



The California State University at the Beginning of the 21st Century

Meeting the Needs of the People of California



The Academic Senate
of The California State University

September 7, 2001
(Updated February 2007)

“Our challenge right now is to find new ways to . . . preserve and improve access as well as quality. . . We need to think creatively, or think ‘outside the box,’ about how we can meet the challenge of maintaining access and quality. That’s a tall order.”

Chancellor Charles Reed

November 3, 1999



**ACADEMIC SENATE
OF
THE CALIFORNIA STATE UNIVERSITY**

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Jacquelyn Ann K. Kegley, Chair

November 13, 2001

Members of Joint Committee to Develop a Master Plan
for Education-Kindergarten through University
Members of the California Legislature
Trustees of the California State University
Members of the California State University Academic Community

On behalf of the Academic Senate of the California State University, I am presenting you with this copy of *The California State University at the Beginning of the 21st Century: Meeting the Needs of the People of California*, a report adopted by the Academic Senate CSU on September 7, 2001. This report presents our recommendations for policy and funding goals for the coming decade.

The report began in late spring 2000, when the Joint Committee to Develop a Master Plan for Education-Kindergarten through University queried the Academic Senate about the future needs of the CSU.

The report surveys teaching and learning in the California State University at a crucial juncture: when the CSU faces both greatly increased student demand and large numbers of faculty retirements and when many indicators of quality have failed to recover from the fiscal crisis of the early 1990s. The report concludes with policy and funding recommendations for restoring and enhancing quality in the CSU so that it is well positioned to meet the needs of California. Some of these recommendations are new, but most are drawn from previous statements by the Academic Senate or the CSU Trustees. Some of our recommendations for funding, for example, have been part of recent budget initiatives from the CSU Trustees.

We now know that the arrival of large numbers of additional students and the departure of large numbers of faculty members through retirements are taking place as the state enters a significant economic downturn. The unprecedented state surpluses of late 2000 are gone, replaced with prospects for deficits. As we face the possibility of significant fiscal constraints in the near future, it is all the more important to remember one of the central messages of this report: *The CSU has not yet recovered from the budget cuts of the early 1990s.*

It was never our expectation that our recommendations for funding would be-or could be-immediately implemented, even in a period of budget surplus. It has always been our hope, however, that our analyses of the state of the CSU will inform future budget planning and that our recommendations for both policy and funding will define goals for the coming decade. We look forward to working cooperatively and collegially with the CSU faculty, administration, Trustees, and, as necessary, the legislature to develop these recommendations into concrete proposals that will permit the CSU not only to meet the challenges it now faces but also to serve better the people of California.

On behalf of the Academic Senate of the California State University,

Jacquelyn Ann K. Kegley, Professor of Philosophy, CSU Bakersfield,
Chair of the Academic Senate CSU

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EXECUTIVE SUMMARY

Brief Overview of Report This report by the Academic Senate CSU began in response to a query from the Joint Committee to Develop a Master Plan for Education-Kindergarten through

The CSU faces a greatly increased demand at the same time that many indicators of quality have failed to recover from the fiscal crisis of the early 1990s.

University. The response evolved into this report, and many of the categories in the report derive from the committee's original letter. The report surveys teaching and learning in the California State University at a crucial juncture: the CSU currently faces a greatly increased demand at the same time that many indicators of quality—the student-faculty ratio, library acquisitions, staff availability, and more—have failed to recover from the fiscal crisis of the early 1990s. The report concludes with policy and funding recommendations for restoring and enhancing quality in the CSU so that it is well positioned to meet the needs of California.

1. **Introduction** The California State Colleges (later the California State University or CSU) became one of the state's three systems of higher education in 1960, when the legislature approved the Master Plan for California Higher Education (Donahoe Act), guaranteeing every Californian the opportunity to attend college and differentiating the missions of three segments. Today's CSU, in its accessibility, its high standards for faculty retention and tenure, and its enhanced complexity of offerings and degree programs, has become an important engine for California's economy, providing thousands of graduates annually to the California workplace and to California's educated citizenry, so vital to the future of a democratic society.
2. **The Evolving Missions of Public Higher Education in California** The changes in the CSU over the last 40 years reflect the greater public expectations generated by the new necessities of globalization and a technical or information-based economy. Just as the needs of individuals participating in California higher education have changed, so the Master Plan itself has evolved and will continue to change as it remains responsive to the changes associated with the state's requirements and opportunities. This section of the report surveys appropriate sections of the state education code.
3. **Challenges to Achieving the Highest Levels of Quality** Funding cuts at the time of California's fiscal crisis of the early 1990s continue to have a serious impact on the student-faculty ratio, library collections and library staffing, the physical and technological infrastructure, the clerical-secretarial and technical staff, and the faculty. Other parts of this section examine issues of remediation and transfer from community colleges. The longest part of this section reviews the faculty by elaborating on responses to queries from the Joint Legislative Committee; it surveys the current types of faculty, their responsibilities, and the changing ratio between tenured/tenure-track faculty and temporary faculty.
4. **Meeting the Needs of the People of California** This section of the report begins with a summary of enrollment projections over the coming decade, then examines the ability of the CSU to meet the needs both of its projected enrollment and of the state more generally. It examines the crisis of physical infrastructure and, especially, the crisis of faculty hiring. It then explores some emerging needs for new programs and concludes with an examination of current approaches to state funding.

5. ***Recommendations to Enable the CSU to Accomplish Its Missions More Effectively and Thereby to Serve the People of California Better*** This section presents recommendations for changes in code and in funding that proceed from the analysis in sections 3 and 4. In its recommendations, the Academic Senate CSU focuses on restoring and enhancing the quality of education in the CSU. Improvements in K-12 that bring better prepared students to the CSU would have the support of the CSU faculty, but recommendations in that area are beyond the scope of this report. These recommendations are *not* presented in any priority order.

Recommendations Requiring Legislative Action:

1. Provide to all CSU faculty members the opportunity to devote a minimum of one-fifth of their assigned workload to research, scholarship, and creative activity.
2. Revise current budget formulae to restore and enhance the quality of education and to encourage new program development.
3. Authorize and provide appropriate funding to CSU campuses to offer the Ed.D.

Other Recommendations:

1. Reduce the current student-faculty ratio to the level typical before the state's fiscal crisis of the early 1990s.
2. Remedy insufficiencies due to delayed maintenance and delayed purchasing during the early 1990s. Bring state-of-the-art technology to more CSU classrooms.
3. Augment CSU library collections and restore library staffing.
4. Establish incentives to attract new faculty members of the highest quality, including improved benefits, housing subsidies or subsidized housing, and moving expenses.
5. Hire additional tenure-track faculty and improve funding for searches; reduce the current proportion of lecturers by hiring more tenure-track faculty.
6. Increase the number of secretarial/clerical staff and technical staff who provide services to students and faculty. Improve staff wages and benefits to attract and retain the best quality staff in these positions.
7. In recognition that research, scholarship, and creative activity are required for effective teaching, increase support for all CSU faculty members to engage in these activities; specifically, provide additional sabbaticals and other research support for CSU faculty and reconfigure the CSU faculty workload so that a one-fifth is devoted to faculty development (including research, scholarship, and creative activity). Reducing the teaching load to a maximum of three-fifths of the total workload and specifying that a minimum of one-fifth of the total workload be devoted to scholarly activity will bring CSU faculty more closely into line with the faculty at comparable institutions and will attract new faculty of the highest quality.
8. Adjust CSU faculty salaries to achieve parity with comparison institutions to remain competitive with other academic institutions.
9. Improve the current CSU physical plant to provide adequate facilities for existing programs and for growth.

A brief list of references follows the final section.

**ACADEMIC SENATE
OF
THE CALIFORNIA STATE UNIVERSITY**

AS-2547-01/ EX
September 7, 2001

**The California State University at the Beginning of the 21st Century:
Meeting the Needs of the People of California**

RESOLVED: That the Academic Senate of the California State University adopt the report, *The California State University at the Beginning of the 21st Century: Meeting the Needs of the People of California*

RESOLVED: That the Academic Senate CSU provide copies of this report to members of the Board of Trustees, campus presidents and provosts, and members of the legislature, along with campus senate chairs; and be it further

RESOLVED: That the Academic Senate CSU thank the campuses for their invaluable advice during the preparation of this report.

RATIONALE: During the 2000-2001 academic year, the Academic Affairs committee of the Academic Senate CSU prepared the initial draft of the attached report. Campuses were asked for their advice at several steps of the drafting process, and they responded with many valuable suggestions. During Spring 2001, an ad hoc drafting committee revised and refined the draft in the light of advice from campuses. The purpose of the report is to present the concerns of the Academic Senate CSU to policy-making bodies, the Board of Trustees and the legislature, who are responsible for policy-making and budget-making for the CSU.

Approved Unanimously - September 7, 2001

1. INTRODUCTION

Background: *The History of the CSU* The CSU, in the form of the California State Colleges, was created by the California Master Plan for Higher Education (the Donahoe Act, 1960). That act has been praised as an ingenious policy that has been responsible for many of the successes of higher education in California since 1960. While the Master Plan provided a guideline for assigning responsibilities and allocating funds among the state's three systems of higher education, the successes of higher education in California in the three decades following World War II may owe more to the willingness of the California legislature and voters to infuse large amounts of capital into higher education—in the form of more than a dozen new campuses, scores of new buildings on existing campuses, and the hiring of thousands of new faculty members to staff these new and expanded institutions—than to the Master Plan itself. These investments in the infrastructure of higher education—together with similar investments in the state's infrastructure for transportation and water resources—stand among the most important elements in the spectacular economic growth and development of California during the decades following World War II. Two recent books, John Aubrey Douglass's *The California Idea and American Higher Education: 1850 to the 1960 Master Plan* (2000) and Nicholas Lemann's *The Big Test: The Secret History of the American Meritocracy* (1999), have surveyed the creation of the Master Plan. Both have stressed the extent to which the Master Plan represented an effort by the University of California to restrict the growth and evolution of the state colleges as a way of protecting its own funding base. Lemann bluntly describes the Master Plan as "naked in its surgical disabling of the state colleges' ambitions".¹

Despite such "surgical disabling" at the time the Master Plan was developed, the CSU today bears little resemblance to its predecessor in 1960. In 1960, the state colleges that made up the core of what was then called the California State Colleges were but a generation removed from being the state's teachers' colleges, the direct descendents of the normal schools created in the 19th century to train teachers for grades 1-8. In the early 1920s, the normal schools became teachers' colleges; in the 1930s they became state colleges. Their basic mission changed significantly after World War II, as both the state's population and the number of its college students surged, and then surged again in the 1960s and 1970s.

To meet the changing needs of its students and the state, the CSU added new degree programs, developed a large post-baccalaureate program, expanded the breadth and depth of its course offerings, and recruited and retained a faculty of high quality, nearly all of whom now have earned the doctorate or the relevant terminal degree (here and throughout this report, the term faculty, unless otherwise specified, includes teaching faculty, library faculty, and counselors). Many CSU faculty members have achieved distinction in their profession both through teaching and through scholarship, the creation of new knowledge, and creative activity. The CSU grew to become the largest system of higher education in the nation, as its enrollments grew from 70,142 in Fall 1960 to 368,469 in Fall 2000. At the same time, the Master Plan itself evolved (as will be seen in the next section of this report). By 1987, the Commission for the Review of the Master Plan for Higher Education could announce that the "CSU is a very different institution than it

¹ John Aubrey Douglass, *The California Idea and American Higher Education: 1850 to the 1960 Master Plan* (Stanford: Stanford University Press, 2000), chs. 9-11 and Epilogue, esp. pp. 248, 252, 267, 316; Nicholas Lemann, *The Big Test: The Secret History of the American Meritocracy* (New York: Farrar, Straus and Giroux, 1999), ch. 11, esp. pp. 132, 134.

was when the 1960 Master Plan was written. It offers undergraduate and graduate courses of great breadth and depth".²

The CSU Today The CSU does, indeed, offer undergraduate and graduate programs of great breadth and depth. Preparation of teachers remains an important part of the CSU's current profile as indicated by the number of majors in Liberal Studies (the typical major taken by students preparing for a multiple subjects credential, for elementary teaching), in English (a typical preparation for the single subject credential in English), and in Social Sciences and History (the typical preparation for the single subject credential in Social Studies). The CSU also prepares large numbers of graduates for a wide variety of other fields: architecture, library science, business, nursing, computer science, theater, criminal justice, dietetics, agriculture, and many more. Table 1 indicates current patterns of instruction in the CSU by discipline and level.

