IRVINE CAMPUS
State Capital Improvement Program

ESTABLISHED 1965
ENROLLMENT 2005-2006 (ACTUAL) 20,236 FTE undergraduates
3,040 graduate students
1,142 health science students
LIBRARY COLLECTION 2.5 million volumes
CAMPUS LAND AREA 1,543 acres
CAMPUS BUILDINGS 5.5 million assignable square feet
HOSPITAL AND CLINICS 651,427 assignable square feet
IRVINE CAMPUS  
2007-2012 STATE PROGRAM  

INTRODUCTION

Since its opening in 1965, the University of California, Irvine has attained national and international distinction in its faculty and academic programs. As indicated by the award of Nobel Prizes for physics and chemistry in 1995 and for chemistry in 2004, UCI is one of the nation's fastest-rising universities, ranked well within the top 50 research universities according to various measures. UCI's instruction and research programs focus on fundamental areas of knowledge while at the same time providing for interdisciplinary and professional study through the Schools of the Arts, Biological Sciences, Engineering, Humanities, Information and Computer Science, Physical Sciences, Social Ecology, Social Sciences, and Business; the Department of Education; and the College of Health Sciences.

The campus LRDP that was approved in 1989 defined an enrollment target of 25,650 FTE, including general campus and Health Sciences students. Subsequent forecasts of student demand far exceeded earlier projections, however, and the University responded by increasing projected enrollments at UCI and other campuses through the end of the decade. UCI is now looking at longer-term growth and targeting an enrollment of up to 37,000 students by 2025 to accommodate continuing student demand and evolving academic goals. The LRDP is currently being revised in accordance with this new target, and the campus expects to submit it to The Regents in early 2007.

UCI’s general campus enrollment has increased approximately 30 percent in the last five years, from 17,980 FTE in 2000-01 to an actual total of 23,276 FTE in 2005-06. This growth has resulted in a serious shortfall in facility capacity, creating many problems for programs and the campus. By 2010-11, projections indicate a total enrollment of approximately 29,300 FTE, an additional increase of 26 percent. This level of growth, even with planned increases in summer enrollments, will result in a wide variety of needs—not only for additional instruction and research space but also for new support facilities, housing, recreation, childcare, and campus administration. Just as urgent as the need for additional space is the need to expand the campus infrastructure systems to accommodate these new facilities. UCI’s capital needs as now defined include the following:
• **New Academic Space**

The dramatic increase in enrollments since the late 1990s has resulted in a need for new space for all disciplines. In addition, the campus is actively developing new programs in a variety of areas that will require space. Examples include new programs in Literary Journalism in the School of Humanities, an interdisciplinary graduate program in Arts, Computation and Engineering, the new Department of Statistics in the School of Information and Computer Science, and new Health Sciences programs in Nursing Science, Pharmaceutical Sciences, and Public Health. Although the completion of projects currently in development will significantly help address those needs, continuing problems will remain because of the magnitude of growth and development. The new projects proposed in the five-year capital program will address the highest of these priorities.

• **Renewal and Replacement of Existing Facilities**

The facilities at the Irvine campus are beginning to show their age: 33 academic buildings on the main campus are at least 20 years old, and a number have seriously deteriorated. Building systems have become inefficient or obsolete and more difficult to maintain, and some are unable to provide the level of service currently required. Moreover, academic and research programs are extremely dynamic, constantly evolving to stay at the forefront in a world of rapidly changing technology and increasing information requirements. Projects to renovate existing instruction, research, and academic support facilities will be needed to accommodate new programs and technology as well as to respond to building deterioration and code-related deficiencies. The currently proposed capital program includes two renovation projects: a classroom renovation project to correct code deficiencies and to provide adequate acoustics, lighting, and HVAC, as well as updated technology, in a number of existing general-assignment classrooms, and a project to provide building systems upgrades, fire and life-safety upgrades, and other code-required improvements in one or more of UCI’s aging laboratory facilities. In addition, there is a continuing need to replace approximately 53,000 asf of inadequate trailers and other interim facilities used for instruction and research-related activities.
The functions of UCI's medical center also are restricted by the age of its facilities. When the medical center was purchased in 1976, it was recognized that many of the structures on the site were severely deficient and would need to be replaced or upgraded. Since then, several new buildings and renovation projects have been completed, and a new hospital is under construction to replace the existing seismically deficient facility, but major deficiencies still remain in clinical and support facilities.

