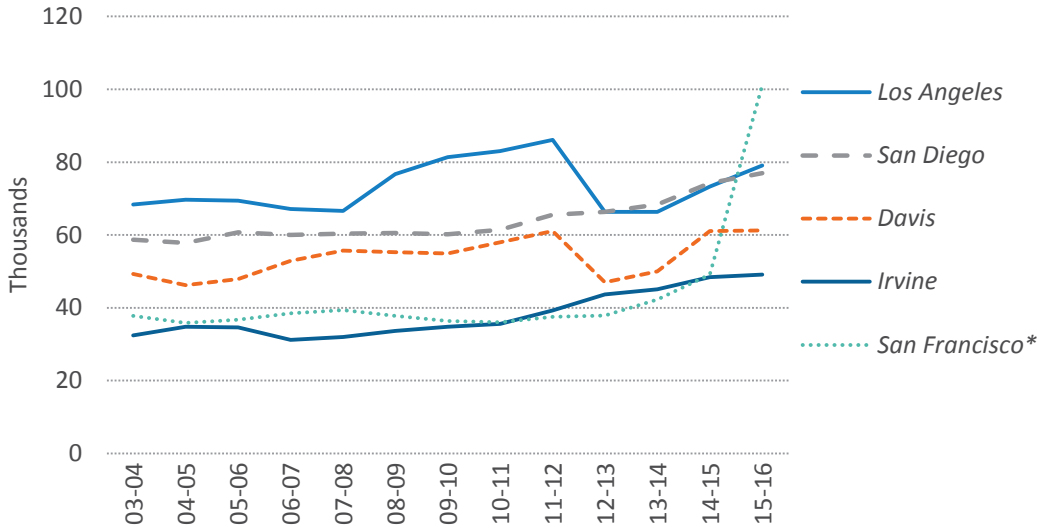
"Inpatient days" represents the total number of days that all patients spend in a hospital bed. The graph presented here displays the total number of inpatient days at the five UC medical centers, which totaled more than a million in 2015–16.

[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

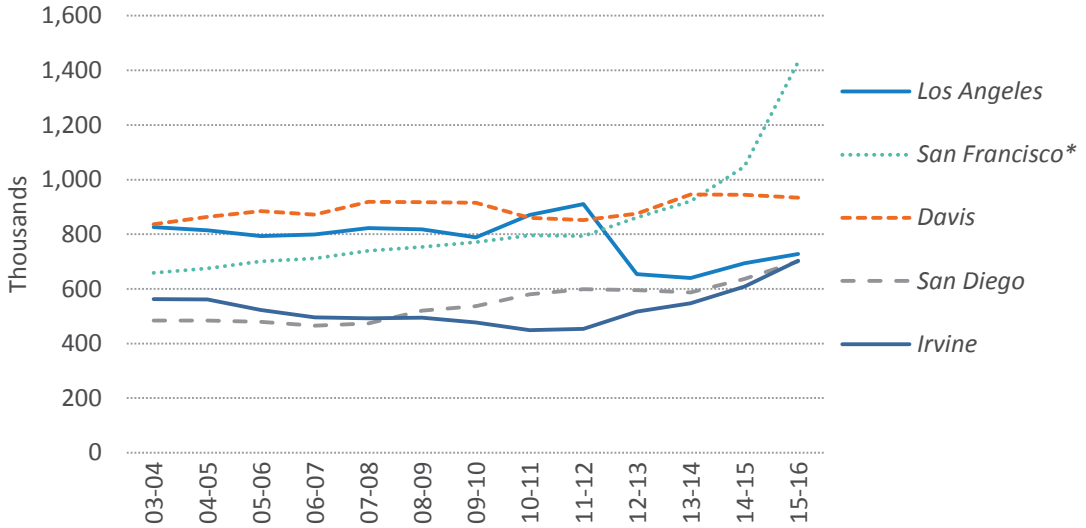
UC medical centers handle almost 4.9 million outpatient visits per year.

11.2.4 Outpatient visits
UC medical centers
2003–04 to 2015–16

Emergency visits (SCALE 0 to 120,000)



Other outpatient visits (includes clinic, primary care, home health and other visits) (SCALE 0 to 1.2 million)



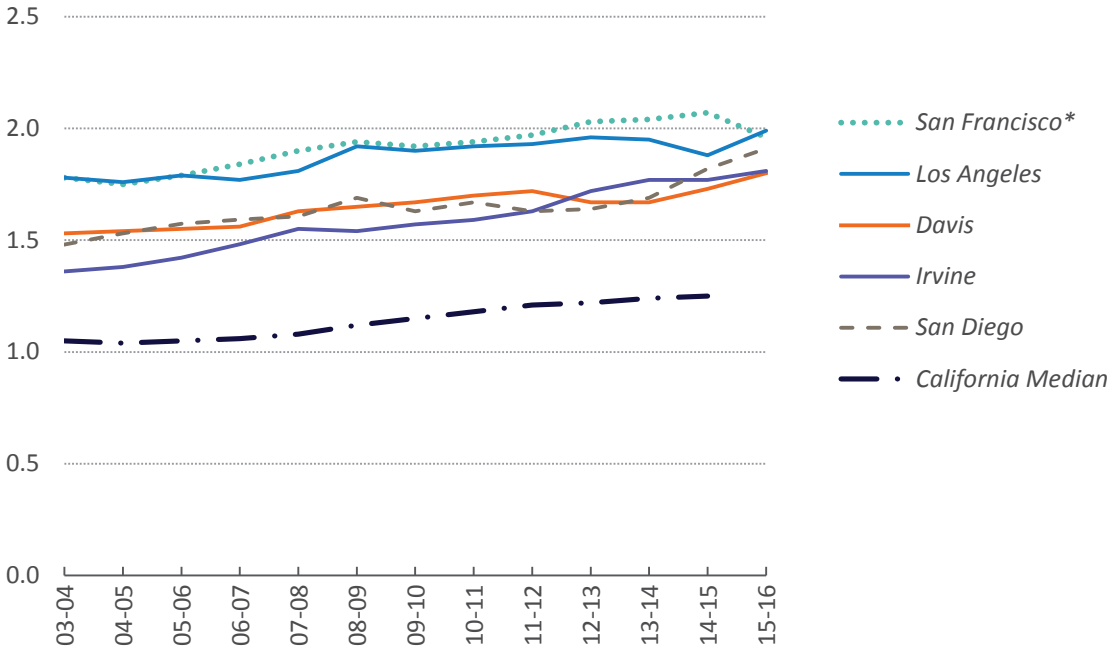
* Includes UCSF Benioff Children's Hospital Oakland beginning with 2015–16. Source: UC Medical Centers Audited Financial Statements. Note that year-over-year comparisons are problematic due to methodology changes at Los Angeles as well as a major facility going temporarily offline.

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.

The cases treated by UC medical centers tend to be more complicated than is typical for medical centers and hospitals in California.

11.2.5 Patient complexity
UC medical centers and California median
2003–04 to 2015–16



* Includes the UCSF Benioff Children's Hospital Oakland beginning with 2015–16. 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, as well as 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 TWELVE
UNIVERSITY FINANCES AND PRIVATE GIVING

UNIVERSITY FINANCES AND PRIVATE GIVING

Background and funding trends

The University's revenues, at about $31.3 billion in 2015–16, fund its core mission and a wide range of support activities. 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 nearly $1 billion in inflation-adjusted dollars despite UC's enrollment growth. State educational appropriations constituted only 10 percent of UC's revenues in 2015–16 compared to 23 percent in 2001–02 (excluding DOE laboratories).

To offset 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 to reduce operating costs and identify new sources of revenues. Chapter 13 identifies some of these cost savings. Even under optimistic assumptions, however, efficiency improvements and alternative revenue generation can meet only a portion of the projected needs.

What this means for students and families

Although the inflation-adjusted cost of educating a student at UC has dropped by 22 percent since 1990, the state's share of this cost has fallen even more steeply, so students and their families now bear a larger share. Increases in student fees have not made up for the reductions in state support, thus 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.

The University has made comprehensive changes in the way funds flow. Historically, certain revenues were collected centrally and redistributed. Following consultation with campus leadership, nearly all campus-generated funds — tuition and fees, research indirect cost recovery, and patent and investment income — are retained by or returned to the source campus. The University has established a broad-based 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 planning, improved transparency and motivated campuses to maximize revenue.

The University has fully implemented an initiative known as "Rebenching," which distributes state funds on an equal per-weighted-student basis across the campuses and ensures that students are supported equally by the state regardless of campus.

Even with the stabilization of state support, UC faces financial challenges. The University has adopted measures designed to preserve the long-term viability of its pension plan while providing competitive post-employment benefits. As health care costs rise, UC will encounter mounting costs in providing coverage for its students, employees and retirees. The Affordable Care Act is having a profound effect on the finances of UC medical centers. While larger numbers of individuals with coverage are requesting health care services, certain reimbursements for Medicaid patients have been reduced.

Chronic shortfalls in priority areas — graduate student support, faculty salaries, the ratio of students to faculty, capital renewal and the need to upgrade outdated information systems — are major issues that will present financial challenges in the coming years.

For more information

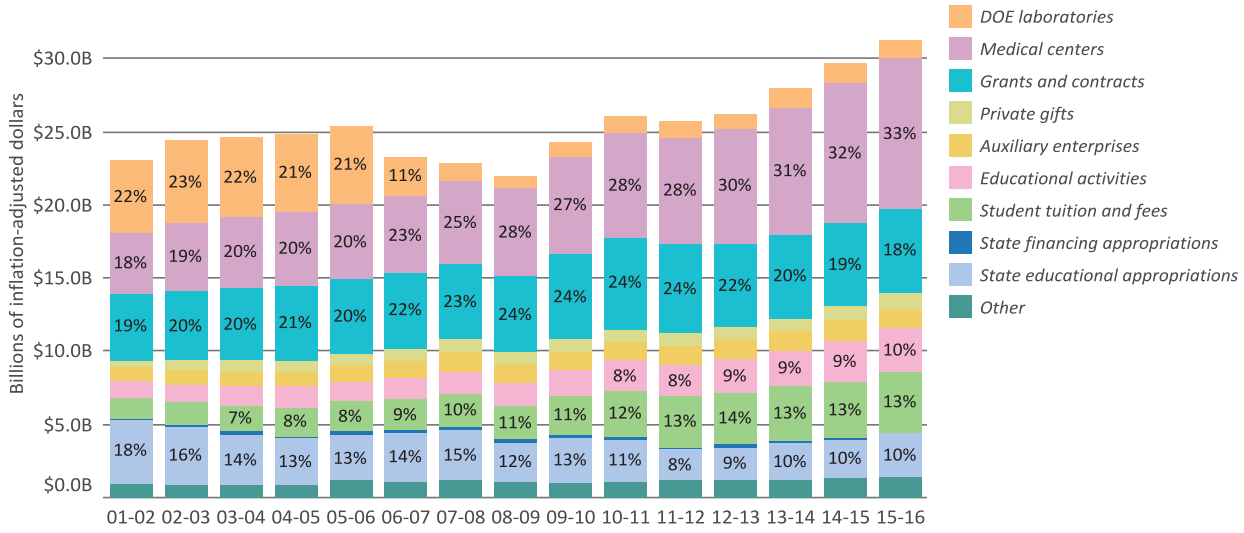
UC's operating budget:
www.ucop.edu/operating-budget/budgets-and-reports/index.html

Revenues and Expenses Data Table:
https://universityofcalifornia.edu/infocenter/revenue-and-expense-data

Annual reports on University private support:
www.ucop.edu/institutional-advancement

Between 2001–02 and 2015–16, state educational appropriations decreased from 23 percent of UC revenues to 10 percent.