Table 1. CSU Degrees Awarded, by Discipline, 2004-05

Disciplines	Baccalaureate		Masters		Joint Doctorate	
	Number	Percent of all CSU Baccalaureate Degrees	Number	Percent of all CSU Masters' Degrees	Number	Percent of all CSU Doctoral Degrees
Business and Management	14,794	22.2%	2,343	13.6%		
Interdisciplinary Studies	7,783	11.7%	219	1.3%		
Social Sciences	7,148	10.7%	735	4.3%		
Psychology	4,518	6.8%	500	2.9%	12	22.6%
Education ³	3,897	5.8%	5,258	30.6%	21	39.6%
Letters	3,901	5.8%	1,027	6.0%		
Public Affairs and Services	3,924	5.9%	1,799	10.5%		
Communications	3,642	5.5%	232	1.4%		
Fine and Applied Arts	3,697	5.5%	409	2.4%		
Engineering	3,298	4.9%	1,219	7.1%	2	3.8%
Health Professions (including Nursing)	2,537	3.8%	1,272	7.4%	2	3.8%
Computer and Info Sciences	1,609	2.4%	808	4.7%		
Biological Sciences	1,930	2.9%	252	1.5%	9	17.0%
Agriculture and Natural Resources	1,053	1.6%	95	0.6%		
Home Economics	724	1.1%	83	0.5%		
Foreign Languages	624	0.9%	131	0.8%		
Mathematics	651	1.0%	198	1.2%		
Physical Sciences	516	0.8%	155	0.9%	7	13.2%
Architecture and Environmental Design	422	0.6%	98	0.6%		
Area Studies	100	0.1%	26	0.2%		
Library Science			308	1.8%		
Totals	66,768	100.0%	17,167	100.0%	53	100.0%

SOURCE: CSU Statistical Abstracts, 1999-2000. Updated, 8-05, CSU Statistical Abstract to July 2004, Table 145. Updated, 1/07, CSU Statistical Abstract to July 2005, Table 145.

² Commission for the Review of the Master Plan for Higher Education, *The Master Plan Renewed: Unity, Equity, Quality, and Efficiency in California Postsecondary Education* (Sacramento, 1987), p. 10.

³ There are no undergraduate degree programs for K-12 teachers in the CSU. Those listed as baccalaureate degrees in education in the CSU Statistical Abstracts and in the CPEC reports (Tables 2 and 8) include a wide range of programs, from Aviation to Graphic Communications; within this category, Child Development/Early Childhood Education and Kinesiology/Physical Education account for the large majority of graduates.

The CSU awards nearly half of all baccalaureate degrees in California and nearly two-thirds of all baccalaureate degrees from public institutions; the CSU awards more than a third of all masters' degrees in California and more than two-thirds of the masters' degrees from public institutions. In several fields, the CSU produces the majority of all degrees in the state, and sometimes the very large majority, as can be seen in Table 2.

The Academic Senate CSU began a re-examination of baccalaureate education within the CSU in the fall of 1995. Study of this issue proceeded throughout the 1995-96 and 1996-97 academic years, ultimately involving the academic senates on each campus and a large conference of CSU faculty from throughout the system. The Academic Senate CSU adopted the final statement, *Baccalaureate Education in the California State University*, in November 1997. This statement best represents the current views of the CSU faculty on undergraduate education in the CSU. In this statement, the Academic Senate CSU identifies the following purposes of the baccalaureate:

CSU undergraduate education engages each student in the development of advanced knowledge, skills, and understanding that are the mark of educated persons. Such an education is necessary for lifelong intellectual endeavor, for becoming productive members of society, and for participating in democratic institutions and civil society. Equally important, the baccalaureate provides opportunities to understand values and ethics and the role they play in the life of the individual and of society.

Higher education, besides providing society with "educated persons", remains the most effective agent for individual fulfillment and advancement, thus stimulating broad social change. A public university system is mindful of its roles in society and of its need to offer the opportunity and benefits of higher education on a fair basis to all who qualify.

Table 2. CSU Baccalaureate and Masters' Degrees as a Total of Those Awarded in California, By Discipline, 2004, Ordered by Proportion Awarded

Discipline	Baccalaureate			Masters		
	Number in CSU	Number in State	CSU Total as Percent of State Total	Number in CSU	Number in State	CSU Total as Percent of State Total
Transportation and Materials Moving Workers	95	100	95.0			
Security and Protective Services	1,840	2,006	91.7	90	168	53.6%
Education	2,136	2,687	79.5	5,271	13,417	39.3
Liberal Arts, General Studies, Humanities	7,315	9,718	75.3	132	207	63.8
Human Services, General	1,248	1,708	73.1	1410	2,474	57.0
Parks, Recreation, Fitness, Leisure Studies, Natural Resources	2,309	3,159	73.1	81	589	53.3
Health Professions and Related Sciences	2,643	3,779	69.9	1,357	4,123	32.9
Agriculture, general	837	1,343	63.3	61	191	31.9
Business	15,478	25,284	61.2	2,827	10,949	25.8
Communications	3,457	6,036	57.3	208	508	40.9
Work and Family Studies	716	1,282	55.9	42	56	75.0
English Language and Literature	3,124	5,914	52.8	602	1,031	58.4
Psychology	3,868	9,213	42.0	408	2,470	16.5
History	1,243	3,069	40.5	165	297	55.6
Foreign Languages and Literatures	656	1,649	39.8	183	488	37.5
Engineering and Related Technologies	2,974	7,696	39.7	1,038	4,271	32.5
Architecture and Related Programs	363	965	37.6	111	621	17.9
Visual and Performing Arts	3,684	9,794	37.6	324	1,812	17.9
Computer and Info Sciences	2,165	5,980	36.2	639	2,272	28.1
Mathematics and Statistics	510	1,466	34.8	152	439	34.6
Social Sciences	5,456	16,022	34.1	436	1,697	25.7
Physical Sciences	486	1,554	31.3	122	609	20.0
Area, Ethnic, and Cultural Studies	434	1,446	30.0	75	250	30.0
Biological and Life Sciences	1,802	7,462	24.1	245	608	40.3
Philosophy, Religion, and Theology	355	1,828	19.4	29	832	3.5
Multi, Interdisciplinary Studies	399	848	6.5	245	416	58.9
Legal Studies, General	0	465	0.0	0	259	0.0
Library Science				235	290	81.0
All fields, 2004:	65,741	137,795	47.7	16,782	51,366	32.7

SOURCE: CPEC Student Profiles, 1999 www.cpec.ca.gov. Updated July, 2005, CPEC Student Profiles, 2003. Updated Jan. 2007, CPEC Student Profiles 2004.

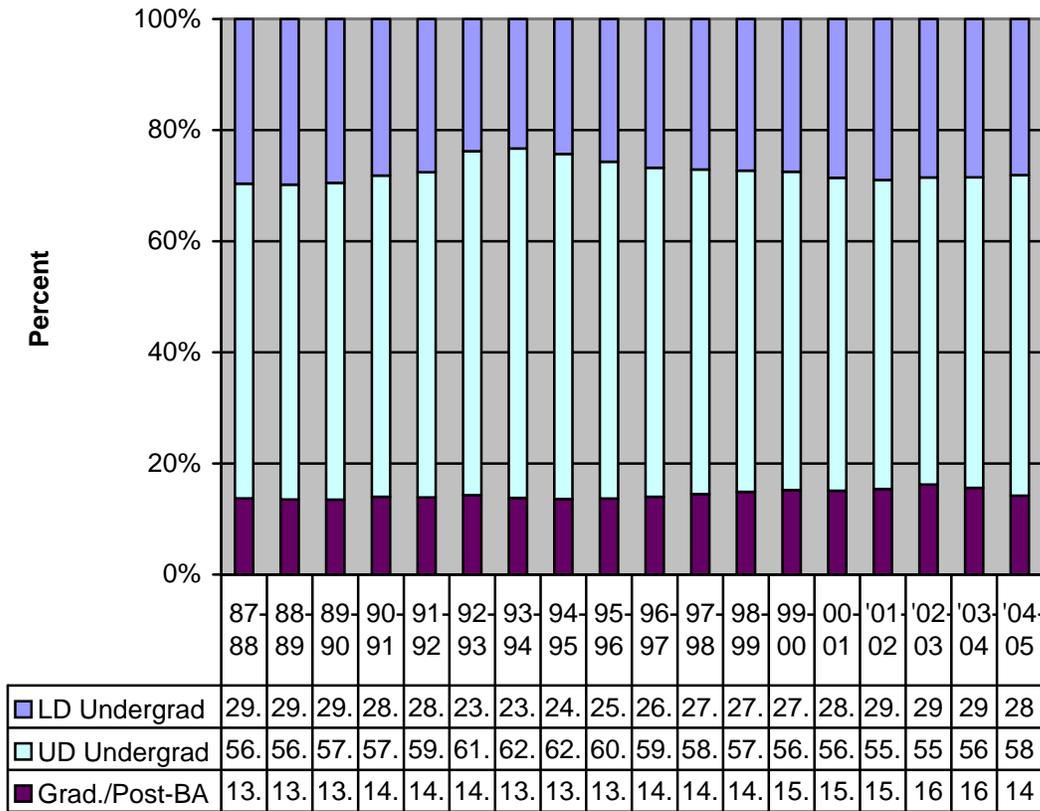
Thus, a student with a CSU baccalaureate, whether a graduate of a liberal arts program or a professional program, is prepared to contribute broadly to the economy, society, polity, and culture of California—prepared not just for a specific career and career changes but also for a range of contributions to civil society. Preparing graduates for "lifelong intellectual endeavor" is a primary purpose of the CSU, and a purpose that is more likely to be of lasting value to its graduates—and to the state—than narrowly focused vocational preparation.

The CSU also offers a wide range of graduate and post-baccalaureate professional programs. Teacher credential programs prepare some 60% of the state's teachers, typically as post-baccalaureate students. Master of Arts programs in the liberal arts and sciences prepare students for community college teaching, entry into Ph.D. programs, or a range of other careers. Master

of Business Administration programs prepare their graduates for careers in business. Master of Fine Arts programs, typically terminal degrees, prepare graduates for careers in, e.g., music, art, film, or teaching in those fields. Master of Social Work programs prepare social workers, and other post-baccalaureate programs exist in other professional areas. While CSU-UC joint-doctoral programs are relatively small in terms of the number of graduates, they nonetheless provide important opportunities for students who might not otherwise be able to pursue a doctoral degree. The full list of post-baccalaureate programs is long and diverse, reflecting the vital role of both liberal arts and professional graduate programs in the economic life of the state. Still other programs, geared to the needs of particular professionals, are offered through extended education programs.

Graph 1 presents recent patterns of CSU students by level,⁴ and indicates how, over the past decade, both graduate and post-baccalaureate enrollment has increased somewhat in response to student demand, from 13.5% of the total in 1989-90 to 15.1% in 1999-2000. There is every reason to anticipate that this pattern will continue as the state's economy continues to demand an ever more sophisticated workforce.

Graph 1. Proportionate Distribution of CSU FTE Students by Level of Instruction, AY 1987-88 through 2003-04



No overall statistical profile can begin to capture the diversity of accomplishments by CSU faculty and students. Nor can any list of examples provide more than an impressionistic account

⁴ Graph 1 is based on Table 149, CSU Statistical Abstracts.

of some of those accomplishments. Nonetheless, the following list provides illustrations of what it has meant to have been a part of the CSU over the past decade:

- **2001:** Zeyad Elsayed, a student at CSU Sacramento, was one of six national recipients of the Howard R. Swearer Student Humanitarian Award. CSU Long Beach outfielder/1st baseman Jeremy Reed earned one of 22 spots on the U.S. National baseball team.
- **2000:** William J. Christmas, San Francisco State; Michael S. Eldridge, Humboldt State; Sabina Magliocco, CSU Northridge; and Christina Rivera-Garza, San Diego State, received highly competitive National Endowment for the Humanities (NEH) fellowships for the 2001-02 academic year.
- **1999:** Jennifer Booth, San Diego State, received a National Research Council fellowship.
- **1998:** CSU Long Beach, CSU Los Angeles, and San José State were three of the nine universities nationwide to receive grants from the Society of Manufacturing Engineers (SME) Education Foundation's Manufacturing Education Plan to develop industry-education partnerships. There were a total of 112 applicants.
- **1997:** Solar Eagle III, from CSU Los Angeles, took first place in the national Sunrayce 97 solar car competition.
- **1996:** Carlos G. Gutierrez, professor of chemistry at CSU Los Angeles, was among the first recipients of the Presidential Award for Excellence in Science, Mathematics and Engineering Mentoring.
- **1995:** Geoffrey Marcy, professor of physics and astronomy at San Francisco State, made worldwide headlines with the first ever discovery of a planet orbiting another sun. CSU Fullerton won its third College World Series.
- **1993:** *U.S. News & World Report* recognized Cal Poly San Luis Obispo as the best public comprehensive university in the western United States.
- **1992:** CSU Hayward became the first U.S. business school to establish an MBA program in the former Soviet Union.
- **1990:** Patrick Blevins, a student at San Diego State, received an Evelyn D. Armer Memorial Scholarship in recognition of earning a college degree in social work after breaking a twenty-year pattern of drug abuse including thirteen years in prison.

