



## UC impacts: The university's contributions to California

The University of California was chartered as a state land-grant institution in 1868. Today, the UC system encompasses more than 220,000 students, 170,000 faculty and staff, and 40,000 retirees, with more than 1.5 million alumni living and working around the world.

UC has 10 campuses, five medical centers, 16 health professional schools, three law schools and the state's only veterinary school, as well as University Extension courses and agricultural and natural resources programs that operate throughout California. UC is also involved in managing three U.S. Department of Energy laboratories, which perform cutting-edge energy research in fields ranging from national security to energy efficiency.

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### Key points

Every day, UC contributes to the state's economic vitality and the quality of life of all Californians. The university offers educational opportunities, conducts groundbreaking research and provides valuable cultural resources for communities across the state.

- **Economic engine:** UC contributes more than \$14 billion in California economic activity and more than \$4 billion in state and local tax revenues each year, not including spin-off companies. More than 1,000 California biotech, high-tech and other R&D-intensive companies put UC research to work every day.
  - **Creating jobs:** Nearly 400,000 jobs in California are dependent on UC operations, and UC will have a hand in creating more than 2 million California jobs this decade (2002-11).
  - **Research innovations:** For the past 12 years, UC has developed more patents than any other university in the nation – and its researchers produce on average three new inventions a day.
  - **Return on investment:** For every \$1 in state research funding, UC secures \$6 more in federal and private research dollars.
  - **Improving health:** UC supports the largest health sciences training program in the nation and trains two-thirds of the medical students in California. UC operates the fifth-largest health care delivery system in California, with 34,000 health care professionals on staff who provide \$4 billion a year in care to patients, including a high proportion of the state's uninsured, low-income, medically vulnerable patients. UC often has the only trauma care center and medical specialty services in the region.
  - **Academic excellence:** UC offers education in 150 academic disciplines, with more departments ranked in the top 10 nationally than at any other public or private university. Six UC campuses belong to the prestigious 62-member Association of American Universities, a representation unmatched by any other state.
  - **Educational access:** UC has the highest proportion of low-income students among the country's top research universities, and provides more than \$1 billion in financial aid to about two-thirds of its students.
  - **Academic preparation:** UC is working with K-12 schools across the state to improve student achievement and is spearheading "Cal Teach," which will train 1,000 new math and science teachers annually for public schools statewide.
  - **Community resources:** UC's sports facilities, performing arts centers, museums and gardens enrich California's communities. Many of these facilities are the top venues in the regions surrounding our campuses. The UC libraries make up the largest research/academic library in the world, and UC has one of the largest digital libraries anywhere in the world, the California Digital Library.
  - **Environmental solutions and stewardship:** In addition to research efforts to improve the environment, UC manages 130,000+ acres of protected natural habitat, an area four times the size of San Francisco.
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## **California's economic engine**

- UC research, and the undergraduates and graduate students educated at the university, have been critical to the creation and development of many of California's leading industries – from biotechnology to information technology to telecommunications.
- Today, UC is helping California take a leading global role in critical new industries – from nanotechnology to digital media to “green” technology – and is working on innovations to drive the next wave of California's economic growth.
- Nearly 400,000 jobs in California are dependent on UC operations (including non-university jobs created by direct university expenditures, but not including spin-off companies) – about 2% of the state's total. UC is expected to have a hand in creating more than 2 million California jobs this decade (2002-11).
- UC contributes more than \$14 billion in California economic activity and more than \$4 billion in state and local tax revenues each year, not including spin-off companies.
- More than 1,000 California biotech, high-tech and other innovative R&D-intensive companies put UC research to work every day.
- For every \$1 in research funding provided by the state of California, UC secures \$6 more in federal and private research dollars – an extremely successful leveraging. UC is the nation's top university in attracting federal R&D investment.
- UC faculty and alumni have founded 1 out of every 4 biotech companies in California, while nearly 60% of the state's IT and communications firms have UC alumni as executives.