12.1.1 Revenues by source
Universitywide
2001–02 to 2015–16



Source: UC Revenues and Expense Trend Report

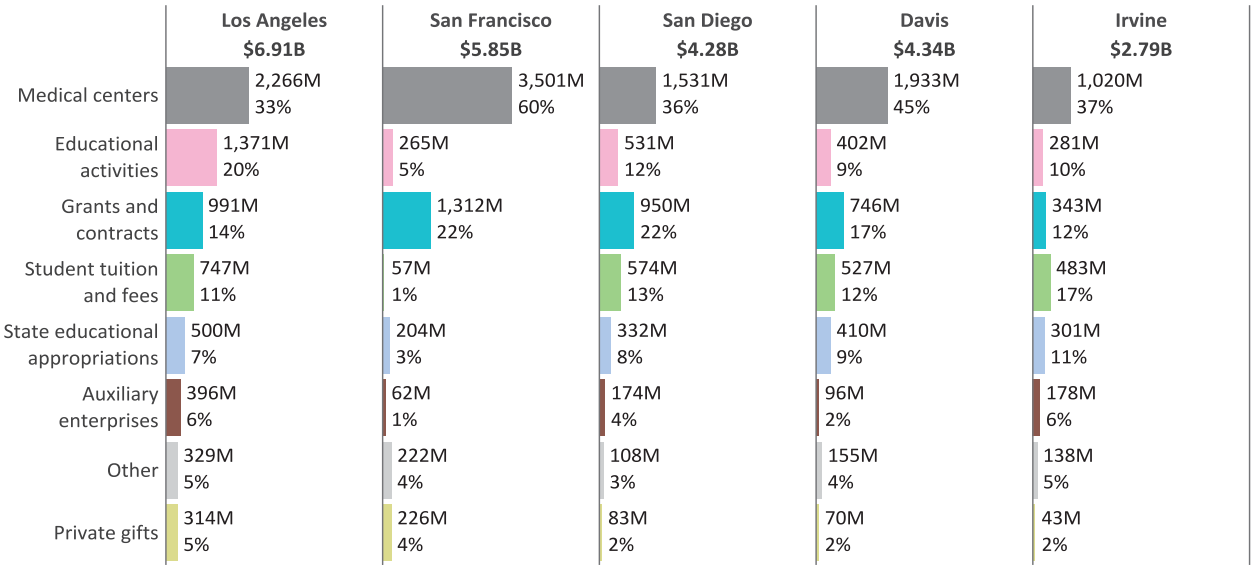
The steep decline in state educational appropriations as a proportion of UC's total revenues over the past decade is a function of two trends: a long-term decline in state support; and an increase in revenues from other sources, such as medical centers, contracts and grants, and student tuition and fees.

State educational appropriations are for educational and other specific operating purposes, whereas state financing appropriations provide principal and interest payments for lease-purchase agreements. Funds from educational activities are derived primarily from medical professional fees.

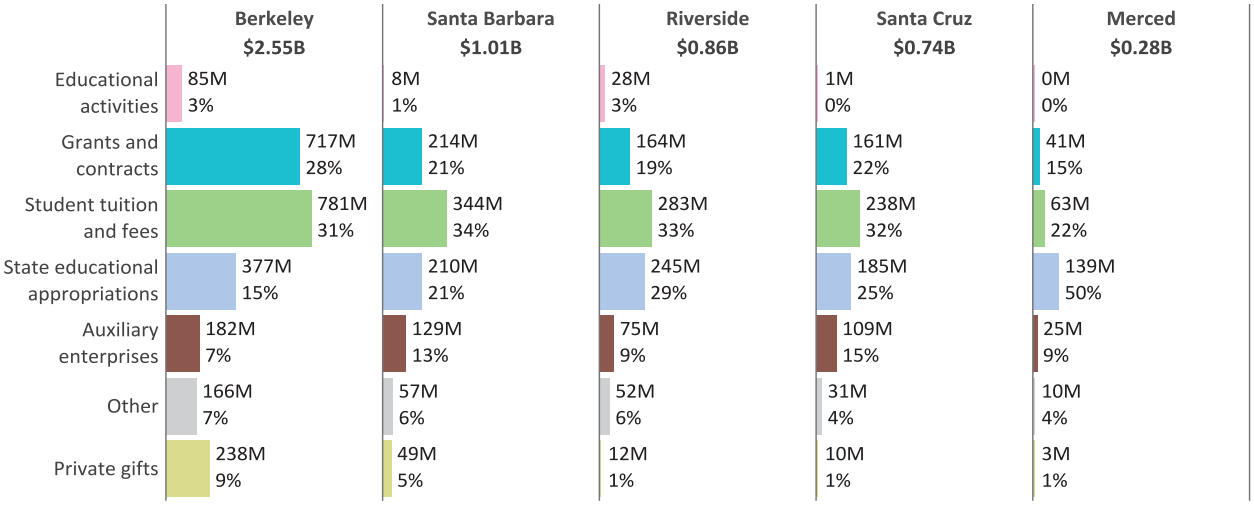
Private gift funding shown in the chart above does not include gifts to UC foundations that are reported in the foundations' audited financial statements. Private gifts made to the foundations are reported as gifts in the UC-wide financial statements when the gifts are transferred by the foundations to the University.

12.1.2 Revenues by source UC campuses 2015–16

Campuses with Medical Centers



Campuses without Medical Centers



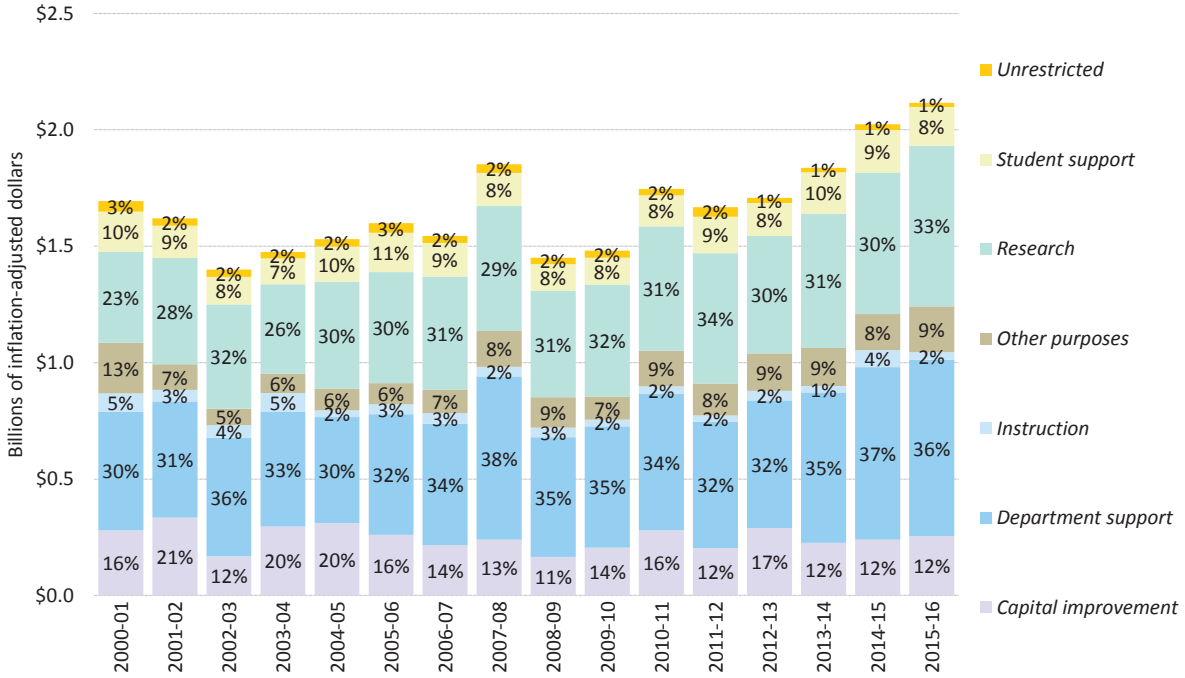
Source: UC Revenue and Expense Trend Report[1]

Additional years for campus revenues and expenditures are available at https://universityofcalifornia.edu/infocenter/revenue-and-expense-data.

[1] 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.

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 2015–16



Source: UC Institutional Advancement. Figures are adjusted for inflation.

In 2015–16, new gifts to the University totaled about $2.1 billion. Virtually all of these funds are restricted for specific purposes and are not available to support general operating costs. In addition, approximately $400 million was designated for endowment, so only the income/payout is available for expenditure.

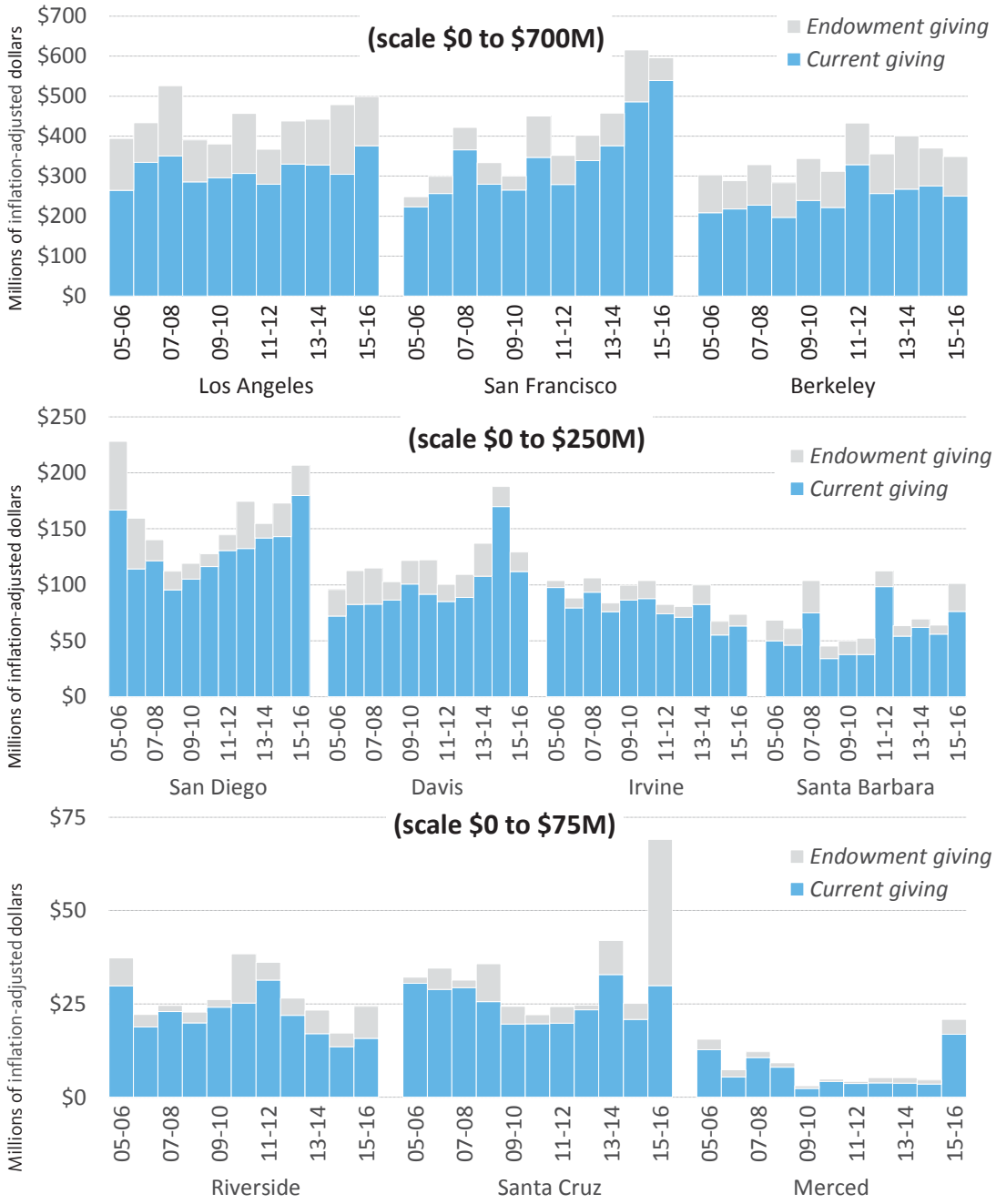
The University's remarkable achievement in obtaining private funding in recent years — even during state and national economic downturns — is a testament to UC's distinction as a leader among the nation's public colleges and universities in generating philanthropic funds, and reflects the high regard in which the University is held by its alumni, corporations, foundations 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.

A campus's ability to raise money is related to its age, number of alumni and presence of health science programs that attract nearly half of all private support at UC.

12.2.2 Total giving by type
UC campuses
2005–06 to 2015–16



Source: Council on Aid to Education (CAE). Current giving includes all giving except for endowment giving.