CSU campuses have developed a wide range of public-public and public-private partnerships over the past decade and more. CSU campuses often work closely with nearby public school districts and community colleges, as a way to enhance local public schools, share facilities or programs with community colleges, or expedite access to the CSU. Many CSU campuses have developed other, highly innovative partnerships; the following summaries can only suggest the range and breadth of activities now underway:

- Faculty members at Humboldt State University and the City of Arcata have created an innovative wastewater treatment system that includes an extensive estuarial marsh open to the public for hiking or nature study. Approximately 150,000 people a year visit the marsh, and the project provides ongoing learning opportunities for students from elementary school through graduate school. The marsh has also been used as a model for communities around the globe.

- CSU Long Beach and the Boeing Company have formed a partnership to enhance the campus Center for Advanced Technology Support for Aerospace Industry (CATSAI). CATSAI will house Boeing personnel and support internships and instruction for students throughout the College of Engineering.
- The CSU Sacramento Geology Department and the United States Geological Survey (USGS) share Placer Hall on the CSU Sacramento campus. Completed in January 1997, the 60,000 square foot building contains classrooms, laboratories, research space, and offices. It has not only resulted in the sharing of expertise, equipment, and facilities, but also created collaborative teaching and research opportunities for students, faculty, and USGS scientists.
- San José State and the City of San José are jointly funding and operating the new Dr. Martin Luther King, Jr. Library. As the first such collaboration between a major U.S. city and a university, the project is expected to change long-standing models of library design and the delivery of information services to users.
- Sonoma State and the Santa Rosa Symphony had a ceremonial ground breaking in Fall 2000 for the Green Music Center, a concert hall modeled on Tanglewood in Massachusetts.

2. THE EVOLVING MISSIONS OF PUBLIC HIGHER EDUCATION IN CALIFORNIA

Commencing with the 1960 California Master Plan for Higher Education, the people of California—acting through their Legislature and Governor—have set out the broad missions of public institutions of higher education. Some see the 1960 Master plan as the defining document. The Legislature has often reaffirmed the basic structure of the 1960 Master Plan [66002. (c)]. The Legislature, however, has also recognized that the evolving needs of the state produce changes in the roles and missions of higher education and that these, in turn, need to be matched by an evolving process of law instead of a static legal structure.

66012. It is hereby declared to be the intent of the Legislature that the fixed master plan approach in the development of public postsecondary education be replaced by a continuous planning process which includes:

(a) A legislative study of California postsecondary education at 10-year intervals to reevaluate the planning process and provide guidelines regarding goals, societal needs and general missions of public higher education and its components.

(b) Continuous planning by a state commission including a five-year plan which is to be updated annually.

The Shared Missions of California's Educational Institutions The Legislature has set out broad goals for all educational institutions in California. The goals guide the more specific missions and functions of each segment including the CSU.

66010.2. The public elementary and secondary schools, the California Community Colleges, the California State University, the University of California, and independent institutions of higher education share goals designed to provide educational opportunity and success to the broadest possible range of our citizens, and shall provide the following:

(a) Access to education, and the opportunity for educational success, for all qualified Californians. Particular efforts should be made with regard to those who are historically and currently underrepresented in both their graduation rates from secondary institutions and in their attendance at California higher educational institutions.

(b) Quality teaching and programs of excellence for their students. This commitment to academic excellence shall provide all students the opportunity to address issues, including ethical issues, that are central to their full development as responsible citizens.

(c) Educational equity not only through a diverse and representative student body and faculty but also through educational environments in which each person, regardless of race, gender, age, disability, or economic circumstances, has a reasonable chance to fully develop his or her potential.

Hallmarks of CSU campuses:

- Access
- Affordability
- Quality teaching
- Programs of excellence.

This statement of common educational missions shared by all educational institutions defines the themes of access, affordability, quality teaching, and programs of excellence that have become the hallmarks of the CSU campuses.

The Specific Missions and Functions of the CSU As set forth in the 1960 Master Plan, the primary mission of the California State University is undergraduate and graduate instruction through the master's degree. Like the fixed structure of the 1960 Master Plan this instruction initially seemed to be viewed by the Legislature as imparting a body of fixed or slowly changing knowledge. Later changes by the Legislature have recognized the fundamental role of research, scholarship, and creative activity in support of the CSU's instructional mission and the mandate to provide quality teaching and programs of excellence.

66010.3

(b) The California State University shall offer undergraduate and graduate instruction through the master's degree in the liberal arts and sciences and professional education, including teacher education. Presently established two-year programs in agriculture are authorized, but other two-year programs shall be permitted only when mutually agreed upon by the Trustees of the California State University and the Board of Governors of the California Community Colleges. The doctoral degree may be awarded jointly with the University of California, as provided in subdivision (c) and pursuant to Section 66904. The doctoral degree may also be awarded jointly with one or more independent institutions of higher education, provided that the proposed doctoral program is approved by the California Postsecondary Education Commission. Research, scholarship, and creative activity in support of its undergraduate and graduate instructional mission is authorized in the California State University and shall be supported by the state. The primary mission of the California State University is undergraduate and graduate instruction through the master's degree.

Quality Teaching and the Collegiate Experience Speaking to all public institutions of higher education, the Legislature has outlined the goals of the collegiate experience, stressed that quality teaching is the core ingredient of the undergraduate educational experience.

66050. *It is the intent of the Legislature that public institutions of higher education in California shall provide a collegiate experience which gives each*

"Quality teaching is the core ingredient of the undergraduate educational experience".

California code,
Section 66050

student the skills of communication and problem solving, the ideas and principles underlying the major areas of modern knowledge, the ability to consider ethical issues thoughtfully, the understanding that learning is a continuous lifelong process, and the knowledge of democracy necessary for good citizenship. The Legislature further intends that an undergraduate education prepare students to think

critically and independently, and to have the flexibility to adapt to changing economic and social conditions, new workforce needs, and demands of a multicultural society. It is also the intent of the Legislature that the segments of higher education recognize that quality teaching is the core ingredient of the undergraduate educational experience. The segments of higher education are encouraged to improve the quality of undergraduate education as a central priority of California's public colleges and universities.

The faculties of the California State University believe that the university's primary mission, to provide instruction, mandates quality teaching as set out by the Legislature. For the faculty, the

issue has never been the will or the skill, but the provision of the necessary financial resources to fully meet the students' needs.

Responsibility to the Public Interest As an extension to and usually as a component part of its primary teaching mission, the CSU and all other segments of higher education are mandated by the Legislature to include in their missions a broad responsibility for the public interest.

66010.5. The mission of the public segments of higher education shall also include a broad responsibility to the public interest, and independent segments of higher education are encouraged to assume a broad responsibility to the public interest. As part of this responsibility, the public and independent segments are encouraged to support programs of public service and to involve faculty and students in these programs.

Any perusal of the partnerships of CSU campuses with the private sector and with public non-educational institutions, and of the time that both faculty and students commit to service activities, will show how the CSU's responsiveness to its public interest commitment have fundamentally affected the needs of the state of California and its citizens.

Collaboration and Segmental Coordination The Legislature has urged collaboration and coordination among all segments of education.

66010.7.

(a) The Legislature, through the enactment of this section, expresses its commitment to encourage and support collaboration and coordination among all segments of education.

(b) Within the differentiation of segmental functions outlined in this article, the institutions of higher education shall undertake intersegmental collaboration and coordination particularly when it can do any of the following:

- (1) Enhance the achievement of the institutional missions shared by the segments.*
- (2) Provide more effective planning of postsecondary education on a statewide basis.*
- (3) Facilitate achievement of the goals of educational equity.*
- (4) Enable public and independent higher education to meet more effectively the educational needs of a geographic region.*
- (5) Facilitate student progress from one segment to another, particularly with regard to preparation of students for higher education as well as the transfer from the California Community Colleges to four-year institutions.*

(c) The leaders responsible for public and independent institutions of higher education and the Superintendent of Public Instruction shall work together to promote and facilitate the development of intersegmental programs and other cooperative efforts aimed at improving the progress of students through the educational systems and at strengthening the teaching profession at all levels.

The CSU's responsiveness to its public interest commitment has fundamentally affected the needs of the state of California and its citizens.

(d) The California Postsecondary Education Commission shall have responsibility for reviewing and evaluating the effectiveness of intersegmental activities in accomplishing the established goals, and shall report its findings to the Governor and Legislature biennially.

The CSU and its individual campuses have been exemplary in enhancing the achievement of the CSU's missions by partnering with other segments in such a manner as to further the partners' missions. It has been particularly effective in its partnerships with K-12 and with the community colleges and UC campuses on a regional basis.

Community college and high school students have been actively recruited to come on CSU campuses during summers and weekends to become involved in CSU enrichment programs. A gratifyingly large number of these students continue in higher education. These programs are supported in part by partnership funding from public agencies, private foundations, and businesses.

Teachers at all levels of K-12 have worked on instructional development on our campuses, in a range of activities from improving the use of technology in K-12 classrooms to hands-on-science for elementary teachers. Our universities have been leaders in supporting local science collaboratives involving K-12 teachers and community college teachers to mutually strengthen all our programs.

Resource Commitments Related to Missions For the CSU and the other public institutions of higher learning to carry out their missions of access, affordability, high quality teaching, excellence in programs, and broad responsibility to the public interest, the citizens of California—through their Legislature and Governor and through bond issues enacted by referendum—have the commensurate responsibility to provide the financial resources. The Legislature has expressly linked its Master Plan goals to financial commitments.

The Legislature has expressly linked its Master Plan goals to financial commitments.

66201. It is the intent of the Legislature that each resident of California who has the capacity and motivation to benefit from higher education should have the opportunity to enroll in an institution of higher education. Once enrolled, each individual should have the opportunity to continue as long and as far as his or her capacity and motivation, as indicated by academic performance and commitment to educational advancement, will lead him or her to meet academic standards and institutional requirements. The Legislature hereby reaffirms the commitment of the State of California to provide an appropriate place in California public higher education for every student who is willing and able to benefit from attendance.

66202.5. The State of California reaffirms its historic commitment to ensure adequate resources to support enrollment growth, within the systemwide academic and individual campus plans to accommodate eligible California freshmen applicants and eligible California Community College transfer students, as specified in Sections 66202 and 66730. The University of California and the California State University are expected to plan that adequate spaces are available to accommodate all California resident students who are eligible and likely to apply to attend an appropriate place within the system...

The moral imperative of such a commitment extends beyond access for California students. It necessarily involves state resources fully adequate for the CSU and other public institutions of higher education to carry out the compact with California citizens that the California Legislature has set forth in the missions noted above.

3. CHALLENGES TO ACHIEVING THE HIGHEST LEVELS OF QUALITY

The National Center for Public Policy and Higher Education has recently confirmed the enormous importance of higher education for individuals and for the nation.

The quality of life of Americans and the civic and economic future of the country depend more than ever before on the availability and effectiveness of education and training after high school. For most Americans, college is no longer one of many routes to middle-class life, but a requirement for employment that makes such a life possible. . . . For communities, for the states, and for the nation, the complexity of modern life—a new global economy, the information age—requires ever-increasing levels of knowledge and skills. . . . Our country cannot sustain prosperity in the 21st century or maintain and enhance its democratic values and institutions without an educated citizenry.⁵

Such analyses make clear the connection between the quality of higher education and the well-being of the state and its residents. A college education enhances many people's ability to accomplish a satisfying life and to contribute significantly to the nation's economy, society, polity, and culture.

At the heart of all learning and true intellectual growth is a question well asked and well answered. Once the learner exceeds his or her own innate capacity to ask, and self-answer, the role of the teacher becomes critical. Through its liberal arts core and its specialized major degree programs, the CSU seeks to graduate students who have an enhanced intellectual understanding of their universe, an enhanced capacity for independent and life-long learning, a solid preparation for work or further study, and the ability to contribute meaningfully to the economy, society, polity, and culture. In delineating requirements for a successful teaching-learning environment and assessing the degree to which they currently exist within the CSU, one must not equate "minimally adequate" with "successful".

Quality results from the preparation of both teachers and learners, opportunities for close contact between teachers and students, the currency of the knowledge resources, the availability of up-to-date equipment and technology, and the physical housing.