- **Correction of Seismic Deficiencies**

  Since 1985, seismic upgrade or replacement of 29 structures has been completed or is under way. Construction of the final State-funded seismic upgrade to Steinhaus Hall is proposed for 2007-08. Non-State-supportable facilities at the main campus have been addressed. The remaining deficient buildings are at the medical center and will be upgraded as part of the Replacement Hospital project or in subsequent projects as funding is identified.

- **Infrastructure**

  As new buildings are constructed, campus electrical capacity will require expansion in several phases. The proposed State capital program includes a project to remedy existing deficiencies in the system and to provide adequate electrical capacity to support planned growth. Expansion of campus cooling capacity also will be required, as will upgrade and extension of telecommunication services, sewers, storm drains, and roadways, both to remedy deficiencies in sections of the existing systems and to accommodate expansion into new areas such as the East Campus.

  Storm drain and sewer capacity studies have been completed, and detailed studies of other infrastructure components will be undertaken in the near future to better assess these needs and to update a campus utilities master plan that was completed a decade ago.

Given the current and projected rate of enrollment growth, State funds cannot meet all of the capital needs of the Irvine campus. As a partial response to these growth imperatives, the campus has supplemented the budgets of several State-funded projects—including Computer Science Unit 3, Biological Sciences Unit 3, Engineering Unit 3, and Social and Behavioral Sciences—from non-State sources in order to provide new space in a timely
and cost-effective manner. Non-State funds, including gifts and campus funds, have been used to construct new academic buildings for both the general campus and the health sciences. Even with these additional measures the campus will be unable to provide all of the space needed to accommodate growth, and State funding reductions will make it difficult to maintain this level of funding for capital projects from campus resources.
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<th>PROJECT NAME</th>
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<th>FUTURE FUNDING REQUIREMENTS</th>
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State funds are requested to equip Engineering Unit 3, which will provide approximately 82,440 asf of space, including 70,006 asf for the Henry Samueli School of Engineering and a general-assignment lecture hall, and 12,434 asf of campus-funded surge space. The Irvine campus has made a commitment to increase enrollments in the sciences to provide the workers required by California’s high-technology industries. This project will provide space to help accommodate this growth—including instructional and research laboratories and academic and administrative space for the School of Engineering, a 350-seat lecture hall, and dry laboratory and office surge space to meet other high-priority campus needs.

State funds are requested to construct the Humanities Building, a project that will provide approximately 44,800 asf of space to address the growth-related needs of the School of Humanities. Although the Humanities Instructional Building was completed in 1997, this facility addressed primarily existing need, including replacement of approximately 11,000 asf of trailer space. Since that time, Humanities enrollments have increased, and the number of departments in the School has grown from eight to twelve. As a result, existing space is fully occupied, and there is no space available to accommodate growth. This project will address these needs by providing approximately 33,340 asf of instructional, research, and academic and administrative office space for the School of Humanities. In addition, the project will provide 720 asf to replace two general-assignment classrooms, and 540 asf to provide four testing rooms for the Disability Services Center. The campus has supplemented the budget with non-State resources in order to provide approximately 10,000 asf of additional office, research, and assembly space.
IRVINE CAMPUS CAPITAL PROGRAM (continued)

Arts Building ............................................................................PWCE $ 42,355,000

State funds are requested for preliminary plans, working drawings, and construction for the Arts Building, which will provide approximately 38,000 asf of additional space for the Claire Trevor School of the Arts. Developing programs and enrollment growth, as well as an increased emphasis on interdisciplinary activities requiring technology-intensive facilities, require the construction of additional space. This project will address these needs by providing teaching studios and associated support spaces, research facilities and studios, and academic and administrative offices.

Steinhaus Hall Seismic Improvements..............................................PWC $ 9,681,000

State funds are requested for preliminary plans, working drawings, and construction to seismically upgrade Steinhaus Hall, which was built in 1965 and currently houses research and instructional laboratories for the School of Biological Sciences. Over the years, sections of the exterior precast concrete panels on a portion of the building have deteriorated, cracked, and broken off, creating falling hazards and reduced structural resistance to seismic forces. This project will upgrade the seismic rating of the building by removing and replacing the building’s precast concrete panels, panel connections, and related anchorages.