The University's share of the state's general fund dropped from 8.1 percent in 1966–67 to 2.6 percent in 2016–17.

12.3.1 UC share of the state budget
1966–67 to 2016–17

Source: UC Budget Office

Historically, state funding has been the largest single source of support for the University's core budget. Together with UC general funds[1] and student fee revenue, state funding is used for faculty salaries and benefits, academic and administrative support, student services, facilities operation and maintenance, and student financial aid.

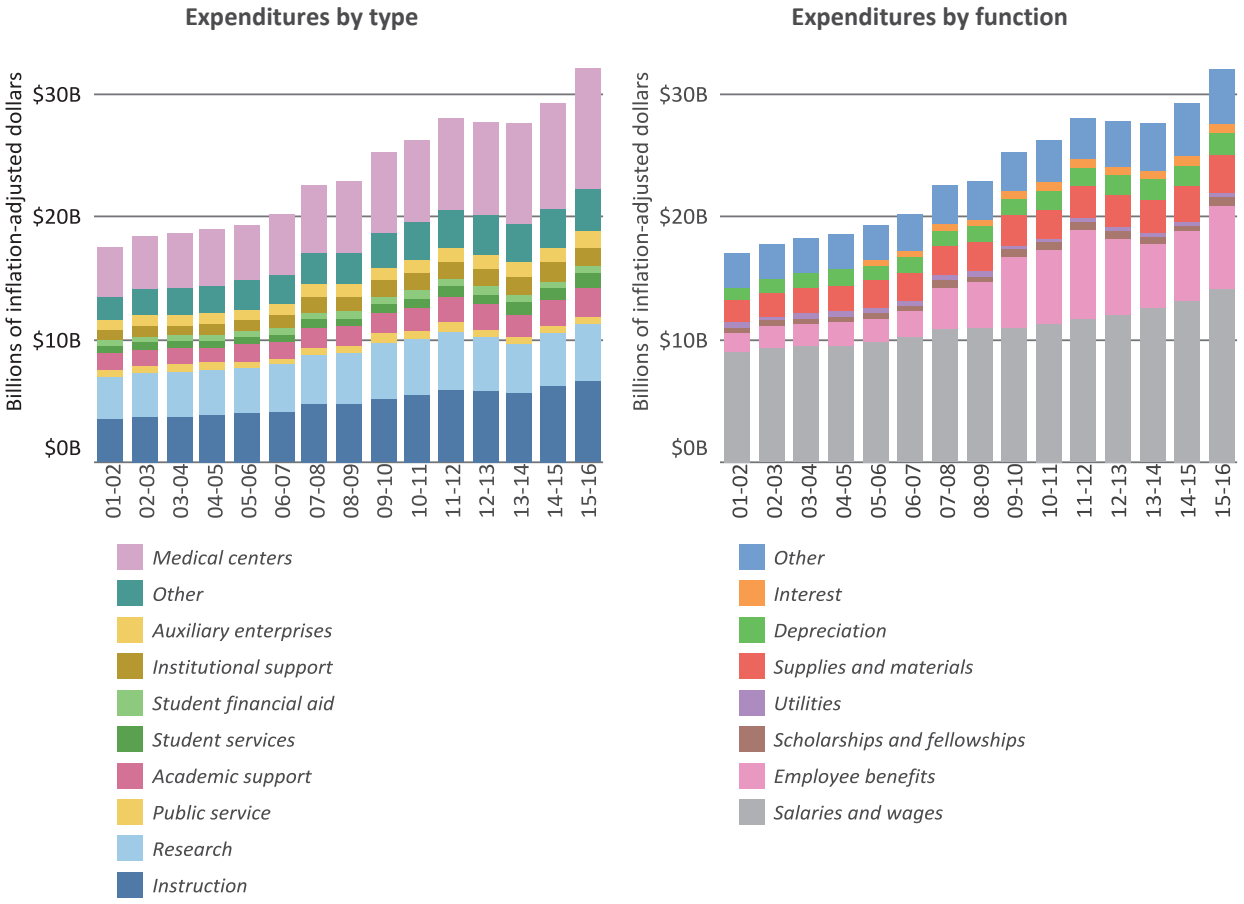
State support has fallen more than $1 billion in inflation-adjusted dollars since 1990–91. To compensate, the University has raised student tuition and fees, but these increases have only partially compensated for the loss of state support (see indicator 12.5.1).

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.

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 2015–16



Source: UC Revenue and Expense Trends Report and UC Corporate Financial System[1]

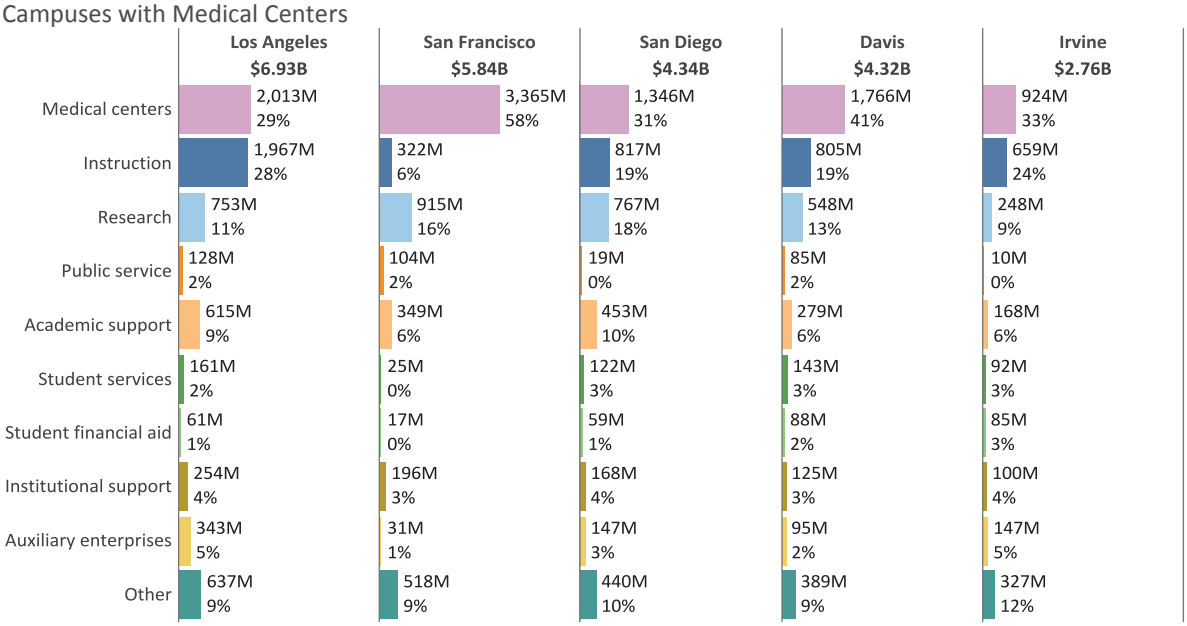
Instruction, research and public service accounted for 37 percent of total expenditures during 2015–16, and medical centers accounted for 31 percent.

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 largely due to a resumption of contributions to UC's retirement after a review of the retirement plan.

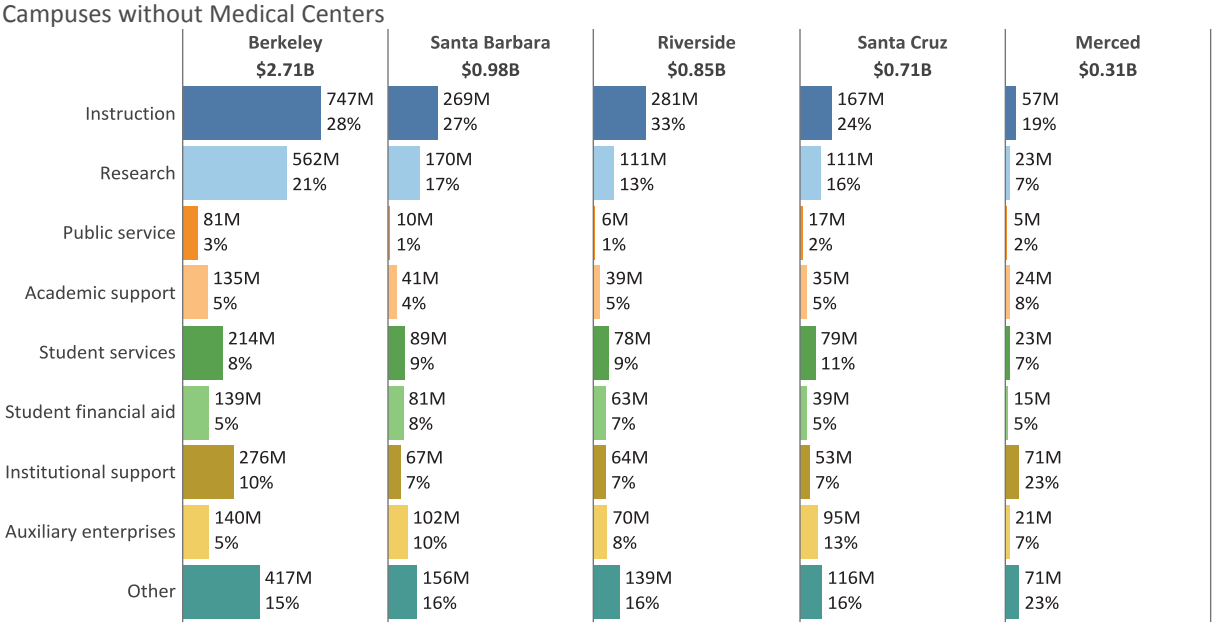
[1] Inflation-adjusted to 2015–16 dollars using CCPI-W. Medical centers refer to UC's teaching hospitals; auxiliaries include student housing and dining, and parking garages; other expenses include interest, depreciation and other miscellaneous expenses. Support activities include student services, institutional support and academic support. Excludes Department of Energy laboratories, including the Lawrence Berkeley National Laboratory.

12.4.2 Expenditures by function
UC campuses
2015–16

Campuses with Medical Centers



Campuses without Medical Centers



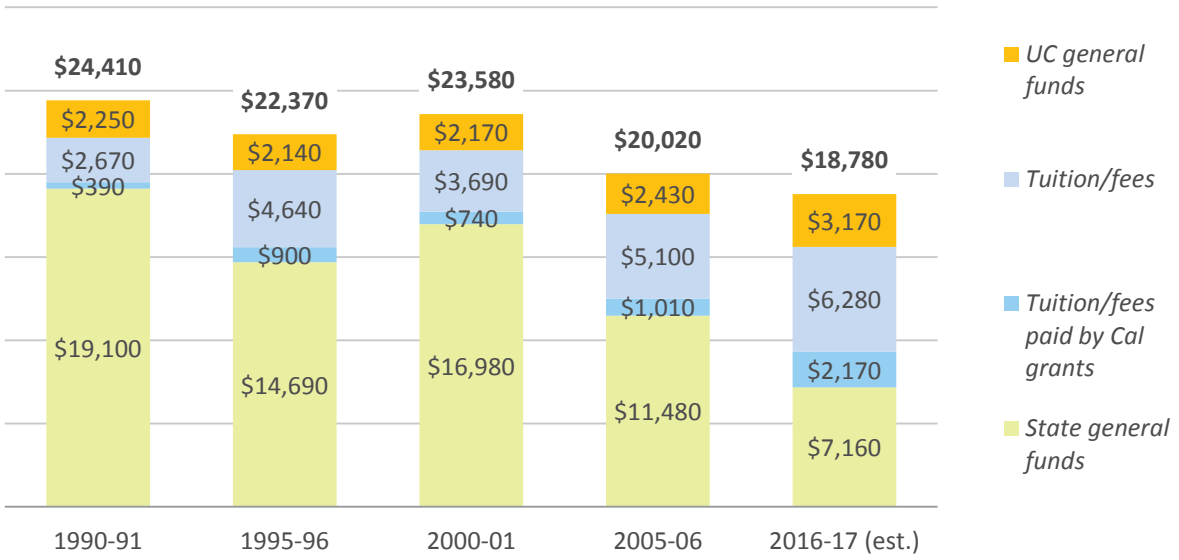
Source: UC Revenue and Expense Trends Report [1]

Additional years of campus revenues and expenditures are available at https://universityofcalifornia.edu/infocenter/revenue-and-expense-data.

