KEY POINTS ON UC GRADUATE RESEARCH

For a century and a half of public university research, UC has generated new technologies, new industries and the skilled work force that fuel California’s economy.

Graduate students at UC’s 10 campuses drive research. They spark ideas, make discoveries, enrich the arts and seek solutions to some of the state’s most pressing problems. They are the source of what’s next for California.

The state’s disinvestment in public higher education greatly threatens the health of graduate programs, which are vital for UC research. The state must do its share to support graduate education if California is to remain a leader in innovation and work force development. Research impacts the quality of all of our lives. Supporting graduate education should be a state priority.

UC RESEARCH BENEFITS THE STATE AND BEYOND

• UC attracts $4.3 billion annually for research. For every $1 in research funding provided by the state of California, UC secures $8 more in federal and private dollars.
• UC researchers in 2010 produced 1,565 new inventions, an average of four a day.
• UC develops more patents than any other university in the nation. It holds 3,802 active patents, many of which have led to the creation of today’s leading industries.
• More than 500 startup companies have been formed with UC inventions, 75 in 2010 alone.

Graduate students have played a key role in UC’s research success. UC graduate research helped spawn the biotechnology industry; former UC graduate students led the development of such industries as electronics, pharmaceuticals, telecommunications, nanotechnology and the special effects film industry, among others. These industries have produced millions of jobs for workers at all levels, not just for those with graduate degrees.

Today UC researchers, including graduate students, tackle issues critical to California, such as identifying sustainable sources of energy, reducing greenhouse gas emissions, protecting against earthquakes, advancing biomedical knowledge and improving public health. They also advance the arts and humanities, turning out writers, poets and filmmakers.

QUALITY AND QUANTITY

UC offers nearly 700 master’s, doctoral and professional degree programs at its 10 campuses. These range from aerospace engineering to world cultures and history, from bioinformatics to visual arts, from MBA programs for future entrepreneurs to programs for teachers, lawyers, physicians and social workers.

• UC trains more than 26,000 graduate researchers and 6,400 postdoctoral fellows who conduct research.
• UC awards over 3,500 Ph.D.s a year – 7 percent of the nation’s Ph.D.s.

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• UC awards 8 percent of all Ph.D.s in the U.S. that go to students who traditionally are underrepresented in higher education (African Americans, Latinos, Pacific Islanders and Native Americans).

• In California, UC awards 60 percent of all Ph.D.s and 70 percent of all Ph.D.s in science, technology, engineering and mathematics.

• UC awards 8,000 professional degrees and teaching credentials each year, including 60 percent of all M.D. degrees awarded in California, a quarter of all engineering master’s degrees and all the state’s veterinary medicine degrees.

• UC enrolls 7 percent of U.S. graduate students, but they won 20 to 30 percent of the most prestigious fellowships in science, arts and humanities.

• UC graduate and professional programs rate highly in numerous surveys, including the U.S. News and World Report’s annual rankings. In the National Research Council’s assessment of Ph.D. programs, 141 UC programs ranked in the top 10 in their fields.

• In Washington Monthly’s rankings that focus on how much an institution benefits the country – as an engine of social mobility, how well it fosters scientific and humanistic research and promotes an ethic of service – three UC campuses were at the top of the list.

TRAINING THE EDUCATORS

California’s universities depend heavily on UC’s graduate programs to fill their faculties.

• A quarter of all UC and California State University faculty received their Ph.D. from a UC graduate program.

• Over the next 10-15 years, California’s public and private four-year universities will need to hire an estimated 25,000 new faculty to teach the growing number of undergraduates and to replace retiring faculty. UC’s doctoral programs will be an important source of this talent.

JOBS REQUIRE GRADUATE DEGREES

Graduate education is the engine of a highly skilled work force. In the U.S., the number of jobs that require a graduate degree will grow by 2.5 million by 2018, including an expected 17 percent increase in those requiring a doctorate and 18 percent in those needing a master’s. UC’s leadership in producing advanced degrees ensures that California will be an important source of this brain trust, attracting industry and investment to California.

MAINTAINING RESEARCH AND EDUCATION EXCELLENCE

State funds support graduate students and pay the salaries of UC faculty who mentor and train these students. State funding helps build and maintain the labs and classrooms in which these students flourish.

UC attracts the top graduate students in the U.S., but vital research programs will be threatened if the university can’t continue to draw the best students because of budget challenges.
Top faculty come to UC because of the vibrant graduate programs and the excellence of its graduate students. If graduate programs and students are not adequately supported, UC may not be able to continue to draw the best faculty.

To sustain the quality of UC’s research and graduate programs and their beneficial impact to the state, California must restore state funding to UC. The state must invest in UC graduate students, as they are the source of what’s next in California. Therefore:

- UC needs a reinvestment in state funding that has been reduced by over $1.1 billion since the 2007-08 fiscal year.
- UC seeks fiscal stability versus the fiscal downward spiral experienced in 2011 ($500 million cut in January, another $150 million cut in June and another $100 million cut in December)
- UC supports the Governor’s 2012-13 budget that prevents further cuts to the University, and seeks a multi-year funding agreement.
- UC stands ready to work with the Governor and the Legislature on alternative costs-savings budget solutions. http://workingsmarter.universityofcalifornia.edu/