Telemedicine / PRIME - LC Facilities.................................PWCE $ 35,000,000 PT

C $ [4,000,000] X
E $ [1,000,000] G

State Telemedicine / Medical Education funds are requested for preliminary plans, working drawings, construction, and equipment for the Telemedicine / PRIME - LC Facilities. This project will provide approximately 30,000 asf of interactive tele-video and telemedicine “virtual care” consultation space, instructional and research space, and academic and administrative offices to support new educational and clinical activities in telemedicine and increased medical school enrollments in the PRogram In Medical Education - Latino Community (PRIME - LC).
Social and Behavioral Sciences Building...............................................................E $ 2,798,000
E $ [2,798,000] X

This project will provide a total of 78,850 asf of space for the Schools of Social Sciences and Social Ecology. The campus has experienced significant growth in the last several years and is expected to continue to grow at least through the end of the decade. The Schools of Social Sciences and Social Ecology already are experiencing shortages of all types of space. The Schools have a severe shortage of computer class laboratories, and research and office spaces are overcrowded. The project will help address these needs by providing instructional and research laboratories and academic and administrative offices to support growth in these disciplines.

Primary Electrical Improvements Step 4.................................................. PWC $ 10,700,000

This project will expand campus electrical substation capacity to accommodate the campus’s projected electrical load. The campus is expected to grow substantially through the decade in response to increasing enrollments. Construction forecasts indicate that by the end of the decade the campus electrical load will exceed the existing substation service capacity. The proposed project will help meet increased electrical demand by installing an additional 66 kV-to-12 kV transformer, by implementing switchyard improvements and installing new 12 kV feeders and switchgear at the University Substation, constructing a new South Substation, and by installing additional underground ductbank extensions.

Sciences Building...............................................................PWCE $ 62,400,000
E $ [3,600,000] X

This project will provide approximately 51,000 asf of class laboratories, research laboratories, and office space to accommodate projected enrollment and program growth in science disciplines. The campus has a shortage of space to accommodate growth in existing science programs, such as Biological Sciences and Physical Sciences, as well as new programs in Pharmaceutical Sciences and Public Health.
Classroom Renovations Phase 5.............................. PWC $ 3,100,000

In 2003, the Irvine campus initiated a phased plan to renovate and upgrade its existing inventory of general-assignment classrooms. Many older rooms are in poor condition and do not have the technological capabilities required by modern instructional practices. This project will help remedy these deficiencies by addressing ADA, fire, and life-safety issues; providing improved acoustics, lighting, and HVAC; and installing technology such as video and computer projection, computers, and sound systems.

Instruction and Research Building
For Professional Programs.....................................PWCE $ 35,950,000
PWCE $ [14,980,000] G

The Paul Merage School of Business is taking steps to strengthen and expand its undergraduate minor program by increasing the number of undergraduate courses the school offers, increasing the number of students eligible to participate in the minor, and adding faculty. In addition, further growth is expected in the State-funded graduate program. Additional space is required to accommodate this growth. The proposed project will provide approximately 51,000 asf, including instructional facilities, research and graduate student space, and faculty and administrative office space.

Physical and Engineering
Sciences Building.......................................................PWCE $ 62,700,000

This project is required to provide additional space to accommodate continued enrollment and program growth in the Schools of Physical Sciences and Engineering. Both Schools will be provided near-term growth space through scheduled capital projects; however, this space will not adequately accommodate all of the growth projected. The proposed project will provide approximately 49,000 asf of space to accommodate teaching laboratories, research facilities, and faculty and administrative offices.

Laboratory Facilities Renovations...........................PWC $ 4,825,000

A number of UCI’s laboratory buildings, such as the Engineering Tower, the Medical Sciences buildings, and Med Surge 1 and 2, were constructed in the 1960s and 70s, and building systems such as HVAC and fire sprinklers have reached the end of their useful life and in many cases no longer comply with
code requirements. In addition, these systems are often inadequate to accommodate the increased demands of contemporary laboratory teaching and research. The Laboratory Facilities Renovations project will provide building systems upgrades, fire and life-safety upgrades, and other code-required improvements in one or more laboratory buildings based on the campus’s highest priorities at the times the project are proposed.
1. **Core Academic Facilities**

**Engineering and Computer Science:** To meet California’s demand for well-trained engineers and computer specialists, growth is projected in the School of Engineering and the School of Information and Computer Science. Even after completion of projects currently included in the campus capital program, additional instruction and research facilities will be required to accommodate this rapid growth.

**Humanities and the Arts:** Over the next decade, both enrollment growth and development of new program areas—such as Literary Journalism in the School of Humanities and Digital Arts and the interdisciplinary graduate program in Arts, Computation and Engineering in the Claire Trevor School of the Arts—will result in increased requirements for instruction, research, and support space. New Humanities and Arts facilities are included in the current five-year program; however, additional space will be needed to accommodate all anticipated growth in these two Schools.