[1] 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.

Since 1990–91, the total cost per student of a UC education has declined by 23 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 2016–17, 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 63 percent. The share of expenditures borne by students in the form of fees increased from 13 percent to 33 percent.

In other words, students and their families are bearing a growing proportion of the dollars spent on their education. Increases in student fees have offset some, but not all, of the reductions in state support.

CHAPTER THIRTEEN
CAPITAL PROGRAM AND SUSTAINABILITY

CAPITAL PROGRAM AND SUSTAINABILITY

UC's capital program

The University maintains approximately 6,000 buildings enclosing 137 million gross square feet on approximately 30,000 acres across its ten campuses, five medical centers, nine agricultural research and extension centers, and the Lawrence Berkeley National Laboratory. With such a substantial infrastructure, the University strives to be a good steward of the capital resources entrusted to its care.

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 as well as external financing that utilizes non-state sources to service the debt have accounted for 86 percent of UC's capital program funding.

Approved capital expenditures

During fiscal year 2015–16, UC approved capital project budgets totaling $1.2 billion. Over 80 percent of the cost of capital projects approved in 2015–16 was met through debt financing. The remaining capital projects are funded by non-state sources. The majority of these projects, as well as those going back to at least 2011–12, were aimed at core academic programs and aging facilities.

An expanding infrastructure

Since 2006, the space available to UC for program uses has increased by 13.5 million assignable 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 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 most recently in 2016, has multiple areas of focus: Climate Action, Green Building, Clean Energy, Transportation, Recycling and Waste Management, Environmentally Preferable Procurement, Sustainable Food Services, and Water, demonstrating the University's commitment to wise stewardship of its resources and the environment.

Sustainability successes

Successes noted in this year's report include over $194 million in cumulative avoided energy costs via Energy Efficiency Partnership projects to date, 36.3 megawatts of on-site renewable electrical generation installed with 12.9 more megawatts planned and 252 LEED certifications, the most of any higher education institution in the country.

Off-site renewable energy capacity increased with two large scale solar projects that came online for UC's Wholesale Power Program, part of the largest solar energy purchase by any U.S. university to date.

For more information

UCOP Capital programs: www.ucop.edu/capital-resources-management/index.html

The 2016 Annual Report on Sustainable Practices: http://ucop.edu/sustainability/_files/annual-sustainability-report2016.pdf

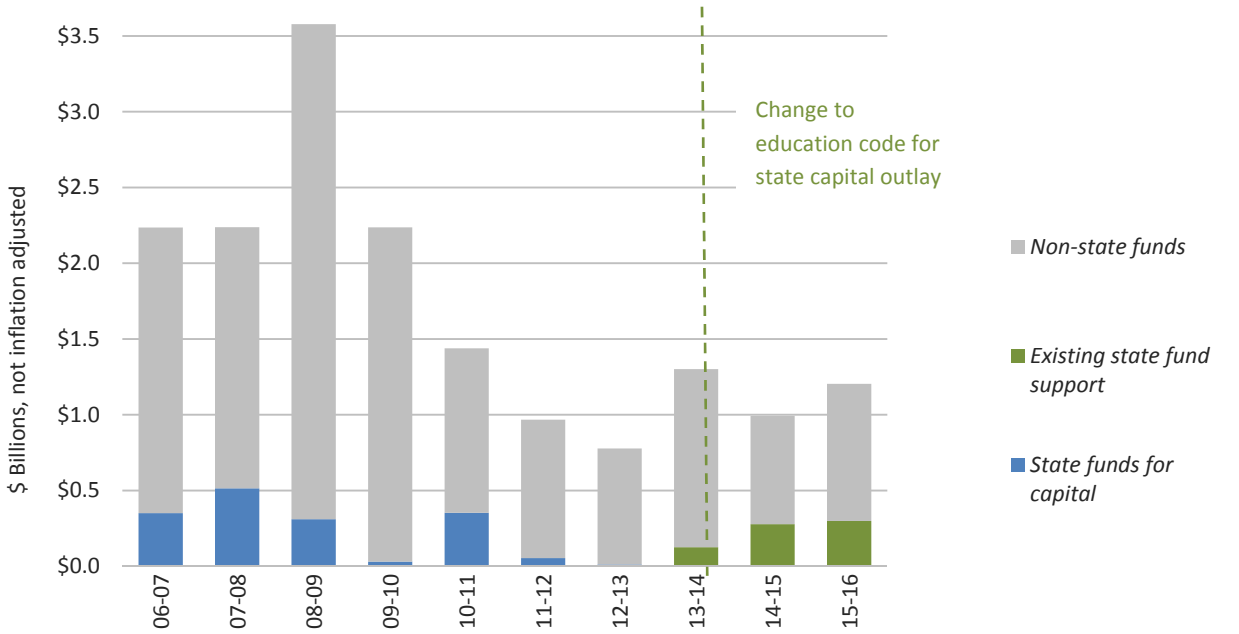
Information on UC's sustainability: www.ucop.edu/sustainability/

The UC Capital Assets Strategies provides an annual report on major capital projects implementation: http://www.ucop.edu/design-services/_files/major-cap-reports/majcap1516.pdf

The Ten-Year Capital Financial Plan, a portfolio document that summarizes the University's capital program for which funding has been prospectively identified: www.ucop.edu/capital-planning/_files/capital/201626/2016-26%20Captial%20Financial%20Plan.pdf

The majority of UC's capital project funding over the last ten years continues to be derived from non-state fund sources. The last year UC received state support of any appreciable amount for its capital program was in 2011–12; starting in 2013–14, changes to the California Education Code allowed UC to direct a portion of its existing state fund support to capital.

13.1.1 Sources of capital project funding, by year of approval
Universitywide
2006–07 to 2015–16



Source: UC Capital Asset Strategies

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. Non-state sources fund self-supporting enterprises, such as housing, parking, athletics and medical enterprises, which are generally not eligible for state funding.

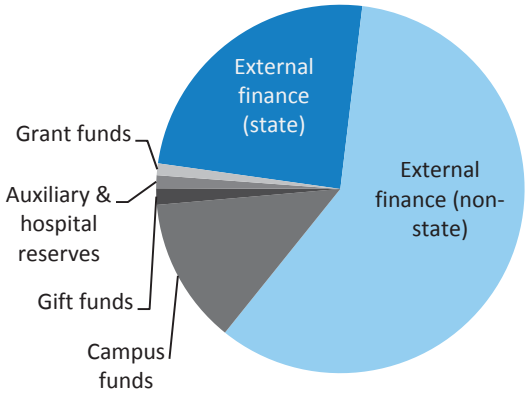
As illustrated in indicator 13.1.1, the source of state funds for capital has changed. The last state General Obligation (GO) bond that benefitted the University was in 2006. The last time the University received State Lease Revenue (SLR) bond funds for capital was in 2011. GO and SLR bonds are in shown in blue and represent state funds specifically designated for capital projects.

Legislation passed in 2013–14 (Assembly Bill 94 or AB 94) enacted a major change in how UC could fund its debt service on capital outlay. Recent state capital budgets only allow UC to direct its state General Fund appropriation to fund debt service for state-eligible capital projects. These funds are shown in green and do not represent new state funding. The portion of General Funds that is directed to capital is made up of funds that historically would have been used for operations.

In the past decade, non-state resources have accounted for 86 percent of UC's capital projects funding. 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.

Approximately $1 billion of external financing was approved in 2015–16 to support UC's capital program.

13.1.2 Sources of capital spending detail
Universitywide
Project budgets approved in 2015–16



2015–16 Fund Sources (thousands)s			
External finance (state)	$296,565	24.6%	83.4%
External finance (non-state)	$707,520	58.8%	
Campus funds	$154,428	12.8%	
Gift funds	$17,280	1.4%	
Auxiliary & hospital reserves	$13,681	1.1%	
Grant funds	$12,300	1.0%	
State funds	$2,326	0.2%	
Total	**$1,2014,100**		

Source: UC Capital Asset Strategies

Financial challenges require each campus to carefully consider how to deploy resources to optimize the benefits to academic programs and the campus mission as a whole.

With state funding playing a declining role in the University's capital program over the past decade, the University has been forced to rely on other means to fund capital projects. As noted in indicator 13.1.2, the approved state-supportable capital projects in 2015–16 employ University financing that utilizes state General Funds to service the debt. Funding for these state projects represents 30 percent of the approved UC financing in 2015–16.

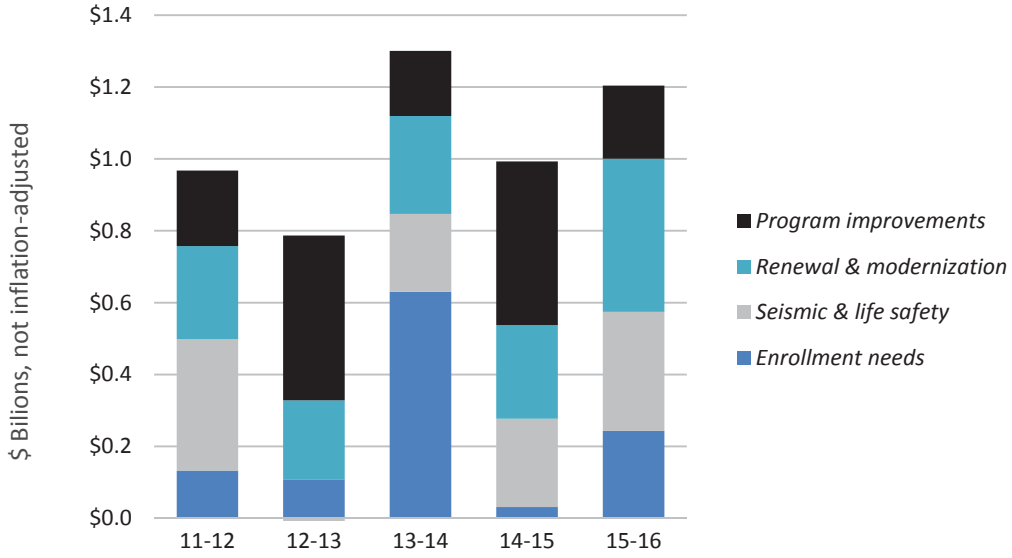
In the absence of new state funding for capital, campuses have decided to fund critical projects that cannot be delayed. In these cases, campuses redirect non-state funds to projects that otherwise would have been funded with state resources.

External financing that utilizes non-state sources to service the debt continues to play a central role in funding capital needs. In the past decade, external financing support of the capital program averages at 60 percent — varying from a low of 42 percent in 2010–11 to a high of 83 percent in 2015–16.

The remainder of UC's capital program is primarily funded by campus funds. These campus funds are derived from a variety of sources including indirect cost recovery and investment earnings. The remainder of UC's capital program is funded by an array of non-state sources (gift funds, reserves and grants) representing 3.5 percent of the total in 2015–16. The $2.3 million of state funds are for a final phase of a capital project.

The majority of capital funds approved for expenditure between 2011–12 and 2015–16 supported projects addressing core academic programs and aging facilities.

13.1.3 Types of capital projects, based on budgets approved by year
Universitywide
2011–12 to 2015–16



Source: UC Capital Asset Strategies

Capital projects may address several objectives. Indicator 13.1.3 illustrates the funding 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 18 health professional schools and five academic medical centers. Modern program initiatives require state-of-the-art space, often necessitating the repurposing of existing facilities or construction of new space. From 2011–12 to 2015–16, UC devoted nearly $1.5 billion to program improvements to address academic, research and clinical priorities.