The quality of education in the CSU is defined by the preparation of both teachers and learners, opportunities for close contact between teachers and students, the currency of the knowledge resources, the availability of up-to-date equipment and technology, and the physical housing that they require. Indicators of quality in the CSU include the faculty's professional training and currency in their fields; the student-faculty ratio; up-to-date libraries; laboratories, studios, and classrooms that are both adequate in size and maintained to current standards; functioning equipment and appropriate technology; adequate staff support; and above all time, to study, teach, and reflect. Essential elements for creating and maintaining a successful teaching-learning environment include:

- students adequately prepared to undertake college-level coursework and committed to learning;

⁵ *Measuring Up 2000: The State-by-State Report Card for Higher Education* (National Center for Public Policy and Higher Education, 2000), p. 12.

- appropriate opportunities for teachers and learners to work and talk, both in the classroom and outside it;
- an appropriate technical and physical infrastructure, including libraries;
- a clerical and technical staff that is both competent and in sufficient numbers to provide key services to both students and faculty members; and
- a faculty of the highest possible quality, well prepared, pedagogically competent, and current in their fields of specialization.

The CSU suffered seriously from the state's fiscal crisis in the early 1990s. The CSU now faces greatly increased student demand though many indicators of quality have failed to recover from that fiscal crisis.

In addition, relations between and among the various systems of education can affect the quality of students' learning experience, and every effort should be made so that the transition from K-12 to higher education and transfers within higher educational segments are accomplished smoothly.

The CSU suffered seriously from the state's fiscal crisis in the early 1990s. Several key indicators of quality were seriously eroded at that time, and they have not yet returned

to the levels of the late 1980s, even though many CSU faculty at that time considered levels then to be only barely adequate. Only recently has the CSU's funding per student (in constant dollars) returned to pre-1990 levels. Other important indicators still lag behind where they were in the late 1980s or early 1990s. Current demographic studies point to the likelihood of a 37% increase in the number of students seeking admission to the CSU between 1998 and 2010. Thus, the CSU faces a potential crisis of greatly increased demand at a time when many indicators of quality—the student-faculty ratio, library acquisitions, staff availability, to name only a few—have failed to recover from the earlier crisis of funding.

Nearly all the data for this study come from the CSU Statistical Abstracts and the reports of the California Postsecondary Education Commission, both available online. At times, additional data were requested from and provided by the CSU Chancellor's Office. At other times, data simply do not exist. At the time that the CSU abandoned its former practice of using elaborate formulae—contained in the Orange Book or Gold Book—to allocate resources, some collection of data was abandoned. Thus, there is no current, systemwide data on faculty workload nor on the mode and level of instruction, to name just two. In compiling this study, every effort was made to locate relevant data, and the data that are presented represent the most recent and appropriate data available.

Students One measure of the quality of a university that is often employed by those who judge such things is the degree of competitiveness in admissions, based on high school grades and scores on standardized tests. This measure of quality is not appropriate for the CSU, for the Master Plan defines CSU admissions as open to all students who complete a prescribed list of high school courses and who rank in the top third of their high school graduating class (as determined by high school grades and/or scores on standardized tests), and to all qualified transfers from community colleges. In this regard, the CSU is much like state-supported institutions in many other states.

Often the CSU represents a point of first entry to higher education for many families. Thus, many CSU students, especially those from disadvantaged socio-economic backgrounds, are new to the "culture of evidence" and to the rigors, assumptions, and procedures that higher education demands of them. Many of these students come to the CSU woefully underprepared

academically, and a significant proportion come from backgrounds that may put them at a disadvantage when confronted with new and perhaps intimidating circumstances. Many students are also employed, full- or part-time, and many have significant family responsibilities. CSU faculty members are well familiar with class absences caused by the demands of employment or family.

Students who qualify for admission exhibit great variation in their preparation for college study, and the CSU has, in recent years, sought to improve the quality of preparation for college study that students bring to the CSU. For preparation in English composition, a part of the problem for many students is that English is not their first language. Recent data released by the Census Bureau indicates that, in California in the year 2000, 25.9% of the total population is foreign-born, and 39.5% of the population over the age of 5 live in a home where a language other than English is spoken regularly.⁶ The CSU has also undertaken a program to guarantee that all remediation in mathematics and English composition be completed by the end of the student's first year at a CSU campus. Finally, the CSU has begun efforts to encourage high schools to identify junior-year students who are unlikely to meet CSU standards in mathematics and English composition so that the students may remedy those deficiencies before their graduation from high school. This has been done in part through alignment of entrance requirements between the CSU and UC (see below).

A recent national study, *Measuring Up 2000: The State-by-State Report Card for Higher Education*, points to serious problems in the high school preparation of California students. The report summarizes several measures of high school preparation, including high school completion and course-taking patterns among high school students. Overall, the report gives California a grade of C- in its preparation of students for college work, noting that only 81% of 18-24 year-olds complete high school, compared to 93% in the top performing states. Only 36% of California students in grades 9-12 take at least one upper-level math course, compared to 59% in the top performing states. Only 20% of California students in grades 9-12 take at least one upper-level science course, compared to 37% in top performing states. Only 12% of California high school students score in the top 20% nationally on SAT/ACT college entrance examinations. And, sadly, in California, although 92% of white 18-24 year-olds have completed high school, the graduation rate drops to 72% for all other races.⁷ Recent data provided through the National Assessment for Education Progress in mathematics indicates the extent of the problem: among fourth graders, California students on average ranked third from the bottom, above only Mississippi and New Mexico; among eighth graders, California students on average ranked fifth from the bottom, above Mississippi, Louisiana, New Mexico, and Arkansas.⁸

Only 36% of California students in grades 9-12 take at least one upper-level math course.

One indicator of deficiencies in the preparation of entering CSU students is the number of first-time freshman who meet all admissions requirements but are not ready to undertake college-level work in mathematics and English composition. In Fall 1999, 48% of regularly admitted, first-time freshmen entering the CSU required remediation in mathematics and 46% required remediation in English composition. Nearly four out of five (79%) of the first-time freshmen

⁶ San Francisco *Chronicle*, Aug. 6, 2001, p. A10.

⁷ *Measuring Up 2000: The State-by-State Report Card for Higher Education* (National Center for Public Policy and Higher Education, 2000), p. 70.

⁸ San Francisco *Chronicle*, Aug. 3, 2001, p. A1, A17.

who required remediation in Fall 1998 had accomplished full proficiency by the beginning of Fall 1999. However, this is accomplished through the use of resources for instruction, typically in small classes, that would otherwise be used for instruction of college-level classes. Thus, the quality of instruction in the CSU continues to be affected significantly by the level of preparation that students bring to the CSU from their high schools.

Teacher-Learner Contact Time and again, measures of the quality of teaching and the effectiveness of learning emphasize contact between teachers and learners. Although the annual college rankings of *U.S. News & World Report* have been justly criticized, they repeatedly show links between student-faculty contact and a high rank. Only one CSU campus, California Polytechnic State University, San Luis Obispo, appears on recent lists of the top ten colleges and universities in the western region. It is also the only one on that list with a student-faculty ratio greater than 15:1. In fact, its student-faculty ratio is far above 15:1—it is 20:1.

The magazine describes one element in its rankings, having to do with contact between students and faculty, and with the quality of the faculty, as follows:

Faculty resources. Research shows that the more satisfied students are with their contact with professors, the more they will learn and the more likely it is they will graduate. We use six factors from the 1999-2000 academic year to assess a school's commitment to instruction. Class size has two components: One represents the proportion of classes with fewer than 20 students (30 percent of the faculty resources score); the second represents the proportion with 50 or more students (10 percent of the score). Faculty salary (35 percent) is the average faculty pay, plus benefits, during the 1998-99 and 1999-2000 academic years, adjusted for regional differences in the cost of living (using indexes from Runzheimer International). We also weigh the proportion of professors with the highest degree in their fields (15 percent of the score), the student-faculty ratio (5 percent), and the proportion of the faculty who are full time (5 percent).⁹

This list of criteria includes some for which there are no easily available CSU data, including the proportion of small classes (fewer than 20 students) or large classes (more than 50). A second, faculty salaries are discussed later in this report. A third has to do with the professional preparation of the faculty; among full-time faculty, 78% hold the doctorate, ranging from 66% among assistant professors to 85% among professors. The proportion of faculty members with the doctorate has increased steadily over the past quarter-century, but the proportion who are full-time has declined (see below).

One easily available indicator of contact between teachers and learners in the CSU is the student-faculty ratio. The smaller this ratio, the greater the likelihood of increased contact. Conversely, the larger the ratio, the less likely it is that all learners can have close contact with their teachers. Graph 2 presents changing student-faculty ratios in the CSU¹⁰ and vividly demonstrates the significant impact of the fiscal crisis of the early 1990s on this important measure of contact between teachers and learners.

Student-faculty ratios have not returned to pre-1990 levels.

The sharpest spike in the student-faculty-ratio graph came in the early 1990s, when state funding was reduced and the number of lecturers employed in the CSU fell

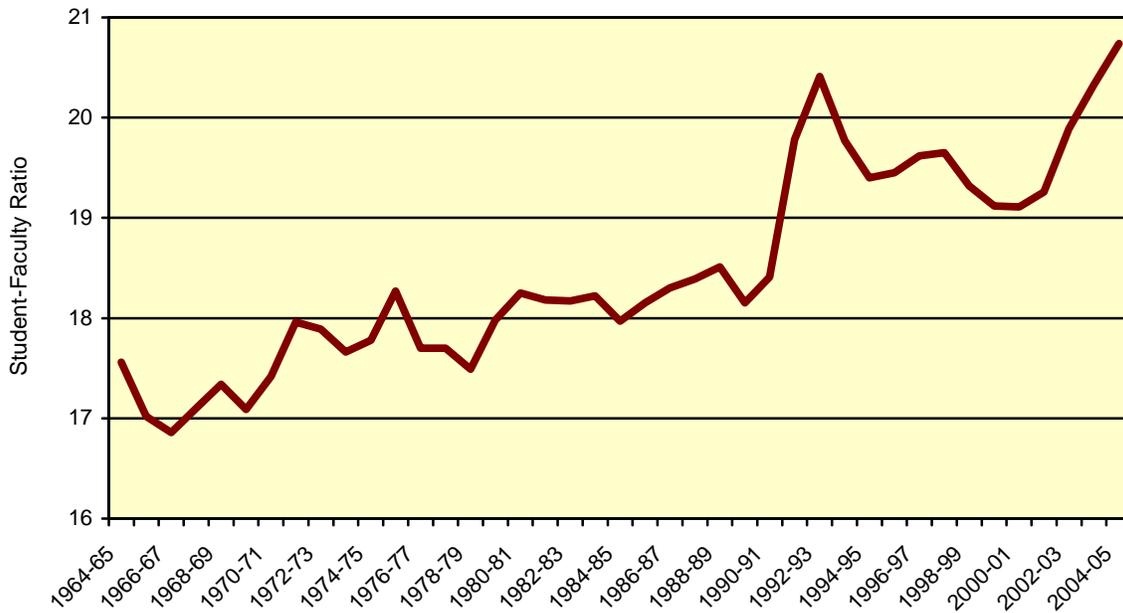
⁹ <http://www.usnews.com/usnews/edu/college/rankings/collmeth.htm>.

¹⁰ CSU Statistical Abstracts, Table 155.

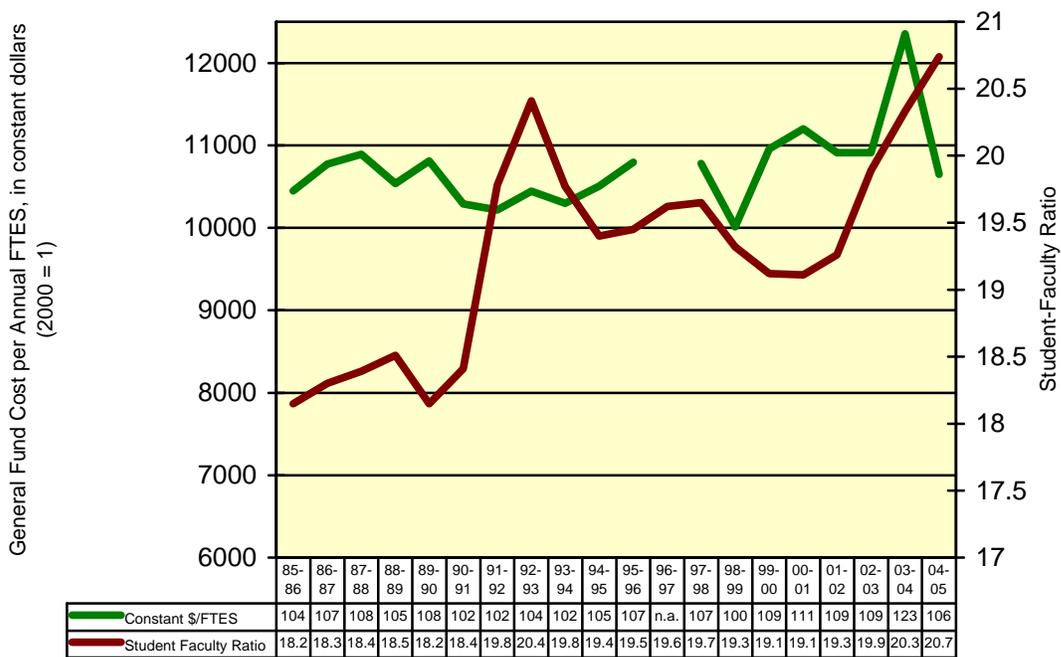
sharply. But the student-faculty ratio has not returned to pre-1990 levels, even though state funding per student has returned to what it was before the state's fiscal crisis of the early 1990s. Graph 3 compares the student-faculty ratio with state funding per student (in constant dollars). Not until 1998-99 did funding per student (in constant dollars) pass the level of 1987-88; however, the student-faculty ratio has not yet even begun to approach what it was before the state's fiscal crisis.¹¹ The Academic Senate CSU is pleased at the small decline in the SFR in recent years, and strongly encourages that this trend be continued through increased funding earmarked to reduce class size.