**Social Sciences and Social Ecology:** Together, these two Schools accommodate a high percentage of the undergraduate workload on the campus. Although a new, shared facility is currently in design, more space will be required to accommodate anticipated growth.

**Biological and Physical Sciences:** The School of Biological Sciences has the second-highest number of majors on the campus, while the School of Physical Sciences has one of the largest workloads. Even considering recent space assignments in Natural Sciences Unit 2 and the yet-to-be completed Biological Sciences Unit 3, these schools will continue to need additional space to keep pace with enrollment increases.

**Merage School of Business and Department of Education:** Demand for the Paul Merage School of Business programs is growing, and MBA programs are planned to expand significantly. The Department of Education is developing graduate programs at both the masters and doctoral levels that will focus on math and science education. Significant growth is projected in the teaching credential
program over the next few years in response to California’s workforce needs. To support the program and enrollment growth anticipated by these academic units, additional facilities will be required beyond those addressed in the current five-year program.

Library: The rapid advance of information and educational technology, coupled with expansion of enrollment and academic programs defined in the LRDP, require continued improvement and expansion of the information systems and library facilities of the campus. The capacity of the Main Library—which houses the entire campus collections in the fields of social sciences, humanities, and the arts—is of particular concern. In the long term, an addition to the library will be needed to accommodate general book stacks, student and faculty use facilities, and library staff work space and to complete technological modernization associated with advances in library information access.

Health Sciences Instruction and Research: Additional instruction and research space is required for health sciences programs. Space is needed to support newly established programs and to facilitate collaborative research in areas such as cardiopulmonary medicine and biomedical engineering. The School of Medicine envisions the construction of a complex of facilities in the Health Sciences Quad to accommodate interdisciplinary research, as well as additional research facilities at the UCI Medical Center.

Instruction and Research Space in Trailers: The campus has a continuing need to replace approximately 53,000 asf of inadequate interim and trailer facilities, some of which have been in place since 1966. As new building projects are added to the capital program, they will include replacement space for activities currently housed in trailers and other temporary facilities.

2. Administrative and Support Facilities

North Campus: In the future, the campus intends to develop the North Campus with facilities for research and development, office, and residential uses. This plan may require relocation of campus departments currently on that site, including Facilities Management, Garage and Fleet Services, Printing and Reprographics, Materiel
Management, and Mail Division. Appropriate facilities for these units will need to be constructed on the main campus or at another suitable location.

**Recreation, Athletics, and Student Services:** To accommodate the needs of current and future enrollment, the campus continues to improve and expand existing athletic and recreation facilities, including facilities for baseball, aquatics, tennis, and strength and conditioning. The campus is also considering eventual expansion of the Bren Events Center, a multipurpose facility that accommodates sporting and other events, to provide more seating capacity, additional support spaces, and new facilities for intercollegiate athletics.

Other support facilities also are envisioned, including additional space for student services, student health services, student center activities, international student activities, and child care services for faculty, staff, and students.

**Campus Administration:** A number of administrative units have been moved to off-campus leased space in recent years in order to accommodate growth of academic units on campus. Currently the campus is leasing over 70,000 asf to accommodate these activities. Construction of new office facilities is required to provide adequate space on campus for administrative functions.

3. **Health Sciences Clinical Facilities**

Improvements to clinical facilities in the Health Sciences are needed in response to evolving needs in patient care, instruction and research programs, and life-safety requirements. In addition to the SB 1953-mandated replacement hospital that is currently in construction, renovations to selected inpatient and outpatient facilities at the UCI Medical Center will be required to enhance patient care and service and to upgrade them to current health and safety requirements.

Additional clinical space will be needed on the main campus to support research activities in the areas of ophthalmology, cardiopulmonary diseases, cancer, organ transplantation, and human genetics.
4. **Auxiliary Enterprise Facilities**

The update to the LRDP that is currently under way includes a goal of providing on-campus housing for 50 percent of the total campus enrollment. To meet this goal, additional residence halls and apartments will be needed as growth occurs. Existing housing complexes also will require phased renovation and refurbishment. In addition, faculty/staff housing inventories will be increased to accommodate growth. New food service venues and retail facilities such as bookstores will be required to support enrollment growth as well.