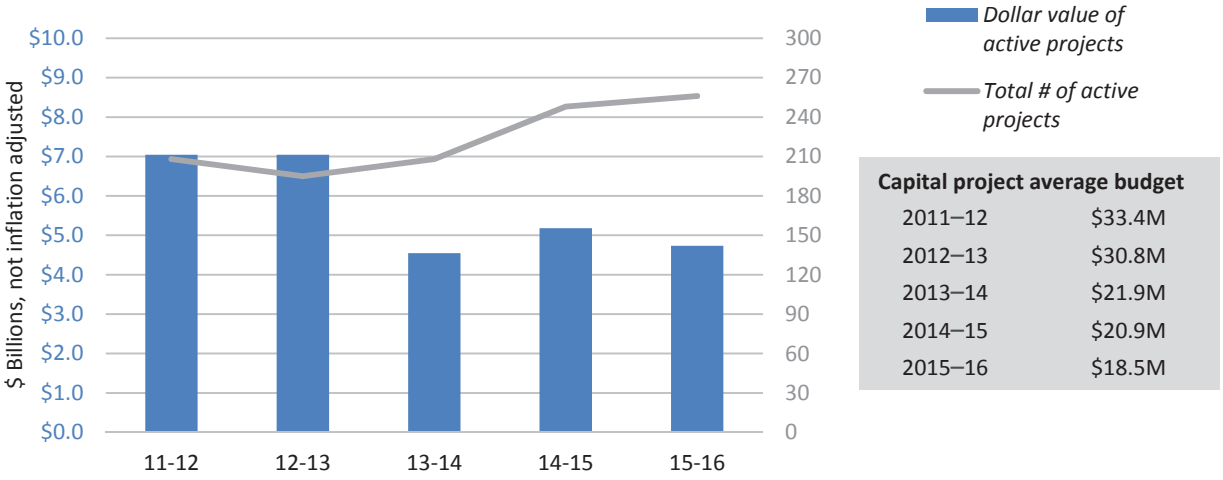
Campus facilities age and must be renewed and modernized to: ensure safety, extend the useful life of the buildings and improve energy efficiency. Building systems, elevators and roofs need periodic replacement and renewal during the lifespan of a building. In the past five years, $1.4 billion has been 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 2011–12 to 2015–16, 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 the past five years, UC has approved $900 million for projects that address enrollment needs. In 2013–14, there was a dramatic increase of approvals for projects to address enrollment-driven housing needs. In 2015–16, enrollment-driven project approvals addressed instruction and research needs.

Ongoing investment in new and existing facilities is critical to support the University's mission; the active capital portfolio is trending toward a higher volume of lower-cost projects.

13.1.4 Active projects
Universitywide
2011–12 to 2015–16



Capital project average budget	
2011–12	$33.4M
2012–13	$30.8M
2013–14	$21.9M
2014–15	$20.9M
2015–16	$18.5M

Source: UC Capital Asset Strategies

Active projects are those with approved budgets and that are in 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 represent a snapshot of a process that occurs over several years.

Overall, the UC campuses and medical centers continue to deliver a complex capital program that encompasses a mixture of new construction and renovation projects that include academic buildings, research facilities, medical centers, housing and infrastructure. Campuses continue to explore a variety of delivery and funding strategies to respond to local market conditions, manage risk and complete projects in furtherance of the University's mission and the campuses' academic and support needs.

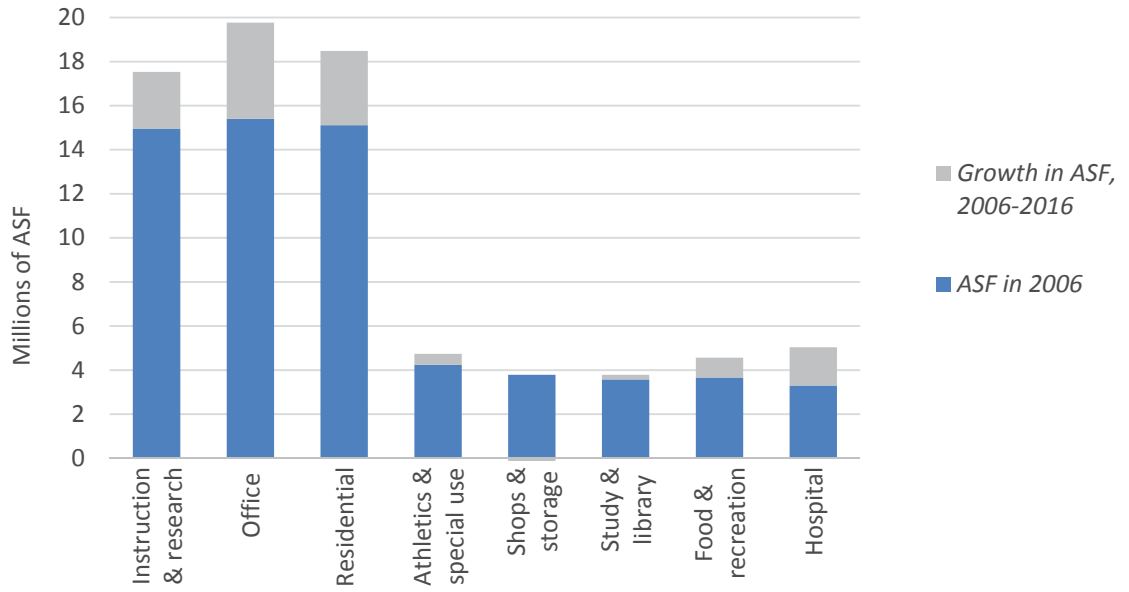
Indicator 13.1.4 shows budget totals and the number of active capital projects at fiscal-year-end for the past five years. The indicator also shows that the average capital project budget continues to decline. This is due to, among other things, rehabilitation of existing facilities, which tend to be less costly projects.

The cumulative budget of the portfolio of 256 active projects was $4.7 billion for 2015–16. While the total number of active projects increased by approximately three percent in the last year, the total dollar value of active projects decreased by nine percent, continuing the trend of projects with a lower dollar value.

The Annual Report on Major Capital Projects Implementation, Fiscal Year 2015–16 provides the status of major capital projects including budget and schedule changes, and projects completed in the fiscal year: (http://www.ucop.edu/design-services/_files/major-cap-reports/majcap1516.pdf)

In the past decade, UC space has increased by approximately 21 percent, with most of the growth targeted for instruction and research, offices and residential uses.

13.1.5 Assignable square footage (ASF)
Universitywide
2006–2016



Source: UC Capital Asset Strategies

Assignable square footage (ASF) is the space available for programs or assigned to specific uses. It does not include corridors, bathrooms or building infrastructure.

Indicator 13.1.5 illustrates the growth in space over the last decade, according to categories for assignable space. Since 2006, space has increased by 13.5 million ASF for a total of 77.6 million ASF.

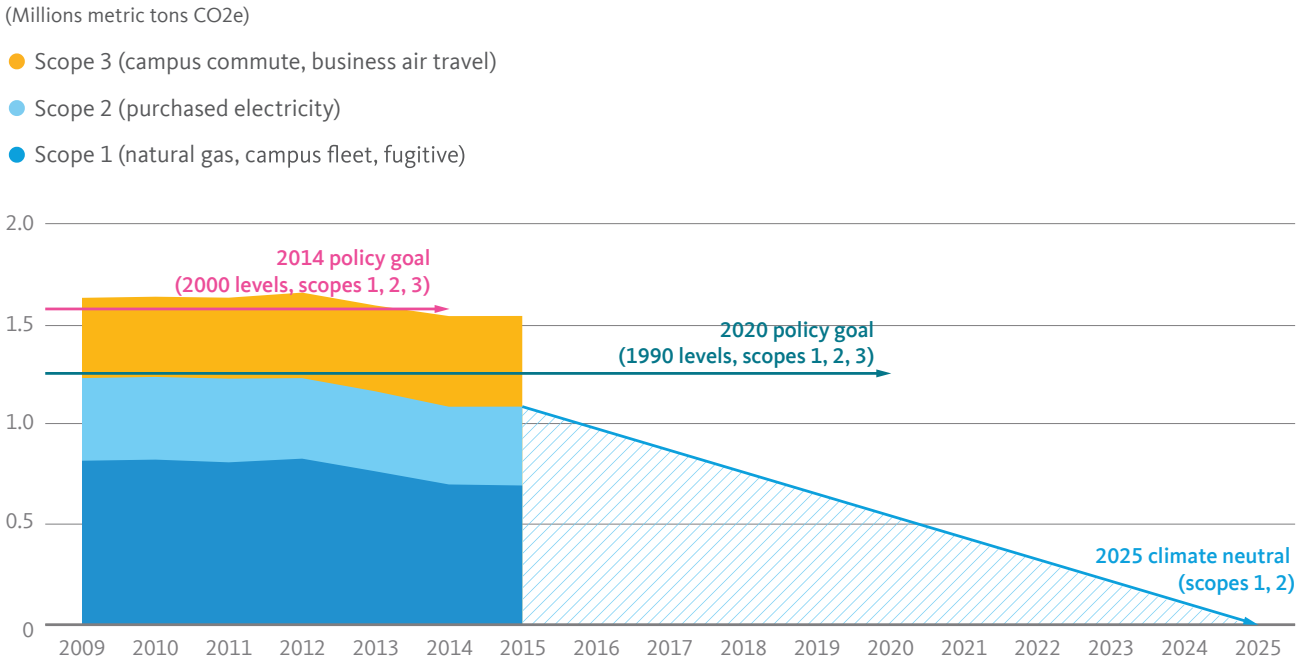
Within this total, instructional, research and office space has increased by 6.9 million ASF. In the past decade, residential space increased by 3.4 million ASF. Residential space has grown as campuses strive for more on-campus student housing to improve student life in living/learning communities and to reduce environmental impacts from commuting. The space increase for instruction and research, offices and residential use is proportional to the increase in enrollment for the same period.[1] Increases in the student population have also required additions to athletic, recreational and food service space.

Hospital space significantly grew in the past decade. All five medical centers experienced growth but most of the growth in hospital space can be attributed to the Ronald Regan UCLA Medical Center (2008), UCSF Medical Center at Mission Bay and Ron Conway Family Gateway Medical Building (2015), and the Jacobs Medical Center at UC San Diego Health (2016).

[1] *Budget for Current Operations, 2017–18*, Appendix Display 8: Enrollment History, 1980–81 Through 2016-17.

UC has made consistent progress toward its greenhouse gas emission goals.

13.2.1 Greenhouse gas emissions, compared to climate goals
Universitywide
2009–2025



Source: UCOP Energy and Sustainability Office[1]

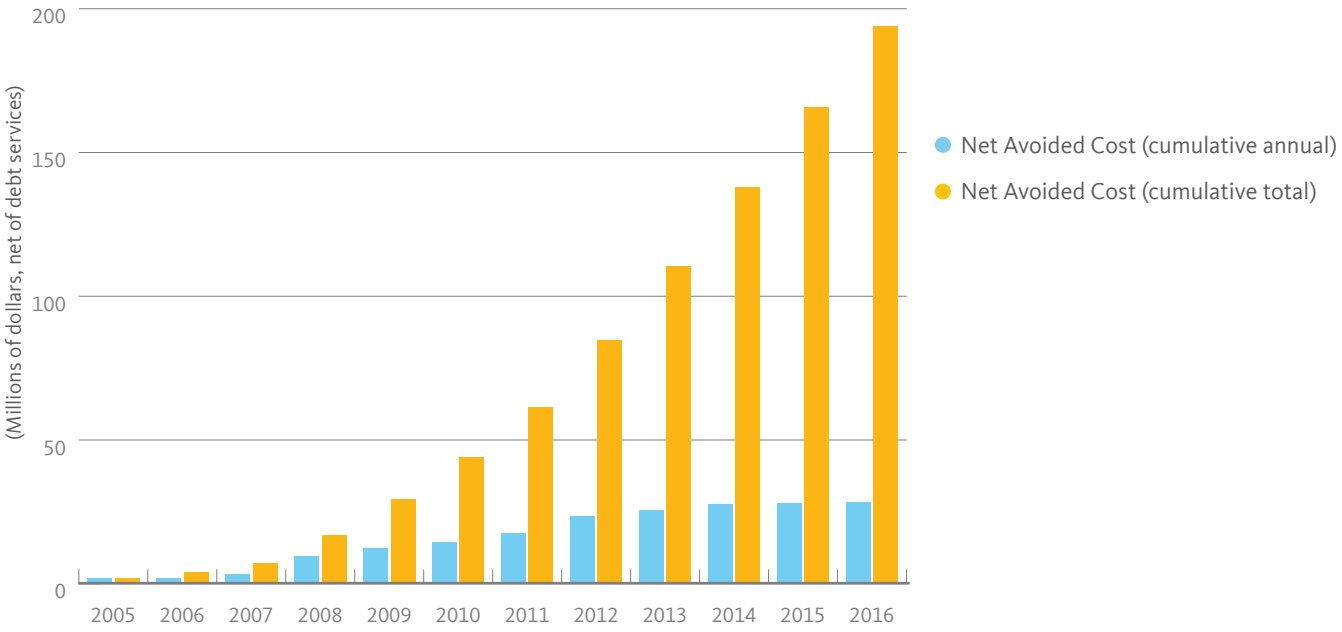
The University's greenhouse gas (GHG) emissions totaled 1.5 million metric tons CO_2e (carbon dioxide equivalent) in 2015. Forty-five percent of the total emissions came from Scope 1 sources — natural gas, campus fleet and fugitive emissions (such as refrigerants or certain gases used in research). Twenty-six percent came from Scope 2 sources — purchased electricity and steam. The final 29 percent came from Scope 3 emissions — campus commute and business air travel. Despite expanding campus built space by 14.2 million assignable square feet since 2000, total emissions have been declining over the past three years. The University's total emissions continued to fall below 2000 levels, maintaining the 2014 UC policy goal.