¹¹ The financial data in Graph 3 are taken from the CSU Statistical Abstract. Because the figures for 1996-97 seem unreliable, they have been omitted from the table. Here and elsewhere, current dollars were converted to constant dollars using the cost-of-living calculator on the website of the American Institute for Economic Research <http://www.aier.org/cgi-bin/colcalculator.cgi>.

Graph 2. Student-Faculty Ratios, CSU, 1964-65 to 2004-05



Graph 3. Student-Faculty Ratios and Cost per FTES, CSU, 1985-86 to 2003-2004, in 2005 Dollars



Graduate Study In 1991, the Academic Senate CSU supported a set of recommendations on graduate education in the CSU; the intention of the recommendations was, in part, to set minimal standards for programs and, in part, to seek additional funding to permit upgrading of programs. At the time, however, the state's financial situation precluded implementation of recommendations that required additional funding, the most important of which was to redefine a full-time graduate student, for the purposes of funding, from 15 student credit units per semester to 12, which is the standard throughout American higher education. This proposed redefinition has still not been funded, after a decade that included both lean years and years of unprecedented state surpluses. The Academic Senate CSU has recently reiterated its support for the redefinition of full-time equivalent graduate student, for the purposes of funding, and has also recently initiated a new study of CSU post-baccalaureate (including graduate) programs.

This initiative on the part of the Academic Senate CSU comes at a time when the Education Policy and Programs Committee of the California Postsecondary Education Commission has also taken up the state of graduate study in California's public institutions of higher education.¹² At its meeting of April 2-3, 2001, the committee considered a report that, among other things, states the importance of graduate study for California and its citizens:

The need for increased attention to the graduate level, including research, has been advanced as an area of growing concern not only within institutions of higher education but externally as well. Business and industry leaders in biotechnology, engineering, computer science, and other fields have expressed concern about the availability of graduate students and the linkages between research—be it pure or applied—and the needs of the State...

"The Commission believes that a major effort in this decade should be devoted to strengthening graduate education".

—CPEC

The Commission believes that a major effort in this decade should be devoted to strengthening graduate education. The exercise of program selectivity, the improvement of the quality of graduate programs, and the recruitment of well-qualified graduate students depend in large part on

the academic leadership provided by department heads, deans, and institutional leaders. It depends, also, in the case of public institutions, on the collective will and vision of policy makers, their sustained commitment in terms of financial support, and the expectation that the public interest will be best served by distinguished programs or centers of excellence.

The report notes that nearly all CSU campuses have smaller graduate programs, proportionately, than do similar institutions in other states. The report concludes:

The ability of California institutions, public and independent, to meet the competition emanating from a global economy and educational opportunity is limited. To be competitive and fulfill the State's interest as well as contribute to the economic vitality of the state and its citizenry, full attention needs to be given to strong graduate programs. . . . Outstanding graduate students invest their energies and knowledge in institutions boasting strong faculty, sophisticated

¹² California Post-Secondary Education Commission, *Educational Policy and Programs Committee*, "Graduate Education and Research in California Postsecondary Institutions" (Agenda for April 2-3, 2001, <http://www.cpec.ca.gov/commission/agnd0104.asp>).

research equipment and up-to-date library and information resources. Fresh graduate talent should be treated as a serious and ongoing priority...

The Commission believes that by having additional information and discussion as anticipated at this Commission meeting it will be well served to plan for how it can best advise and counsel State policy-makers and educational leaders.

The CSU currently awards some 56% of all post-baccalaureate degrees awarded by public institutions in California.¹³ Thus, any strengthening of graduate education in California must centrally address the serious needs of the CSU. The CSU could do more to meet the needs of California residents for post-baccalaureate education, including non-degree programs, the expansion of existing masters' degree programs, and the introduction of new, applied graduate degree programs at the masters' and doctoral levels. However, any expansion of post-baccalaureate programs should be based on careful study of the capability (in terms of faculty specialties, support resources, and the like) and feasibility (especially financial feasibility) of the CSU to offer programs to meet those needs.

Infrastructure One frequently used measure of quality has to do with facilities—classrooms, libraries, computer facilities, laboratories, studios, playing fields, and the like. During the lean years of the early 1990s, maintenance of CSU facilities was often deferred and the acquisition of new resources (library books, computers, equipment, etc.) was often similarly deferred. Because of this deferred maintenance, many CSU buildings and classrooms now need extensive refurbishment at the very time that the system requires a substantial expansion of facilities (regarding the need for expansion, see below). Much of the CSU's capital outlay budget presently goes for seismic upgrading or for deferred maintenance.

Long ago, Chancellor Anne Reynolds made a commitment to end multiple-person faculty offices. Nearly two decades later, many full-time CSU faculty still share offices, and the failure to build more faculty offices has produced serious crowding—as many as four full-time and part-time faculty may share facilities originally intended for two persons. When two or three or four people have to schedule office hours in the same office and when two or more share the same desk, they are constrained in their abilities to meet with students, to discuss students' work in courses, to offer advising on the curriculum, to offer career advising, and to serve as role models for scholarly work because such crowding may discourage faculty members from pursuing their scholarship while on campus.

Failure to build faculty offices has produced serious crowding.

Although some buildings and some classrooms on some campuses have appropriate levels of technological rigging, many buildings and classrooms throughout the CSU do not, even though the CSU has been making major strides to improve connectivity. On campuses that are wired, equipment and technical staff are sometimes lacking. Thus, many programs are inadequately prepared to make appropriate use of new technology to enhance the quality of instruction. More and more faculty are introducing or expanding the use of technology in their teaching, some through technologically-mediated instruction and some through distance learning. All this requires a much greater investment in equipment (and technical staff) than has been made in recent years, along with programs to insure that faculty members receive not only the

Many CSU programs are inadequately equipped to use new technology to enhance the quality of instruction.

¹³ CPEC Reports, Performance indicators of California Higher Education 1999 (2/2000), Section V, Student Outcomes, Sections 5D-1, 5D-2, 5E-1, 5E-2, CSU Degrees, 1992/3-1997/8, and 5DEF, UC Degrees, 1992/3-1997/8.

necessary equipment but also the technical training and support necessary to use it most effectively.

Libraries are still the most important physical resource for any university: Universities' reputations rest in part on the holdings of their libraries. Thus, the status of the libraries is another important indicator of quality.¹⁴ In 1998, the CSU library directors described their situations as follows:

*Support for CSU library collections has decreased since FY 1990/91 more than support for any other aspect of the university. . . . Cuts in expenditures for library collections were greater than cuts in general fund expenditures. Expenditures for library collections began to recover later and more slowly than general fund expenditures as a whole. . . . While reductions in acquisitions expenditures were occurring, the prices of books and subscriptions were rising rapidly. . . . Coping strategies included reducing staff—notwithstanding enrollment increases—and hours of service, canceling subscriptions, buying fewer books, and borrowing more items from other libraries. . . . There is no indication that technology is yielding an overall reduction in the costs of information access, certainly not to the degree that offsets the reduction in acquisition budgets.*¹⁵

One measure of the health of the CSU libraries is to be found in the number of periodical subscriptions and expenditures for periodical subscriptions; Graph 4 summarizes data on print periodical subscriptions in the CSU. When the state faced its fiscal crisis in the early 1990s, subscriptions plummeted, almost in free fall, ending their downward plunge only in 1998-99.

Students complain of the dearth of recent library books.

Book collections have also suffered from inadequate funding. The average age of collections is increasing as the proportion of newer books in the collections continues to shrink. In recent focus group discussions held in preparation for a revision of the libraries' systemwide strategic plan, students consistently complained of the dearth of recent books on subjects they were researching. In 1998-99, the CSU budget included a one-time supplement of \$10 million that was earmarked for purchase of library materials. Another augmentation, though not approaching that amount, appeared in the 1999-2000 budget, but a similar increase was removed from the 2000-01 budget.¹⁶

Another measure of the quality of libraries is the librarian-to-student ratio, an indicator of the extent to which students may reasonably expect to have access to expert assistance when using library collections; Graph 5 presents data on this ratio. Graph 5 indicates that library staffing shows the same pattern as the student-faculty ratio—a dramatic decline in FTE staff per 100 FTE students at the time of the fiscal crisis of the early 1990s, and no recovery from that decline. The decline in library staffing is especially critical given increased demands on librarians as they

¹⁴ New standards for college (i.e., baccalaureate and masters' granting institutions) libraries were approved by the ACRL College Libraries Section Standards Committee in January 2000; see "Standards for College Libraries", *C&RL News* (March 2000), pp. 175-182.

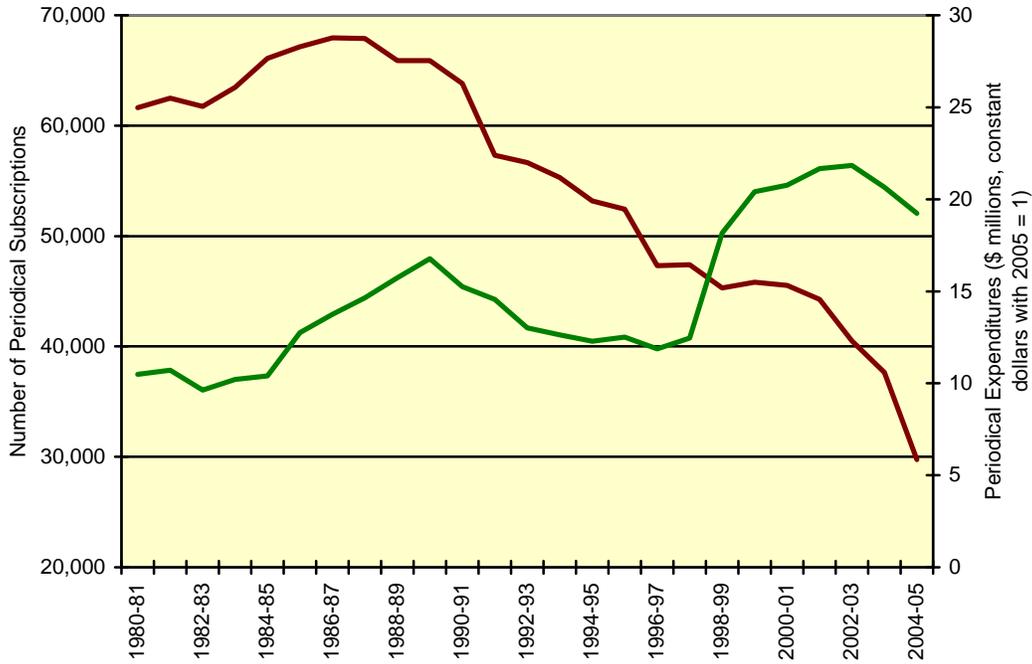
¹⁵ California State University, "Report of the Task Force on Library Collections," August 1998 http://www.calstate.edu/tier3/SLI/Lib_Coll_Rpt.pdf, p. 4. Emphasis added.

¹⁶ The funding gap for library collections, estimated by library directors to be \$12 million annually, has been recognized by the CSU and the State as a structural budget deficiency in need of correction. The four-year "Partnership" agreement between the CSU and the Governor provides for an additional 1% increase to the State General Fund base to phase in funding to eliminate the annual budgetary shortfalls for libraries as well as building maintenance, instructional equipment, and instructional technology between 1999-2000 and 2002-03. That agreement yielded an increase of \$3 million of base budget funding for systemwide electronic information resources in 2000-01. An additional \$4 million for 2001-02 was removed from the budget in May 2001.

forge new partnerships with faculty for instruction in information competence. Library staff members interact not only with students, but also with faculty members, and that the ratio of library staff to students does not describe the full extent of librarians' interaction with university constituencies. Librarians develop and conduct classes so students and faculty can learn how to use the new searching capabilities of the new technologies.¹⁷

¹⁷ Graph 5 is based on CSU Statistical Abstracts.