5. **Utilities, Site Development, Transportation, and Parking Improvements**

To support current needs, anticipated enrollment growth, and program development, several utility systems and the campus roadway system require expansion. These infrastructure improvements are vital to UCI’s continued ability to grow.

**Chilled and High-Temperature Water:** Most of the major buildings on campus rely on chilled and high-temperature water supplied from the Central Plant for general air-conditioning, research process control, computer cooling, and other environmental requirements. To meet continuing increases in campus demand, cooling capacity will be expanded in phases, which may include the addition of a satellite plant facility.

**Domestic Water:** An additional source of high-pressure domestic water is needed to serve the higher elevations of the campus, such as the University Hills housing development, where it is becoming difficult to maintain adequate water service.

**Reclaimed Water:** Many areas of the east portion of the campus currently use the potable domestic water supply for irrigation. New reclaimed water irrigation lines, connected to the Irvine Ranch Water District pipeline, would be constructed to supply irrigation to individual housing projects in the East Campus. In addition, upgrades to the existing reclaimed water system are needed to maximize the use of reclaimed water, add significant capacity to the existing on-site
distribution system, and reduce consumption of more expensive domestic water.

**Sanitary Sewer:** Monitoring has confirmed that several sections of the existing backbone sewer system are deficient and require upgrade to serve current demand and future growth. The campus has developed a phased implementation strategy, the first phase of which would address existing system deficiencies as the highest-priority utility capital need of the campus. Subsequent phases of the implementation plan will be needed within the next decade and include system extensions serving the West Campus and Central Campus collectors.

**Storm Drains:** The campus will require substantial improvements to the existing storm drainage system to serve development identified in the LRDP. In addition to improvements to increase the capacity of deficient sections of the system in the central academic core and new facilities to serve the East Campus and other outer-campus areas, this work will include significant campuswide improvements required to meet State and federal storm water regulations that became effective in March 2003.

**Natural Gas:** To accommodate future campus growth, the natural gas system will be expanded by creating a high-pressure loop starting near California Avenue and University Drive and terminating near Campus Drive and East Peltason Drive.

**UCI Medical Center Electrical and Site Utilities:** Upgrades to existing electrical and heating and cooling systems at UCIMC are required to achieve reliable, energy-efficient services and to provide for anticipated growth in existing and new facilities.

**Electrical and Telecommunication Services:** To develop the southern portion of the campus, electrical and telecommunication services must be extended. As new areas are developed, equipment will be needed to distribute power from the 66/12 kV substation. Telecommunication services will be extended from the existing central plant facility around the outer campus loop.

**Campus Roadways:** To accommodate increased traffic demand, the campus roadway system must be expanded. The most critical need is
IRVINE CAMPUS OTHER CAPITAL NEEDS (continued)

the widening of Peltason Drive, the primary loop roadway serving the central campus. It is currently at or near maximum capacity and must be widened from two to four lanes to accommodate future enrollment growth. In addition to the Peltason loop, the existing roadway system includes five radial roads linking to adjacent off-campus roads. Proposed expansion of this system includes the extension of the Arroyo Drive loop to California Avenue, which will complete the outer campus arterial roadway system. Projects aimed at improving bicycle and pedestrian traffic, including grade-separated crossings and off-street bikeways, also will be needed as the campus grows.

**Campus Parking:** Existing physical constraints and academic space needs limit the amount of land within the central campus that can be dedicated to parking. This premium on land precludes the use of extensive surface parking lots in the central core. The long-range plan for parking is to construct several parking structures strategically located around the perimeter of the campus core.

**Medical Center Parking:** Adequate on-site parking for patients, visitors, faculty, and staff remains an important objective at the UCI Medical Center. Additional parking structures, associated roadway improvements, and removal of older buildings will be required to accommodate future demand.

6. **Code and Safety Corrections**

A 1989 study identified asbestos in several campus buildings. The most hazardous situations have been addressed, and other corrections will be carried out during renovation projects or as other funding opportunities occur.

In addition to code-required corrections, there are a number of safety issues that also need to be addressed, including installing fire sprinklers in selected science buildings, replacing deficient fire alarm systems in six buildings, and upgrading exterior lighting along major pedestrian ways where illumination levels are below the campus standard. The campus is currently working to identify funding sources to address the most urgent of these safety issues.
7. **Corrections for Seismic Safety**

All State-supportable buildings known to be seismically hazardous have been upgraded, are undergoing corrections, or are scheduled for upgrade as part of the five-year plan. Several non-State secondary structures at the medical center will require seismic correction.