In 2015, six campuses met or exceeded the 2014 policy target. Santa Barbara, Los Angeles and Berkeley have each reduced 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 resulted in cumulative net avoided costs for the University of $194 million by the end of 2016.

13.2.2 Energy efficiency cost avoidance
Universitywide
2005–2016



Source: UCOP Energy and Sustainability Office

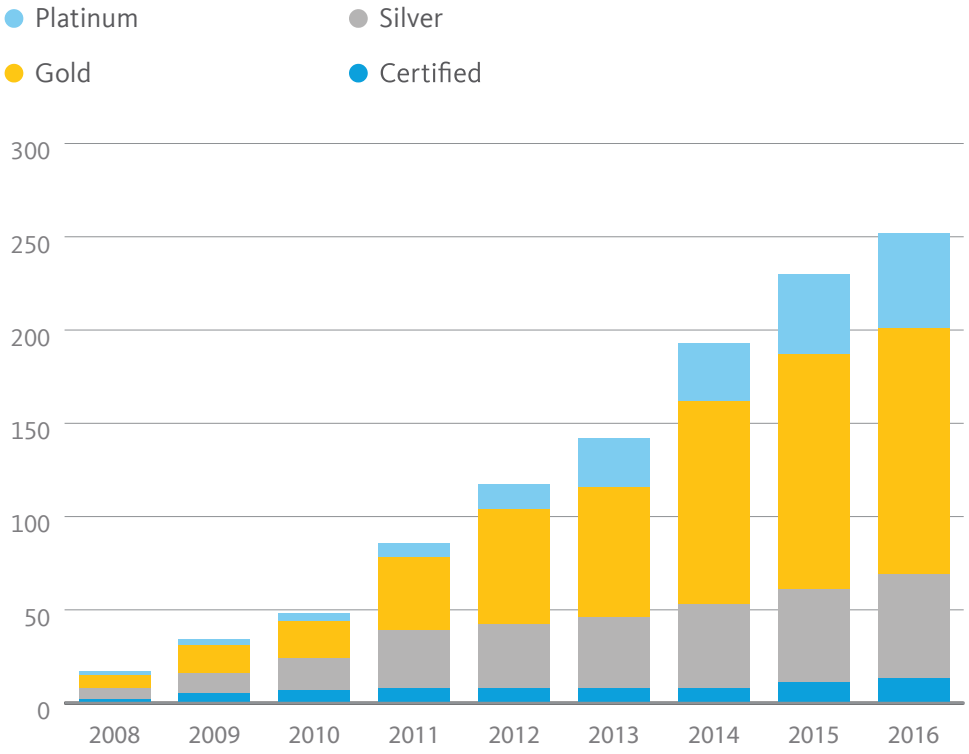
In 2004, the University formed a unique statewide Energy Efficiency Partnership program with the California State University system and the state's four investor-owned utilities to improve the energy performance of higher-education facilities. The partnership provides funding for energy system monitoring, equipment retrofits, and training and education as components of a continuous building efficiency improvement process.

In 2016, the University received approximately $4.4 million in incentives from the Partnership to implement 45 projects. Those projects are projected to avoid over $550,000 annually in utility bill costs. Energy efficiency projects since the program began in 2004, allow the University to avoid approximately $28 million in additional energy costs and the program's cumulative avoided costs exceeded $194 million by the end of 2016.

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.

By the end of 2016, UC had achieved 252 LEED® certifications, more than any other university in the country.

13.2.3 LEED® certifications
Universitywide
2000–2016 (cumulative)



Source: UCOP Capital Resources Management

UC's sustainability policy requires all new construction projects and major renovation projects to achieve a minimum of Leadership in Energy and Environmental Design (LEED®) Silver certification.

By the end of 2016, the University of California had 252 LEED®-certified projects, representing more than 20 million gross square feet of building space (new construction, renovation, homes and existing building certifications). In 2016, eight projects earned LEED®-Platinum certifications, six earned Gold, six earned Silver, and two earned Certified.

UC LEED® certifications are listed at http://ucop.edu/sustainability/policy-areas/green-building/index.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 37 LEED®-EBOM certifications.

CHAPTER FOURTEEN
HONORS AND RANKINGS

HONORS AND RANKINGS

A number of ranking systems aim to measure the quality of higher education institutions. Ranking systems differ in the factors they consider and the emphasis they place on these factors. In many cases, the ranking methodology changes, and it becomes impossible to make ranking comparisons for the same institution over time.

This chapter provides information across a sample of national and international ranking systems and describes how each uses a different combination of factors to signal aspects of quality. 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 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 contribution to the public good. One ranking system, USNWR, looks at 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 faculty research productivity.

In the University of California's case, what unites these systems is how well represented UC campuses are, with many of these campuses near or at the top of public institutions. While recognizing that these rankings may be useful sources of information, UC does not endorse any particular ranking system nor does it have specific goals with respect to any of them.

In fact, over the past few years, UC has supported the development of the College Scorecard, a single source of national data and metrics. In September of 2015, 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 goal preferences. The Scorecard includes information about student outcomes such as graduation rates, student earnings, debt and repayment rates, with some of these data available for subgroups such as first-generation and low-income students.

The College Scorecard data demonstrate that UC continues to be a good investment for students. Compared to the other AAU public institutions, UC provides greater access for low-income and first-generation students, and for underrepresented minorities. UC also demonstrates high graduation rates and high median earnings for all students, including those from low-income backgrounds.

One of the points of pride for the University of California is providing students from the bottom end of the economic spectrum with access to an educational and research environment comparable to the nation's finest private institutions but on a significantly larger scale. This chapter opens with a discussion on analyses from the New York Times that show how UC campuses are moving students from the bottom end to the top end of the economic spectrum, continuing UC's tradition as "California's upward-mobility machine."

The rankings selected for this report are:

- 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

For more information

https://collegescorecard.ed.gov/data/

www.ucop.edu/institutional-research-academic-planning/_files/College%20Scorecard%20Brief.pdf

www.ucop.edu/institutional-research-academic-planning/_files/RankingsBrief_2016.pdf

http://www.ucop.edu/institutional-research-academic-planning/_files/Economic-Mobility-of-Undergraduates.pdf

UC campuses are leaders in promoting social mobility, moving large numbers of students from the bottom to the top of the economic spectrum.

With income inequality continuing to be at the forefront of the national conversation, the New York Times published several articles in 2017 on colleges and social mobility. One of these articles showed elite colleges that enroll the highest percentage of low- and middle-income students, with UCLA leading the pack.

14.1.1 New York Times: Elite colleges that enroll the highest percentage of low- and middle-income students

College	Pct. from bottom 40% of economic spectrum
UCLA	19.2
Emory University	15.9
Barnard College	15.3
New York University	14.3
Vassar College	13.8
Bryn Mawr College	13.7
MIT	13.5

The Times articles also focused on which colleges enroll the most students at the top and bottom ends of the economic spectrum. The analyses showed that roughly half of UC Merced's and UC Riverside's students were from the bottom 60% of the economic spectrum, and that the other UC campuses enroll an average of one-third of their students from the bottom 60%.

14.1.2 New York Times: Colleges with high mobility rates, students from the top 1 percent and bottom 60 percent of the economic spectrum

Campus	Top 1% (income of $630k+)	Bottom 60% (income of <$65k)
Merced	<1%	53.9%
Riverside	<1%	48.0%
San Diego	1.8%	43.0%
Davis	2.4%	37.6%
Irvine	1.3%	34.2%
Los Angeles	4.1%	33.5%
Santa Barbara	3.4%	33.1%
Santa Cruz	2.2%	32.9%
Berkeley	3.8%	29.7%

Statistics are for the 1991 birth cohort (approx. the class of 2013).

The Times also reported on colleges' mobility rates, which combine a college's share of students from lower-income families with its success at propelling them into the upper part of the distribution. The rate examined colleges that took students from the bottom 40 percent to the top 40 percent of the economic spectrum. In combination with the "success rate," which measured the percent of lower-income students who ended up in the top 40 percent, the table shows UC's continuing strength as an "upward-mobility machine." UC Riverside, UC Irvine and UCLA were especially effective in moving students from a lower-income family to a higher-income family.

14.1.3 New York Times: Students who entered from the bottom 40 percent of the economic spectrum and arrived at the top 40 percent

College	Pct. from bottom 40%	Success rate	Mobility rate
Riverside	31.5%	66.1%	20.8%
Irvine	25.5%	70.3%	17.9%
Los Angeles	22.8%	70.3%	16.0%
San Diego	19.6%	71.9%	14.1%
Berkeley	19.5%	71.0%	13.8%
Davis	19.1%	70.8%	13.5%
Santa Barbara	14.9%	67.6%	10.1%
Santa Cruz	16.7%	59.5%	10.0%

Data here comes from the 1980-82 birth cohort, roughly the college classes of 2002-04. By this stage in life, income ranks are relatively stable.

UC is highly rated in the Washington Monthly rankings, which focus on contributions to the public good. In the 2016 listing, four of the top ten universities are UC campuses.

Washington Monthly developed its ranking system in 2005 as an alternative to the U.S. News 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 2007–2016

	2007	2008[1]	2009	2010	2011	2012	2013	2014	2015	2016
San Diego	**4**	**n/a**	**2**	**1**	**1**	**1**	**1**	**1**	**1**	**4**
Riverside	**15**	**n/a**	**16**	**40**	**5**	**9**	**2**	**2**	**2**	**12**
Berkeley	**3**	**n/a**	**1**	**2**	**3**	**5**	**5**	**3**	**4**	**7**
Stanford	13	n/a	4	4	4	3	6	6	5	1
Los Angeles	**2**	**n/a**	**3**	**3**	**2**	**6**	**10**	**5**	**6**	**8**
Harvard	27	n/a	11	9	6	11	8	10	8	2
U of Michigan	6	n/a	18	7	10	13	12	13	13	21
Santa Barbara	**36**	**n/a**	**21**	**11**	**13**	**14**	**22**	**15**	**14**	**17**
MIT	27	n/a	12	15	11	15	11	14	15	3
Davis	**8**	**n/a**	**10**	**6**	**8**	**17**	**23**	**16**	**16**	**10**
U of Illinois	11	n/a	24	27	38	22	19	26	27	33
Yale	38	n/a	23	33	39	41	54	57	44	13
Irvine	**49**	**n/a**	**44**	**50**	**60**	**117**	**84**	**83**	**51**	**35**
U of Virginia	16	n/a	26	59	53	48	51	60	63	54
Santa Cruz	**76**	**n/a**	**56**	**93**	**70**	**67**	**65**	**79**	**73**	**97**
Univ. at Buffalo	111	n/a	101	121	160	202	204	162	153	165

[1] Washington Monthly did not publish rankings for 2008.

Of the top ten national public universities in the U.S. News and World Report ranking, six are UC campuses.