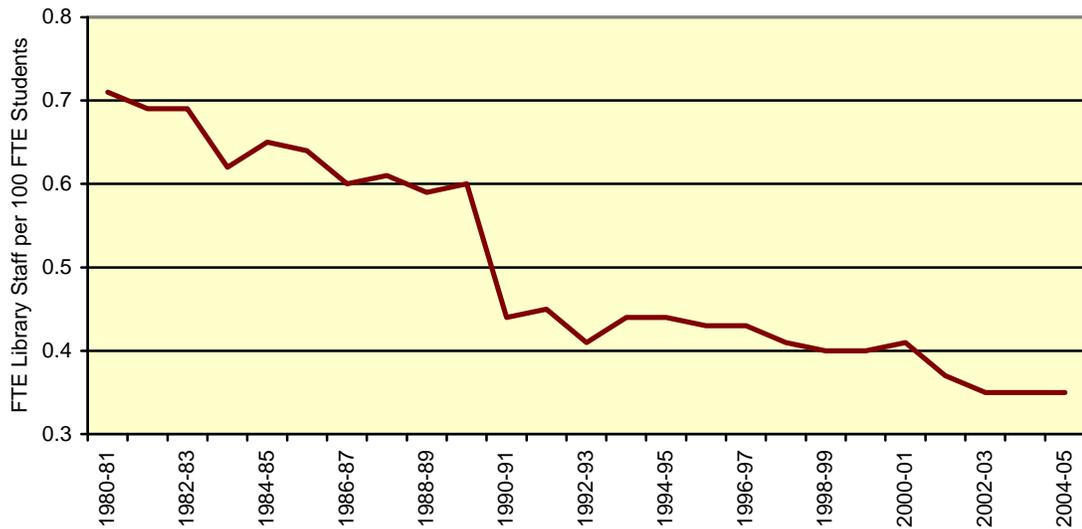
Graph 4. Print Periodical Subscriptions and Expenditures for Print Periodical Subscriptions, All CSU Libraries, 1980-81 through 2004-05*



* Excludes e-Journals - see text.

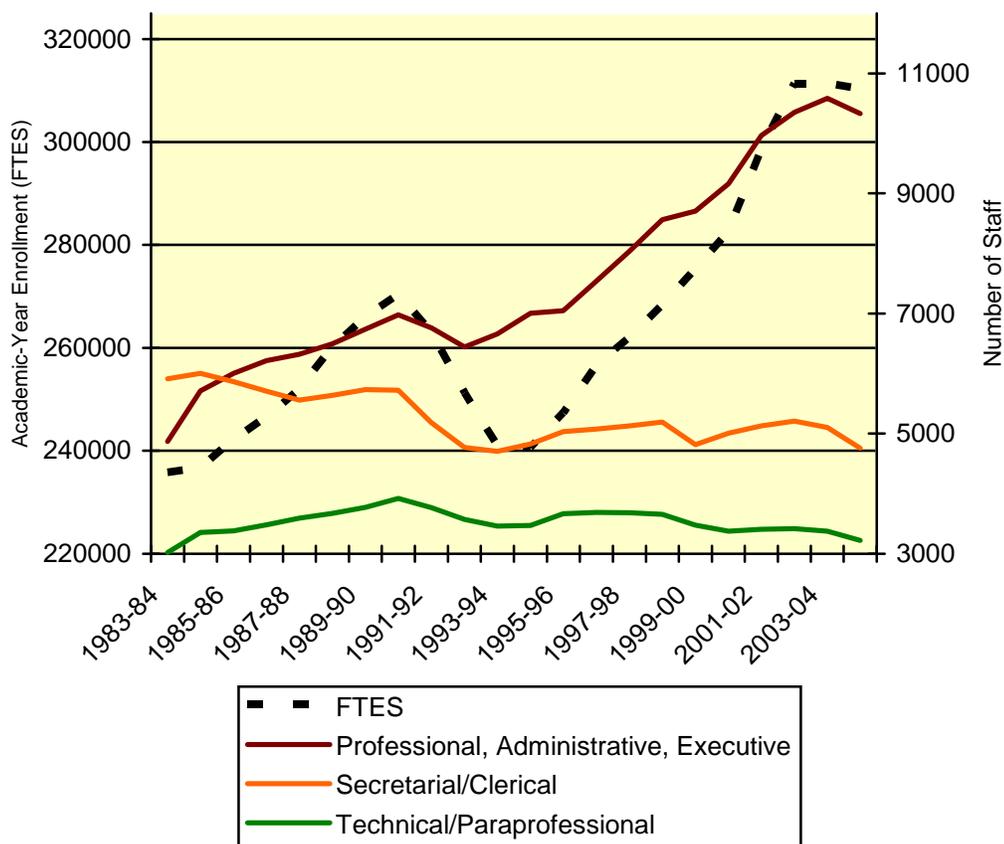
— Print Subscriptions — Periodical Expend. \$ millions

Graph 5. Library Staffing, 1980-81 through 2004-2005



Staff A university is highly dependent on its staff, both secretarial/clerical and technical—those staff members who work most directly with students and faculty, in support of the teaching and learning mission of the university. The quality of university life is also dependent upon the work of the maintenance and service staff. Within the CSU, there has been a disturbing pattern in which the number of secretarial/clerical, technical/paraprofessional, and maintenance/service employees have decreased since the mid- or late 1980s, but the number of professional, administrative, and executive positions has increased substantially. Graph 6 shows some of these patterns.¹⁸

Graph 6. Changes in Number of Staff and FTES, 1983-84 through 2004-05



Between 1990-91 and 1999-2000, academic year enrollment dipped sharply and then recovered to 97% of its former level; total faculty, by headcount, also stands at 97% of what it was in 1990-91. However, the secretarial and clerical staff in 1999-2000 amounts to only 84% of what it was in 1990-91. Technical staff is at 89% of the 1990-91 level, and maintenance staff is at 88%. As the number of staff employees declines relative to the numbers of students and faculty, the ability of the staff to provide the same level of service is almost certain to diminish. This decline in the number of staff has sometimes resulted in faculty picking up some of the work formerly done by staff, sometimes in staff stretching themselves thinner and thinner to cover the required tasks,

¹⁸ Graph 6 is based on CSU Statistical Abstracts.

and sometimes in a reduction in services available. At a time when the university and the larger society are increasingly dependent on technical expertise, technical staff are often crucial in assisting both students and faculty to become familiar with new technologies; it is therefore especially troubling to note that the number of technical and paraprofessional employees is significantly fewer in 1999-2000 (3,479) than in 1990-91 (3,922). In addition, student demands within the past decade for twenty-four-hour, seven-day-a-week access to computer laboratories require more technical staff, not fewer. As more faculty members introduce technology-mediated instruction into their courses, they shall also require more technical staff, not fewer. By contrast, the number of professional, administrative, and executive staff in 1999-2000 stands at 125% of what it was in 1990-91—an increase from 6,979 to 8,704.

As the number of staff employees declines relative to the numbers of students and faculty, the ability of the staff to provide the same level of service is almost certain to diminish.

In urban areas and rural areas alike, CSU campuses sometimes find it difficult to hire staff, because CSU salaries and benefits are not competitive with private enterprise, and the best technical and secretarial/clerical staff are likely to find more financially rewarding employment elsewhere. There is, apparently, no data that compare CSU staff salaries with those of comparable positions in private enterprise, but many CSU faculty members are familiar with accounts of staff members offered much higher wages outside the CSU.

The skyrocketing cost of housing in many urban areas compounds the difficulty of retaining the best staff members, as the problems of non-competitive CSU salaries are compounded by exorbitant housing costs.

Faculty The nature of its faculty is central to the quality of education provided by any college or university. This report addresses a number of specific elements to such a consideration of CSU faculty:

1. The Role of Faculty in Curricular Development
2. Changing Patterns of Faculty Hiring
3. Implications for the CSU of Increasing Reliance on Temporary Faculty
4. Faculty Professional Development: Improving Pedagogy
5. Faculty Professional Development: Maintaining Currency through Research, Creative Activity, and Scholarship
6. Recruiting and Retaining a Diverse Faculty

- ***The Role of the Faculty in Curricular Development*** The Academic Senate CSU, in its 1997 study of baccalaureate education in the CSU, described the role of the faculty in curricular development this way:

The faculty, because of their specialized knowledge, are the primary decision-makers regarding the curriculum and are the first judges of the quality of the baccalaureate. The faculty develop and offer courses and they determine the requirements for general education and majors. Their initial task in developing courses, programs, and curricula, must be to define academic quality, both in terms of the standards and criteria for teaching the curriculum and in terms of the learning objectives and performance standards to be achieved by students. Only then

The faculty, because of their specialized knowledge, are the primary decision-makers regarding the curriculum and are the first judges of the quality of the baccalaureate.

can conformance to standards, and hence quality, be determined and measured through faculty peer evaluation and recommendations regarding the fitness of those who teach the curriculum, and through evaluations of students to determine the completion of learning objectives and, ultimately, the completion of courses, programs, and degrees. This process takes place within departments and campus academic senates and is symbolized by the announcement at all commencement ceremonies that the faculty have recommended the award of the degrees. Faculty reconceptualization of curricula in terms of learning objectives and competencies provides opportunities for addressing educational objectives in ways that redefine the use of the academic year and the three- or four-unit course.

This primary role of faculty in defining the curriculum, and safeguarding the quality of the teaching and learning process, reinforces the need for a faculty of high quality.

- ***Changing Patterns of Faculty Hiring*** Nearly all CSU faculty members fit into one of three categories:

1. ***Tenured and tenure-track faculty:*** Tenured faculty members are permanent members of the faculty. Tenure-track faculty members are probationary faculty who, if they are successful during a six-year probationary period, will receive tenure. Criteria for hiring t/tt faculty are developed by and in departments, colleges, and campuses; in nearly every instance, candidates for a tenure-track appointment are expected to possess a terminal degree in their discipline by the time of appointment. Departments add further requirements—many departments look for candidates who have presented their work at professional meetings, or have received grants or contracts, or have published. In addition, CSU departments are interested in evidence of teaching effectiveness. Departments conduct national—or, increasingly, international—searches, seeking candidates with the most impressive qualifications. An extensive national or international search is an integral part of maximizing the quality of the candidates for the position. A new tenure-track faculty member is carefully evaluated every year for retention. A tenure decision typically comes in the sixth year. If tenured, a permanent faculty member is subject to another searching review at the time of promotion and is reviewed subsequently for currency in the academic discipline and effectiveness of teaching at five-year intervals.

By virtue of their demonstrated knowledge in their fields, t/tt faculty members have the primary responsibility for defining and revising the curriculum. By virtue of their knowledge of their field and of the curriculum, t/tt faculty members have primary responsibility for advising. By virtue both of their knowledge and also of their teaching experience, tenured faculty members have primary responsibility for personnel matters (hiring, retention, tenure, promotion, and the awarding of leaves with pay or research support). Curriculum matters are discussed and decided through the process of academic governance—departmental, school, and college committees followed by consideration by the campus academic senate. Advising is an on-going process—more intense at some times of the year than others, but necessarily available every day of the academic year. Personnel processes, like curriculum decisions, take part in department, school or college, and university committees. Thus, nearly all t/tt faculty members expect to spend several hours each week in advising or governance activities.

There is no provision for scholarly work in most faculty members' workload.

T/tt faculty members are paid on the basis of 15 weighted teaching units each semester; of the 15, three are for non-classroom activities, i.e., advising and committee work. In some CSU departments, another three are allocated for scholarly work, leaving nine for teaching. In the large majority of CSU departments, however, faculty members are expected to teach twelve units each semester. That means twelve hours in the classroom per week (plus, typically, two hours of preparations and grading outside the classroom for every hour in class), in addition to meeting with students outside class, advising, and committee work. There is no provision for scholarly work in most faculty members' workload. The most recent survey of the way that faculty members actually divide their time among teaching, scholarship, and service is a decade old, although a new survey is underway.

2. *FERP Faculty*: Participants in the Faculty Early Retirement Program (FERP) are tenured faculty members who have elected to retire in return for a promise that they can continue to teach one semester each year at their previous level of pay; recently, participation in this program has been limited to five years, after which the faculty member completely retires. Participants in the FERP program may not serve on personnel committees. They cannot be required or expected to come to campus during the semester (or quarters) when they are not teaching, so many departments have chosen not to place them on other departmental committees, such as those responsible for the curriculum or graduate program, or on the committees that supervise the examinations or theses of graduate students.

Unless the CSU begins to hire t/tt replacements for FERP participants at the time they enter FERP, the growing numbers of FERP participants will significantly increase the workload of the remaining t/tt faculty.