## **Innovation and the economic impact of UC research, development and delivery**

- As California's public research institution, UC spends more than \$3 billion annually on research, or more than \$8 million each day.
- UC researchers produce on average three new inventions a day.
- UC develops more patents than any other university in the nation and has held that top spot for the past 12 years. Its faculty and graduates are responsible for more than 6,600 active inventions, many of which have led to the creation of today's leading industries.
- UC has more than 10.5 million square feet of research space. UC has 35 multicampus research units as well as more than 900 individual campus research centers, institutes and organized research units.
- A UC engineer invented the ground-fault interrupter, found today in virtually every electrical outlet in every home and office. UC also developed the compact fluorescent light bulb.
- Every day, millions of people surf the Internet, which was created with UC's help. University laboratories pioneered the laser and fiber optic research that represents the nervous system of the telecommunications boom.

## **Workforce development**

- With more than 1 million UC graduates, California has one of the best-trained work forces in the world.
- UC graduates more than 40,000 students a year and its continuing education classes help about 300,000 students each year polish their job skills.
- UC awards 7% of the nation's Ph.D. students, much more than its competitors like Harvard, Yale, Stanford and other Ivy League universities.
- As a center for lifelong learning and continuing professional development, UC has the nation's largest continuing education program, with about 300,000 students each year enrolled in 17,000 extension courses around the state.
- 85% of UC undergraduates say they plan to attend graduate or professional school.
- While about 17% of UC's enrollment is graduate students, that proportion is 34% at our public comparison institutions and 59% at the private institutions. That gap poses a big problem for California's future economic competitiveness.
- In 1970, the U.S. was third in the world in the proportion of 24-year-olds who earned a degree in the natural sciences or engineering. Today, we're 17th. While California has more than 16% of the nation's high-tech jobs, it grants less than 9% of U.S. science and engineering bachelor's degrees.

## **Growing California's agricultural economy**

- Much of the food you eat is from California farms and ranches that have benefited from UC research and agricultural programs. UC discoveries in crop management, pest control and agricultural machinery have helped farmers everywhere to literally feed the world.
- UC helps California agriculture compete globally and farm more sustainably. California's \$34 billion agricultural sector produces more than 350 commodities and employs 7% of the state's private-sector work force – while feeding the nation.
- From its beginnings as a land-grant institution, UC has focused a considerable amount of study on California's oldest industry, agriculture. When UC researchers discovered in the late 1800s how to remove salts from the soils of California's Central Valley, they took their research directly to the fields, turning what was once barren alkaline land into the most productive agricultural region in the world.
- Since the 1940s, UC scientists have continued to develop dozens of varieties of fruits and vegetables. California's strawberry industry relies on new varieties created by UC. For much of the 20th century, UC researchers helped make California wines among the best in the world by pioneering new grape varieties and new winemaking techniques.
- UC trains the state's vintners and certifies more than 95% of wine grapes, providing a reliable supply of high-quality crop for California's multibillion-dollar wine industry.

## **Improving health**

- UC is uniquely positioned to help address California's expected shortfall of up to 17,000 physicians by 2015. By 2020, the state will also need 116,000 additional nurses.
- UC's five medical centers support the clinical teaching programs of the university's medical and health sciences schools and handle more than 3 million patient visits each year. The medical centers provide a full range of health care services in their communities and are sites for the development and testing of new diagnostic and therapeutic techniques.
- UC supports the largest health sciences training program in the nation, educating 13,000 students each year and training approximately two-thirds of the medical students in California. A third UC nursing school was launched with a \$100 million gift this year.
- All told, UC's health care delivery system is the fifth-largest in California, with 34,000 health care professionals who provide more than \$4 billion in patient care annually.
- UC hospitals and clinics handle more than 3 million outpatient visits, 261,000 emergency room visits and 138,000 inpatient admissions each year, including a high proportion of the state's uninsured, low-income, medically vulnerable patients.
- UC often has the only trauma care center and medical specialty services in the region. Statewide, UC provides treatment for 22% of all extensive burn cases and care for 9% of all trauma cases, as well as 38% of all transplant procedures.
- UC medical researchers develop innovative new drugs and techniques to treat and prevent disease. UC's medical centers perform more than 750 clinical trials every year. UC medical researchers have produced such landmark breakthroughs as discovering genes that cause cancer.
- PRIME medical education programs at multiple UC campuses produce physician-leaders committed and trained to improve health care in underserved communities, such as rural areas and in the Latino community.