First published in 1983, the U.S. News and World Report college rankings are based on seven major factors: peer assessment, graduation rates, retention rates, faculty resources, student selectivity, financial resources and alumni-giving rates. The U.S. News 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 Public Universities 2008–2017[1]

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Berkeley	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**1**
Los Angeles	**3**	**3**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**2**
U of Virginia	2	2	2	2	2	2	2	2	3	2
U of Michigan	3	4	4	3	4	4	4	4	4	4
Santa Barbara	**13**	**12**	**11**	**9**	**10**	**10**	**11**	**10**	**8**	**8**
Irvine	**13**	**12**	**14**	**11**	**13**	**12**	**14**	**11**	**9**	**9**
San Diego	**8**	**7**	**7**	**7**	**8**	**8**	**9**	**8**	**9**	**10**
Davis	**11**	**12**	**11**	**9**	**9**	**8**	**9**	**9**	**11**	**10**
U of Illinois	8	10	9	15	13	13	11	11	12	10
Santa Cruz	**35**	**45**	**29**	**29**	**31**	**32**	**36**	**35**	**34**	**30**
Univ. at Buffalo	-	-	-	-	54	51	53	48	45	43
Riverside	**45**	**40**	**43**	**41**	**41**	**46**	**55**	**55**	**58**	**56**
Merced	nr	nr	nr	nr	nr	nr	nr	nr	nr	**78**

14.3.2 U.S. News: America's Top National Universities 2008–2017[2]

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Harvard	**2**	**1**	**1**	**1**	**1**	**1**	**2**	**2**	**2**	**2**
Yale	3	3	3	3	3	3	3	3	3	3
Stanford	4	4	4	5	5	6	5	4	4	5
MIT	7	4	4	7	5	6	7	7	7	7
Berkeley	**21**	**21**	**21**	**22**	**21**	**21**	**20**	**20**	**20**	**20**
Los Angeles	**25**	**25**	**24**	**25**	**25**	**24**	**23**	**23**	**23**	**24**
U of Virginia	23	23	24	25	25	24	23	23	26	24
U of Michigan	25	26	27	29	28	29	28	29	29	27
Santa Barbara	**44**	**44**	**42**	**39**	**42**	**41**	**41**	**40**	**37**	**37**
Irvine	**44**	**44**	**46**	**41**	**45**	**44**	**49**	**42**	**39**	**39**
San Diego	**38**	**35**	**35**	**35**	**37**	**38**	**39**	**37**	**39**	**44**
Davis	**42**	**44**	**42**	**39**	**38**	**38**	**39**	**38**	**41**	**44**
U of Illinois	38	40	39	47	45	46	41	42	41	44
Santa Cruz	**79**	**96**	**71**	**72**	**75**	**77**	**86**	**85**	**82**	**79**
Univ. at Buffalo	3rd tier	121	121	120	111	106	109	103	99	99
Riverside	**96**	**89**	**96**	**94**	**97**	**101**	**112**	**113**	**121**	**118**
Merced	nr	nr	nr	nr	nr	nr	nr	nr	nr	**152**

[1] "nr" denotes that the university that was not rated in that year.
[2] UC San Francisco is not included in U.S. News' "America's Best Colleges" rankings because it is a graduate health sciences campus. Since 2014, the top-ranked national university has been Princeton University.

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 Rankings[1]
2007–2017

	Campus	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Business	Harvard	1	1	1	1	2	1	1	1	2	1	1
	Stanford	2	1	2	1	1	1	1	1	1	2	4
	MIT	4	4	4	3	3	4	4	5	5	5	4
	Berkeley	**8**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**	**7**
	Yale	14	13	10	11	10	10	13	13	13	8	9
	U of Michigan	11	12	13	12	14	13	14	11	11	12	11
	U of Virginia	12	14	15	13	13	13	12	11	10	11	14
	Los Angeles	**16**	**11**	**14**	**15**	**14**	**15**	**14**	**16**	**15**	**15**	**15**
	U of Illinois	38	38	42	42	37	37	47	35	47	39	40
	Davis	**44**	**40**	**42**	**42**	**28**	**36**	**40**	**41**	**48**	**45**	**42**
	Irvine	**44**	**nr**	**36**	**36**	**40**	**49**	**49**	**45**	**53**	**48**	**44**
	Univ. at Buffalo	nr	nr	nr	nr	75	89	75	74	79	81	73
	San Diego							**73**	**60**	**63**	**77**	**82**
	Riverside	**nr**	**nr**	**nr**	**nr**	**nr**	**97**	**nr**	**nr**	**nr**	**nr**	**93**
Education	Harvard	3	6	6	3	2	2	3	3	2	2	1
	Stanford	2	1	2	5	4	4	5	4	3	1	2
	Los Angeles	**5**	**3**	**5**	**6**	**6**	**6**	**8**	**11**	**13**	**11**	**3**
	U of Michigan	6	9	14	14	9	12	11	8	11	12	15
	Berkeley	**8**	**7**	**7**	**10**	**12**	**13**	**12**	**14**	**17**	**18**	**18**
	U of Virginia	31	24	21	21	22	23	22	22	22	21	18
	U of Illinois	25	48	25	25	23	22	19	26	24	23	24
	Irvine	**nr**	**nr**	**nr**	**nr**	**48**	**43**	**37**	**36**	**31**	**25**	**25**
	Davis	**nr**	**nr**	**nr**	**nr**	**58**	**63**	**60**	**45**	**38**	**51**	**36**
	Santa Barbara	**nr**	**nr**	**nr**	**nr**	**58**	**63**	**40**	**64**	**67**	**49**	**52**
	San Diego								**98**	**99**	**74**	**69**
	Riverside	**nr**	**nr**	**nr**	**nr**	**66**	**67**	**74**	**77**	**76**	**62**	**72**
Engineering	MIT	1	1	1	1	1	1	1	1	1	1	1
	Stanford	2	2	2	2	2	2	2	2	2	2	2
	Berkeley	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**	**3**
	U of Michigan	9	9	9	8	9	8	9	8	6	6	5
	U of Illinois	5	5	5	5	5	5	5	6	6	7	9
	San Diego	**13**	**11**	**12**	**13**	**14**	**14**	**14**	**14**	**17**	**17**	**13**
	Los Angeles	**16**	**13**	**14**	**15**	**14**	**16**	**16**	**16**	**14**	**14**	**16**
	Santa Barbara	**19**	**19**	**18**	**19**	**21**	**21**	**20**	**19**	**23**	**23**	**19**
	Harvard	23	22	18	19	18	19	23	24	20	24	23
	Davis	**32**	**33**	**32**	**32**	**31**	**31**	**33**	**31**	**33**	**33**	**34**
	Irvine	**37**	**35**	**36**	**36**	**39**	**39**	**37**	**38**	**37**	**37**	**37**
	Yale	39	40	39	39	35	34	34	34	35	38	38
	U of Virginia	38	37	39	39	39	39	38	40	39	39	39
	Univ. at Buffalo	nr	nr	nr	nr	52	54	61	60	59	61	67
	Riverside	**nr**	**nr**	**nr**	**nr**	**66**	**64**	**67**	**69**	**71**	**71**	**67**
	Santa Cruz	**nr**	**nr**	**nr**	**nr**	**78**	**87**	**87**	**81**	**88**	**87**	**85**

	Campus	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Law	Yale	1	1	1	1	1	1	1	1	1	1	1
	Harvard	2	2	2	2	2	2	2	2	2	2	2
	Stanford	2	3	3	3	3	3	2	3	2	2	2
	Berkeley	**8**	**6**	**6**	**7**	**9**	**7**	**9**	**9**	**8**	**8**	**8**
	U of Michigan	8	9	9	9	7	10	9	10	11	8	8
	U of Virginia	10	9	10	10	9	7	7	8	8	8	8
	Los Angeles	**15**	**16**	**15**	**15**	**16**	**15**	**17**	**16**	**16**	**17**	**17**
	Irvine							**nr**	**nr**	**30**	**28**	**28**
	Davis	**44**	**35**	**28**	**28**	**23**	**29**	**38**	**36**	**31**	**30**	**30**
	U of Illinois	25	27	23	21	23	35	47	40	41	40	40
	Hastings	38	39	42	42	42	44	48	54	59	50	50
	Univ. at Buffalo	100	85	third tier	third tier	84	82	86	100	87	100	100
Medicine: Primary Care	**San Francisco**	**8**	**6**	**5**	**5**	**4**	**3**	**4**	**4**	**3**	**3**	**3**
	U of Michigan	45	17	7	14	20	8	8	8	5	4	4
	Los Angeles	**18**	**12**	**10**	**14**	**16**	**10**	**11**	**13**	**7**	**6**	**6**
	Harvard	13	7	15	17	15	15	14	11	12	17	17
	San Diego	**35**	**26**	**28**	**28**	**33**	**27**	**39**	**38**	**19**	**21**	**21**
	U of Virginia	38	35	29	39	20	19	18	29	40	25	25
	Davis	**26**	**35**	**20**	**20**	**41**	**24**	**19**	**16**	**19**	**37**	**37**
	Stanford						63	62	38	25	37	37
	Yale	nr	nr	nr	nr	67	74	72	68	57	37	37
	Irvine	**nr**	**nr**	**nr**	**nr**	**nr**	**86**	**66**	**61**	**62**	**62**	**62**
	Univ. at Buffalo	nr	nr	nr	nr	86	nr	79	nr	nr	nr	nr
Medicine: Research	Harvard	1	1	1	1	1	1	1	1	1	1	1
	Stanford	7	8	6	11	5	4	2	2	2	2	2
	San Francisco	**5**	**5**	**5**	**4**	**5**	**5**	**4**	**4**	**3**	**3**	**3**
	Yale	8	9	6	6	5	7	7	7	7	8	8
	U of Michigan	10	11	11	6	10	10	8	12	10	11	11
	Los Angeles	**13**	**9**	**11**	**11**	**13**	**13**	**13**	**12**	**13**	**14**	**14**
	San Diego	**14**	**14**	**15**	**16**	**15**	**16**	**15**	**14**	**17**	**18**	**18**
	U of Virginia				25	22	25	26	26	26	28	28
	Irvine	**43**	**45**	**47**	**47**	**42**	**44**	**42**	**43**	**45**	**44**	**44**
	Davis	**48**	**48**	**47**	**47**	**42**	**42**	**42**	**40**	**43**	**47**	**47**
	Univ. at Buffalo	nr	nr	nr	nr	55	57	64	71	nr	nr	nr

[1] "nr" denotes that the program was not rated in that year.

In the Academic Rankings of World Universities, only four public universities in the world appear in the top 20, and three 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 Universities[1] 2007–2016

	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
Harvard	1	1	1	1	1	1	1	1	1	1
Stanford	2	2	2	3	2	2	2	2	2	2
MIT	5	5	5	4	3	3	4	3	3	5
Berkeley	**3**	**3**	**3**	**2**	**4**	**4**	**3**	**4**	**4**	**3**
Yale	11	11	11	11	11	11	11	11	11	11
Los Angeles	**13**	**13**	**13**	**13**	**12**	**12**	**12**	**12**	**12**	**12**
San Diego	**14**	**14**	**14**	**14**	**15**	**15**	**14**	**14**	**14**	**14**
San Francisco	**18**	**18**	**18**	**18**	**17**	**18**	**18**	**18**	**18**	**21**
U of Michigan	21	21	22	22	22	22	23	22	22	23
U of Illinois	26	26	25	25	25	25	25	28	29	30
Santa Barbara	**35**	**36**	**35**	**32**	**33**	**34**	**35**	**41**	**38**	**42**
Irvine	**45**	**46**	**46**	**46**	**48**	**45**	**45**	**47**	**50**	**58**
Davis	**43**	**48**	**49**	**46**	**48**	**47**	**47**	**55**	**57**	**75**
Santa Cruz	**102–150**	**102–150**	**102–150**	**102–150**	**102–150**	**101–150**	**101–150**	**93**	**93**	**83**
Riverside	**102–150**	**102–150**	**102–150**	**102–150**	**102-150**	**101–150**	**101–150**	**101–150**	**101-150**	**151-200**
U of Virginia	102–150	95	91	96	102–150	101–150	101–150	101–150	101-150	151-200
Univ. at Buffalo	203–304	201–302	201–302	201–300	201–300	201–300	201–300	201–300	201-300	301-400

[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 2016-17 edition of THE rankings continued the use of a more comprehensive database to measure research productivity, improving coverage of peer-reviewed research not published in English.