Data on the age distribution of CSU faculty demonstrate that increasing numbers of CSU faculty are reaching the age (between 60 and 62) when participation in this program becomes financially attractive. The FERP program is valuable in that it permits the CSU to retain the teaching and advising services of senior faculty who might otherwise be tempted—in part by the growing workload of t/tt faculty—to take full retirement. At the same time, however, unless the CSU moves to hire t/tt replacements for FERP participants at the time they enter FERP rather than when they leave the program, the growing numbers of FERP participants will significantly increase the workload of the remaining t/tt faculty because fewer and fewer t/tt faculty will be available to fill curricular and personnel committee positions. And this increased workload, in turn, will push more of them to retire or take part in FERP.

3. *Lecturers*: Lecturers are temporary faculty. Permanent and temporary faculty play different roles in the broad life of the university, meeting different expectations and needs. Lecturers are sometimes hired full-time, but the large majority is hired on a part-time, course-by-course basis. In Fall 1999, the last year for which systemwide data are available, nearly 89% of all temporary faculty members were part-time and slightly more than 11% of full-time faculty members were not t/tt. Some departments expect that lecturers will either have the terminal degree for the discipline or be making appropriate

Some CSU lecturers have been employed on a "temporary" basis for a quarter-century or more.

progress toward it, but other departments define the M.A. as the appropriate degree for lecturers hired for particular classes, especially those at the introductory level.

A few lecturers are community-based professionals hired for their specialized knowledge or skills, e.g., a member of a symphony orchestra hired to teach his/her instrument or a lawyer hired to teach his/her specialty in business law. A few lecturers are graduate students at a nearby Ph.D.-granting institution, hired to teach particular classes, typically those at the lower-division level, who seek a t/tt position upon completion of their dissertations. The largest category of lecturers consists of long-term temporary employees—indeed, some CSU lecturers have been employed on a "temporary" basis for a quarter-century or more. Many of them have the Ph.D., considerable teaching experience, and sometimes scholarly records comparable to those of t/tt faculty. While most teach lower-division courses, increasing numbers are assigned to upper-division courses. These patterns are probably most typical of the L.A. Basin and the Bay Area, where large numbers of qualified instructors in many fields are tied permanently to the area (e.g., because of family obligations) and therefore do not compete in the national market for t/tt faculty members. Such lecturers may teach at several institutions, patching together "academic piece-work" as the opportunities present themselves.

The department chair alone often selects part-time lecturers from a local pool. A lecturer is typically evaluated only on the basis of teaching effectiveness because he/she is hired to teach a specific class or small number of specific classes. Lecturers are paid on the basis of 15 weighted teaching units as full-time employment (based on semester campus workload calculations), but the large majority of lecturers are hired for particular classes on the basis of three weighted teaching units for a three-unit class. Most lecturers are not paid to do non-classroom activities such as advising or committee work. Those who teach full-time, spending 15 hours in the classroom each week, along with preparations, grading and, perhaps, commuting among two or more institutions, have little time available for advising or committee work even if they were willing to volunteer their services. Temporary faculty cannot be expected to undertake non-teaching activities unless they are paid to do so. In fact, however, some lecturers volunteer their time for advising, for service on departmental committees, and for service on examination and thesis committees for graduate students.

- ***Implications for the CSU of Increasing Reliance on Temporary Faculty*** Though the current proportion of t/tt faculty and lecturers does not appear to affect the overall quality of classroom instruction, the proportionate reduction in t/tt faculty has an impact on the broad quality of university life and the mentoring experiences between faculty members and students. Though the ways in which this is so may not be apparent to the casual observer, they are experienced daily by all faculty and many students:

The growing reliance on lecturers (and proportionate reduction in t/tt faculty) has an impact on the broad quality of university life and on the mentoring experiences between faculty members and students.

1. Departments, schools and colleges, and university governance activities operate through committees—for curriculum, graduate programs, hiring, retention and tenure, promotion, and other matters. Lecturers and tenure-track (non-tenured) faculty are prohibited from serving on personnel committees, and lecturers

are not paid to serve on any committees. Thus, as the ratio between t/t faculty and lecturers comes to include a larger proportion of lecturers, governance responsibilities fall to a declining proportion of t/t, and especially tenured, faculty. The same is true for advising. Thus, proportionately fewer t/t faculty members have more and more responsibility for the crucial non-teaching functions of the faculty: curriculum and personnel committees, examination and thesis committees, and advising. In some circumstances, these non-teaching responsibilities have begun to infringe on the time that faculty members try to reserve for scholarly activity and class preparations.

2. Having a permanent faculty member responsible for each major portion of the curriculum produces continuity in instruction and in supervision of such long-term student projects as senior honors theses, MA theses, or MA culminating examination preparation. It means that the same faculty member is responsible for developing the curriculum in a specialized field *and* for ordering library materials, maps, software, and other resources. It means that the curriculum in every specialty will be developed by a faculty member who is required by University personnel policies to be current in his/her field, and who is required by departmental policies to be actively engaged with and contributing to his/her specialty.
3. When departments must rely on lecturers to offer specialized and advanced courses, the ability of the department to locate lecturers with the appropriate qualifications may determine the department's success in staffing its curriculum—and thus determine the ability of students to complete their programs in a timely fashion.
4. Because lecturers rarely have stability of employment over time, students lose continuity of contact with individual instructors as they move through a sequence of courses or move to more advanced levels within a particular specialty.
5. If specialized or advanced courses are taught by different lecturers each semester or each year, coverage of the subject matter may vary because the lecturers have not participated in the curricular processes of the program.
6. Students who need letters of recommendation from a senior professor familiar with the student's work in a variety of settings may be disadvantaged in seeking admission to graduate or professional school if their instruction has been delivered by a sequence of part-time, temporary teachers rather than a continuing mentor. It is a reality that letters of recommendation written on behalf of a student will command greater respect and attention if they are written by a t/t faculty member, and especially a senior, tenured, published faculty member. It is also a reality that t/t faculty members are more likely to be available to write letters of recommendation a year or two years or five years after a student completes a course than is a lecturer who is hired just to teach that particular course.
7. Many lecturers are deeply alienated from the university community by the tenuous nature of their connection to it. They may have a chronic sense of insecurity about their jobs and about their identity or validity as a part of the university community.

The problems with a large proportion of temporary faculty have been the topic of several recent reports, notably *Statement from the Conference on the Growing Use of Part-Time and Adjunct Faculty* (1997), a joint statement by the American Historical Association, the American Mathematical Society, the American Philosophical Association, the American

Political Science Association, the American Sociological Association, the Modern Language Association, the National Council for Teachers of English, the Organization of American Historians, the Community College Humanities Association, and the American Association of University Professors.¹⁹ In addition to describing issues similar to those above, this report also notes:

Part-time faculty members have different work patterns than do full-time faculty. Although this differs by discipline, part-time faculty (as well as adjunct, non-tenure-track faculty and graduate assistants) predominantly teach lower-division and community college courses. They report spending substantially less time on class preparation and out-of-class interaction with students than do full-time faculty members. This differential ranges from half as much out-of-class to in-class time for research university faculty to one-quarter as much for community college faculty. Furthermore, part-time faculty in four-year universities have substantially lower publication rates than do their full-time counterparts. Also, there is much evidence to support the direct correlation between good teaching and active research, and this association gets stronger the older the faculty member is. Moreover, researchers stay more connected to the discipline, an advantage perceived and sought out by students themselves (as well as those who rate institutions for the guidance of future students and their parents).

Finally, it should be noted that neither t/tt faculty nor lecturers benefit from the growing reliance on temporary faculty in the CSU. Any situation so destructive of morale among all faculty members has inevitable, if sometimes subtle, impacts on the experience of students.

A recent report by a coalition of twenty-five academic societies, including the American Anthropological Association, the American Historical Association, American Philosophical Association, American Political Science Association, Modern Language Association, and National Council of Teachers of English, has drawn national attention.²⁰ Among its conclusions is that "part-time faculty members, particularly those paid on a per-course basis, receive so little compensation that they simply must take multiple jobs to maintain even a modest standard of living . . . Most could earn comparable salaries as fast food workers, baggage porters, or theater lobby attendants".²¹

Most part-time faculty members could earn comparable salaries as fast food workers, baggage porters, or theater lobby attendants.

The Academic Senate CSU has repeatedly expressed its concern about the increasing reliance on lecturers in the CSU. (Graphs 7 and 8 summarize data on the use of lecturers.²²)

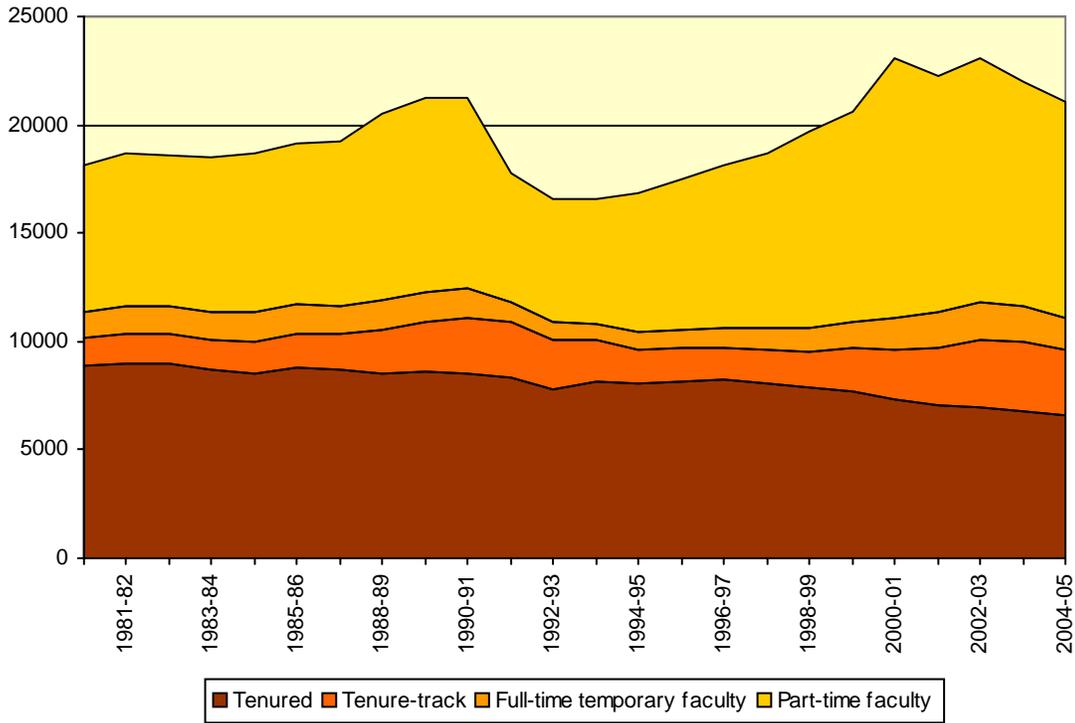
¹⁹ The full report is available at <http://www.aaup.org/ptconf.htm>.

²⁰ *Chronicle of Higher Education*, 1 December 2000.

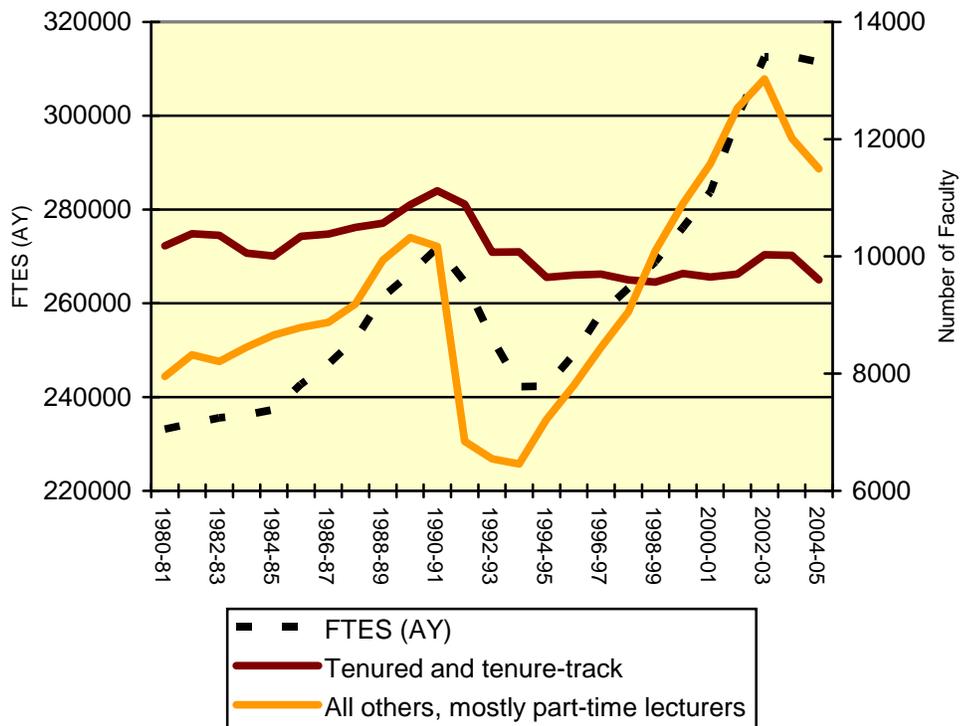
²¹ Data from Surveys by the Coalition on the Academic Workforce <http://www.theaha.org/caw/cawreport.htm>.