## **Access to an excellent education**

- More than 220,000 students benefit from a publicly supported education each year at UC.
- UC receives more freshman applications than any other university in the country. [121,000 applications for fall 2008]
- 88% of all UC students are California residents – including 94% of undergraduates.
- UC is a great place for researchers and students: UC faculty have won 10 Nobel Prizes since 2000 – more than any other university in the country.
- UC offers education in 150 academic disciplines, with more departments ranked in the top 10 nationally than at any other public or private university.
- Six UC campuses are members of the prestigious 62-member Association of American Universities, a representation unmatched by any other state.

- UC confers more than 40,000 bachelor's degrees each year and awards more Ph.D.s than any other U.S. university – 7% of the annual nationwide Ph.D. total.
- Despite recent fee increases, UC's average tuition for California undergraduates still provides the highest-quality education for the price of any university in the U.S.
- UC has the highest proportion of low-income students among the country's top research universities, and provides more than \$1 billion in financial aid to about two-thirds of its students.
- California community colleges provide an great starting point for students to reach UC. More than 16,000 community college students transferred last year, and roughly a third of UC bachelor's degrees awarded each year go to students who started at a community college.
- 2007-08 student fees [CA residents]:  
\$7,511/year for undergraduates (avg.)  
\$9,768/year for academic graduate students (avg.)
- UC's Education Abroad Program, partnering with 130 top host institutions in 35 countries, provides students with learning opportunities around the world, and UC academic centers in Sacramento and Washington give students an up-close look at the world of government.
- As a center for lifelong learning and continuing professional development, UC has the nation's largest continuing education program, with about 300,000 students each year enrolled in 17,000 UC Extension courses around the state.

### **Improving K-12, math and science education**

- UC is working to help improve the academic performance of students in California's K-12 schools. The university operates academic preparation programs across the state that focus on improving the college readiness of educationally disadvantaged students.
- Programs like MESA, EAOP and UC's algebra academies are making a difference: 50% of participants in these programs enroll at UC, CSU or a community college, compared with 25% of peers.
- UC also is spearheading "Cal Teach," which will train 1,000 new math and science teachers annually for public schools statewide. [In 2002-03, 1,500 math and 800 science classes in California high schools were taught by teachers with no teaching credential. Even more classes were taught by teachers with a credential in an unrelated subject area.]

### **Important community and cultural resources**

- Besides world-class classrooms and labs, UC has dozens of museums, concert halls, art galleries, botanical gardens, observatories and marine centers – academic resources but also exciting gathering places for the community.
- There are more than 100 libraries on the 10 UC campuses, collectively representing the largest research/academic library in the world with more than 34 million volumes in their holdings. UC also has one of the largest digital libraries anywhere in the world, the California Digital Library [including 23,000 journals, 500,000 digital images and numerous digital archives]. Members of the general public comprise more than 70% of UC library users.
- UC's sports facilities, performing arts centers, museums and gardens enrich California's communities. Many of these facilities are the top venues in the regions surrounding our campuses.
- UC operates the 4-H program, which serves more than 140,000 California youth, and sponsors many other community activities, youth and recreational sports programs.
- UC manages more than 130,000 acres of protected natural habitat, an area four times the size of San Francisco.