14.6.1 Times Higher Education: World University Rankings[85]
2010–11 to 2016–17

	Overall Ranking						
	2010–11	**2011–12**	**2012–13**	**2013–14**	**2014–15**	**2015–16**	**2016-17**
Harvard	1	2	4	2	2	6	6
MIT	3	7	5	5	6	5	5
Stanford	4	2	2	4	4	3	3
Berkeley	**8**	**10**	**9**	**8**	**8**	**13**	**10**
Yale	10	11	11	11	9	12	12
Los Angeles	**11**	**13**	**13**	**12**	**12**	**16**	**14**
U of Michigan	15	18	20	18	17	21	21
U of Illinois	33	31	33	29	29	36	36
San Diego	**32**	**33**	**38**	**40**	**41**	**39**	**41**
Davis	**54**	**38**	**44**	**52**	**55**	**44**	**51**
San Francisco	**nr**	**nr**	**nr**	**nr**	**nr**	**nr**	**nr**
Santa Barbara	**29**	**35**	**35**	**33**	**37**	**39**	**48**
Irvine	**49**	**86**	**96**	**93**	**88**	**106**	**98**
Santa Cruz	**68**	**110**	**122**	**136**	**109**	**144**	**146**
U of Virginia	72	135	118	112	130	147	121
Riverside	**117**	**143**	**154**	**148**	**150**	**167**	**165**
U at Buffalo	nr	nr	198	176	191	201–250	251-300

	Reputational Ranking						
	2011	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**
Harvard	1	1	1	1	1	1	1
MIT	2	2	2	2	4	2	2
Stanford	5	4	6	3	5	3	3
Berkeley	**4**	**5**	**5**	**6**	**6**	**6**	6
Yale	9	10	10	8	8	8	**8**
Los Angeles	**12**	**9**	**8**	**10**	**13**	**13**	**13**
U of Michigan	13	12	12	15	19	14	14
U of Illinois	21	23	24	23	30	30	30
San Diego	**30**	**36**	**34**	**40**	**41**	**35**	**35**
Davis	**38**	**44**	**48**	**51–60**	**44**	**45**	**45**
San Francisco	**34**	**31**	**40**	**32**	**38**	**42**	**42**
Santa Barbara	**51–60**	**51–60**	**51–60**	**61–70**	**61–70**	**71–80**	**71-80**

[85] Campuses in the reputational ranking below the top 50 are placed into ranges in lieu of an exact ranking. The top Overall Ranking for 2016–17 was given to University of Oxford.

GLOSSARY

GLOSSARY

AAU — Association of American Universities. The AAU is a highly selective membership organization of preeminent public and private research universities. AAU currently has 60 American and two Canadian member institutions. In this report, the Canadian institutions are excluded from calculations. Of the ten UC campuses, six are AAU members: Berkeley, Davis, Irvine, Los Angeles, San Diego and Santa Barbara.

AB 540 — AB 540 is an Assembly bill passed in 2001. It allows undocumented high school students who meet certain requirements to pay in-state, instead of nonresident, tuition at California's public higher education institutions.

Academic Senate — The Academic Senate represents the faculty in the shared governance of the University of California.

ARRA — American Recovery and Reinvestment Act, passed 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, dining facilities and bookstores.

Climate — Climate is a term employed to measure diversity at UC campuses and the degree to which the campuses are welcoming and inclusive of different groups and affiliations.

Clinical faculty — Clinical faculty are instructors in medical and health sciences fields. They include professors in residence, professors of clinical __ (__ being the name of the discipline or specialty), and health science clinical professors. Clinical faculty are not members of the Academic Senate.

Comparison institutions; comparators — UC historically has used eight universities against which to benchmark faculty salaries. The comparison institutions — four public and four private — are: University of Illinois, University of Michigan, University at Buffalo and University of Virginia (all public); and Harvard, Massachusetts Institute of Technology, Stanford and Yale (all private).

FTE — Full time equivalent – a unit of measurement of employee or student workload or attendance. Two individuals each engaged in half-time employment constitute a single FTE. In this report, FTE counts are represented with a single decimal to differentiate them from headcounts. (See *headcount*.)

General campus — Used to distinguish the non-health science areas of a campus from the health science areas. Berkeley, Davis, Irvine, Los Angeles, Riverside and San Diego include both general campus and health science areas. Merced, Santa Barbara and Santa Cruz are general campus only, and San Francisco is an exclusively health science campus.

General funds — General funds include State general funds, which are funds from the State of California, and UC general funds, which are primarily indirect cost recovery and nonresident tuition.

Graduation rate — The proportion of students in a cohort who finish their degrees within a specified period. Undergraduate graduation rates are generally measured in four-, five- and six-year increments for entering freshmen, and two-, three- and four-year increments for transfer students.

Headcount — Headcount is the actual number of individuals without accounting for full- or part-time status. Two students each attending school half-time constitute a headcount of two. (See *FTE*.)

Health sciences instruction — Seven UC campuses offer health sciences instruction. Davis, Irvine, Los Angeles, San Francisco and San Diego have schools of medicine and other health sciences such as pharmacy, nursing and dentistry; Riverside has a school of medicine; Berkeley offers health sciences instruction in optometry and public health.

K-12 — Kindergarten through 12th-grade instruction.

Ladder-rank — Ladder-rank faculty are faculty who are tenured or have potential to receive tenure, and generally are members of the Academic Senate.

Master Plan — The Master Plan for Higher Education establishes a system of public higher education in California that defines the roles of public institutions with the goal of making higher education available to all Californians. The Master Plan was originally drafted in 1960 and has been updated several times to accommodate changing circumstances.

Non-ladder-rank faculty — Non-ladder rank faculty are faculty who are neither tenured nor on track to receive tenure, and generally are not members of the Academic Senate. Non-ladder rank faculty includes lecturers, visitors, adjuncts, instructional assistants and clinical faculty.

Nonresident — Nonresident students come from outside California to attend a UC campus. They must pay the full cost of attendance.

Pell Grant — The Pell Grant is a federal program that provides need-based grants to low-income individuals for the purposes of obtaining a college degree. A Pell Grant recipient is defined as a student who received a Pell Grant at any point while attending an institution.

Postbaccalaureate teaching credential — The postbaccalaureate teaching credential trains individuals to meet state standards for teacher certification.

Postdoctoral scholar — Postdoctoral scholars are engaged in further research or training in the fields in which they obtained their doctoral degrees for the purpose of gaining additional expertise and skills. Postdoctoral scholars may hold concurrent titles in other academic or staff categories.

SCH, student credit hours – Student credit hours are a measure of faculty teaching workload. SCH 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.

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.*

VERIP — Voluntary Early Retirement Incentive Program

WSCUC — Western Association of Schools and Colleges Senior College and University Commission. WSCUC is UC's regional accrediting agency. It is recognized by the U.S. Department of Education as the accrediting agency for colleges and universities in the western United States and the Pacific Basin.

Data Sources

Association of American Universities (AAU)

The Association of American Universities (AAU) is an association of 62 leading public and private research universities in the United States and Canada. A list of the institutions can be found in Table 6 of this glossary. Membership in AAU is by invitation and is based on the high quality of programs of academic research and scholarship and undergraduate, graduate and professional education in a number of fields. Throughout this report, the two AAU institutions in Canada are excluded from the "Non-UC AAU Public" group because they do not submit data to the U.S. Department of Education, the source of the AAU data used here. For more information, visit 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.

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 http://www.dof.ca.gov/Forecasting/Economics/Indicators/Inflation/

Council for Aid to Education (CAE)

The Council for Aid to Education (CAE) is a national nonprofit organization based in New York City. Initially established in 1952 to advance corporate support of education and to conduct policy research on higher education, CAE today is also focused on improving quality and access in higher education. CAE's Voluntary Support of Education (VSE) survey is the authoritative national source of information on private giving to higher education and private K-12 classrooms, consistently capturing about 85 percent of the total voluntary support to colleges and universities in the United States. CAE has managed the survey as a public service for over 50 years. For more information, visit www.cae.org.

Integrated Postsecondary Education Data System (IPEDS)

IPEDS is a system of interrelated surveys conducted annually by the National Center for Education Statistics (NCES) of the Institute of Education Sciences, U.S. Department of Education. IPEDS gathers information from every college, university, and technical and vocational institution that participates in federal student financial aid programs. IPEDS provides basic data needed to describe — and analyze trends in — postsecondary education in the United States, in terms of the numbers of students enrolled, staff employed, dollars expended and degrees earned. For more information, visit 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 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 http://data.ucop.edu/subject-area/financial-data-warehouse.html.

UC Corporate Personnel System (CPS)

The Corporate Personnel System (CPS) is a reporting system with demographic, personnel and pay activity data on employees. More information can be found at http://data.ucop.edu/subject-area/cps-assets/personnel-data-warehouse.html.

UC Data Warehouse (CSS)

The Data Warehouse is a set of databases and processes that provides information to meet the management, analytical and operational needs of the UC Office of the President. The databases are created and/or updated with data received from the campuses and other sources. More information can be found at http://data.ucop.edu/subject-area/index.html.

UC Faculty Instructional Activities dataset ("TIE" data collection)

UC conducts annual data collections from campuses on faculty instructional activities. This data collection was originally undertaken in response to a state reporting requirement 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

The UC Information Center is a website providing a central source of information about the University that allows the public to explore the UC story through data. The site can be accessed at https://www.universityofcalifornia.edu/infocenter.

UC Medical Centers Audited Financial Statements

The UC medical centers, like all public entities, are audited by an external auditing firm. The medical center audited financial statements are published separately from UC's external audit. UC's audited financial statements can be accessed at 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. 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 2. Faculty Discipline Groupings

Discipline Grouping - Accountability	UAS Discipline	Discipline Grouping - Accountability	UAS Discipline
Arts & Humanities	Fine & Applied Arts	Medicine	Medicine
Arts & Humanities	Foreign Languages	Other General Campus Professional	Architecture & Environmental Design
Arts & Humanities	Letters		
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
		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
		Social Science & Psychology	Social Sciences
Math	Mathematics	Social Science & Psychology	Area Studies

Table 3. Faculty Categories, Faculty Series and Class Title Outline Codes

Category	Faculty Series Included	Class Title Outline (CTO) Codes[1]
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 are eligible for union representation; their bargaining unit in the UC system Is referred to as "Unit 18".

Table 5. AAU Member Universities, as of June 2017 (United States only)

UC	Non-UC Public	Private
Berkeley	Georgia Institute of Technology — Main Campus	Boston University
Davis	Indiana University — Bloomington	Brandeis University
Irvine	Iowa State University	Brown University
Los Angeles	Michigan State University	California Institute of Technology
San Diego	Ohio State University — Main Campus	Carnegie Mellon University
Santa Barbara	Pennsylvania State University — Main Campus	Case Western Reserve University
	Purdue University — Main Campus	Columbia University in the City of New York
	Rutgers University — New Brunswick	Cornell University
	Stony Brook University	Duke University
	Texas A & M University	Emory University
	The University of Texas at Austin	Harvard University
	University at Buffalo	Johns Hopkins University
	University of Arizona	Massachusetts Institute of Technology
	University of Colorado at Boulder	New York University
	University of Florida	Northwestern University
	University of Illinois at Urbana — Champaign	Princeton University
	University of Iowa	Rice University
	University of Kansas	Stanford University
	University of Maryland — College Park	Tulane University of Louisiana
	University of Michigan — Ann Arbor	University of Chicago
	University of Minnesota — Twin Cities	University of Pennsylvania
	University of Missouri — Columbia	University of Rochester
	University of North Carolina at Chapel Hill	University of Southern California
	University of Oregon	Vanderbilt University
	University of Pittsburgh — Pittsburgh Campus	Washington University in St Louis
	University of Virginia — Main Campus	Yale University
	University of Washington — Seattle Campus	
	University of Wisconsin — Madison	

Table 7. 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			

Student Level Classification Summary:

UCOP classifies graduate students into five enrollment levels that rely on campus provided information on program type and student enrollment level. Within UCOP's central student data system campuses indicate whether each of their programs of study is academic or professional at the master's and doctoral levels. These indications, combined with the actual enrollment level (masters or doctoral) of the student, serve as the determination of whether a student is enrolled in an academic doctoral, professional doctoral, academic master's, or professional master's program. Two exceptions to this rule include (1) all self-supporting students are treated as professional (master's or doctoral based on level) regardless of how the campus may have classified the program, and (2) all students enrolled in programs associated with professional licensure (law, medicine, and other health professions) are treated as professional practice.