²² Graphs 7 and 8 are based on CSU Statistical Abstracts.

Graph 7. Changing Numbers of Tenured, Tenure-track, and Temporary Faculty, CSU, 1980-81 to 2004-2005



Graph 8. Changing Numbers of T/tt and Temporary Faculty, and Enrollments, CSU, 1980-81 to 2004-2005



Graph 8 suggests certain relationships. First, it suggests that the sharp increase in enrollments in the late 1980s produced increases in both t/t faculty and lecturers, but a sharper increase in lecturers. It also suggests that the increase in faculty was not commensurate to the increase in enrollments, a fact that is reflected in increases in the student-faculty ratio in the late 1980s. Second, it points to the sharp reduction in temporary faculty and a smaller reduction in t/t faculty between 1990-91 and 1991-92 as preceding, and likely playing the key causal factor in, the even sharper reduction in enrollment that followed the next year (fewer faculty means fewer classes which in turn means fewer students). Finally, it strongly suggests that the increase in enrollment since the nadir of 1994-95 has been accommodated almost entirely by the use of temporary faculty.

This relationship can be seen clearly in Table 3, which presents some of the data on which Graph 8 is based. This table indicates that, though enrollment has increased by 29%, there has been virtually no change in the number of t/t faculty (a decrease of about one-half %), and there has been an increase of more than 59% in the number of temporary faculty. For this table, the coefficient of correlation between FTES and the number of temporary faculty is +0.94. The coefficient of correlation between FTES and the number of t/t faculty is +0.48. A coefficient of 1.00 would indicate that, for every change in one variable, there is a similar and proportional change in the other. A coefficient of 0.00 would indicate that changes in the two variables are statistically unrelated. The coefficients of correlation for Table 3 suggest that increases in enrollments are much more highly correlated statistically to increases in the number of temporary faculty than they are to the increases in t/t faculty. (Updated 1/07)

Table 3. FTES, T/t Faculty, and Temporary Faculty, 1994-95 through 2004-05

Year	FTES (AY)		T/t Faculty		Temporary Faculty	
	N	Percentage of change	N	Percentage of change	N	Percentage of change
1994-95	240,642	-0.13%	9,643	-2.17%	7,219	11.84%
1995-96	247,408	2.81%	9,681	0.39%	7,791	7.92%
1996-97	256,654	3.74%	9,697	0.17%	8,445	8.39%
1997-98	262,016	2.09%	9,598	-1.02%	9,056	7.24%
1998-99	268,320	2.41%	9,558	-0.42%	10,099	11.52%
1999-00	275,383	2.63%	9,705	1.54%	10,896	7.89%
2000-01	282,752	2.68%	9,645	-0.62%	11,578	6.26%
2001-02	298,603	5.61%	9,697	-0.54%	12,529	8.21%
2002-03	311,393	4.28%	10,028	3.41%	13,029	3.99%
2003-04	311,467	0.02%	10,086	0.58%	12,018	-7.76%
2004-05	310,326	-0.37%	9,599	-4.83%	11,495	-4.35%
Change, 1994-95 to 2004-05	69,684	28.96%	-44	-0.46%	4,276	59.23%

* * *

It is difficult to determine the exact proportions of CSU faculty in each of the three categories of faculty (t/t, FERP, lecturer), because the CSU Statistical Abstract uses somewhat different categories in presenting data. The CSU data show the following patterns for Fall 2004 (the last for which data are available):

Full-time faculty, tenured	6,557	31.1%
Full-time faculty, tenure-track	3,042	14.4%
All other faculty	11,495	54.5%
Totals	21,094	100.0%

The CSU Statistical Abstracts do not provide data on the number of participants in the FERP program. However, other data provided by the Chancellor's office indicate that 944 faculty members entered the FERP program between the academic years 1996-97 and 1999-2000, equivalent to one out of every nine (about 11%) tenured faculty members in 1996-97. Another 1,698 faculty members entered the FERP program between 2000-01 and 2004-05, equivalent to another 18% of the tenured and t/t faculty on duty in 2004-05 (updated 1/07).

One out of every nine (11%) tenured members in 1996-97 had entered the FERP program by 1999-2000. Another 18% entered the program between 2000 and 2005.

At the same time that fewer and fewer t/t faculty were taking on more and more of the time-consuming responsibility for advising and committee work, merit pay came to the CSU. The implementation of merit pay has sharply increased the perceptions of the importance of an individual faculty member's scholarly work and ability to attract outside funding, as these categories of performance seem on many campuses to be the key variables in determining the award of merit pay (sometimes the only way to receive a cost-of-living salary increase). And, at the same time, the student-faculty ratio (Graphs 2 and 3) also increased sharply and has remained at what seems now to be a permanently higher plateau. Thus, CSU tenured faculty members have more advisees, more committee assignments, more students in the classroom, more pressure to publish or seek outside funding. There is no data demonstrating that these circumstances have led CSU tenured faculty members to opt for FERP or full retirement, but they are taking those steps in increasing numbers (updated 1/07):

Year	FERPs	Other Retirements	Total
1996-1997	182	187	369
1997-1998	311	193	504
1998-1999	119	167 ²³	286
1999-2000	332	305 ²⁴	637
2000-2001	470	225	695
2001-2002	261	156	417
2002-2003	357	138	495
2003-2004	270	432	702
2004-2005	340	97	437

Source: Office of Human Resources, CSU Chancellor's Office. "CSU Tenure Track Faculty Retirement and FERP Head Counts Since 1996-97 (September 1-August 31)". February 2006.
 URL: http://www.calstate.edu/HR/FacSumRep05_Separations.pdf

If a FERPing or retiring tenured faculty member is replaced by a new tenure-track faculty member, that newly hired person is unable to serve on personnel committees until he/she acquires tenure and is unlikely at first to be able to take a full role in some other departmental activities. Because of constraints on hiring in the early 1990s, there are

²³ SB 400 provided improved benefits to those who wanted to retire, thus producing an artificially low number in 1998-99, and a correspondingly higher number in 1999-2000

²⁴ Data on retirements and FERPS from the CSU Chancellor's Office.

relatively fewer tenure-track faculty "in the pipeline" who are about to become eligible for tenure. Thus, the more who retire, the greater the burden on those tenured faculty members who remain.

Table 4 summarizes data on separations and hiring of t/tt faculty members.²⁵ The data indicate that, since 1988, fewer t/tt faculty members have been appointed than have left the CSU. Table 4 points to the impact of the state's fiscal crisis of the early 1990s on the number of separations in the early 1990s and the small number of new hires at that time, but it also indicates that separations and hiring were nonetheless roughly equal for the years 1988-89 through 1994-95. Table 4 also indicates that a serious imbalance between separations and hiring has developed *since* the fiscal crisis.

The Academic Senate CSU notes the recent appointment of a Faculty Flow Committee charged with surveying patterns of separation and recruitment and developing recommendations regarding hiring practices. The Senate also notes the need for an immediate increase in the hiring of tenure-track faculty members—to replace those who

The Academic Senate CSU urges that the success of a campus in increasing the number and proportion of t/tt faculty members be a major factor in the evaluation of campus presidents.

were not replaced during the retirements of the early 1990s, to replace those now retiring and soon to retire, and to expand the faculty in preparation for the increased enrollments of the coming decade. Hiring a tenure-track faculty member is very time intensive. The Academic Senate CSU strongly urges campus administrators and departmental personnel committees to devise long-term hiring plans if they have not already done so. The Academic Senate CSU also urges that the success of a campus in increasing the number and proportion

of t/tt faculty members be a major factor in the evaluation of campus presidents. To move in this direction, however, has a financial implication—t/tt faculty members are more expensive than lecturers, and this cost cannot come entirely from the conversion of existing positions.

²⁵ Table 4 based on data provided by the CSU Chancellor's Office.

Table 4. Separations and Hiring of T/TT Faculty Members, 1988-2005

Year	Number of T/TT Faculty Leaving the CSU for all Causes	Total Appointments of New T/TT Faculty Members
1988	211	634
1989	457	700
1990	627	736
1991	1,084	526
1992	180	237
1993	477	184
1994	303	371
<i>Sub-totals, 1988-1994</i>	<i>3,339</i>	<i>3,388</i>
1995	425	367
1996	513	401
1997	639	388
1998	429	543
1999	795	616
<i>Sub-totals, 1995-1999</i>	<i>2,801</i>	<i>2,315</i>
2000	883	704
2001	600	845
2002	685	950
2003	898	817
2004	668	393
2005		720
<i>Sub-totals 2000 – 2005</i>	<i>3,734</i>	<i>4,429</i>
<i>Totals, 1988-2005</i>	<i>9,874</i>	<i>10,132</i>

Sources: Data from 2000-2004 from CSU, Office of the Chancellor, Human Resources, "The CSU Faculty Recruitment Survey: A Look Back from 1988-2003." August 2004. Also ---, "2004 Report on Faculty Recruitment Survey," March 2005. Same document for 2005, February 2006, pp.5-6; Faculty Summary Report, Separations, February 2006.

- **Faculty Professional Development: Improving Pedagogy** Effective teaching is a central feature of the CSU mission. A recent survey of CSU students indicates that they consider the quality of instruction to be the most important priority for their education, and that they ranked faculty members' ability to communicate the subject matter and their enthusiasm for teaching as the 3rd and 4th most important priorities, following the availability of necessary classes.²⁶

Effective teaching requires expertise and currency in one's discipline. For a new faculty member, fresh out of graduate school, expertise in one's discipline is typically demonstrated by a terminal degree. For more senior faculty members, expertise in one's discipline is typically demonstrated by an on-going engagement with the discipline both through keeping current with the new work in the field and by active contribution to the field through research, creative work, or other scholarship. These ways of demonstrating expertise in one's discipline may provide sufficient preparation to be an effective teacher, especially if

Effective teaching **requires** expertise and currency in one's discipline, but expertise in one's discipline **alone** may not provide sufficient preparation for effective teaching.

²⁶ Student Needs and Priorities Survey, 1999; summary at <http://www.calstate.edu/AS/snaps/>.

the process of earning a terminal degree includes role models of effective teaching and if the senior faculty member maintains currency with new scholarship on teaching and learning and with new technologies.

But expertise in one's discipline may not provide sufficient preparation for effective teaching. Some graduate programs provide some instruction for those who plan careers in teaching. For new faculty members who feel less than fully prepared when facing a class and for experienced faculty members who wish to become more effective in the classroom, the CSU seeks to provide assistance in the development of pedagogical skills and methods. Some of these efforts take place in individual departments, especially through the personnel review process, as department committees and chairs review and evaluate the effectiveness of faculty members' teaching and seek to provide peer mentoring for those who fall below departmental standards. In addition, there are systemwide and campus-based units that can provide assistance. The CSU Institute for Teaching and Learning is a systemwide unit devoted to improving teaching and learning. CSU campuses have established their own centers as well, under such names as Faculty Teaching and Learning Center, Center for the Enhancement of Teaching, Center for Excellence in Teaching and Learning, or Teaching Resource Center. These centers can assist faculty members to improve the full range of their teaching, from classroom presentations to the mastery of new technologies. However, faculty members on many campuses feel the need for more technical assistance than is currently available in mastering new technologies. One notes, "if I were working in industry I would have many briefs and constant development seminars to increase my performance and efficient use of the new technology. I feel overwhelmed with all the new material that I have to learn by myself".

Similarly, CSU's new emphasis on service learning requires more attention to faculty development than it has received to date.

Pedagogy in the CSU has become more sophisticated and complex for a number of reasons:

1. The growth of technology-mediated instruction, including but not limited to distance learning, presents a significant task for faculty if the desired result is to be technology-mediated education of high quality.
2. Many new programs are interdisciplinary or cross-disciplinary in nature, requiring significant amounts of time for both collaboration with colleagues in other disciplines and study of the implications for teaching of such interdisciplinary or cross-disciplinary approaches.
3. Expanded opportunities such as joint doctoral degrees and intensive mentoring of new faculty require additional training for, expertise of, and time from experienced faculty members.
4. The shift from input/teaching centered pedagogies to output/learning pedagogies can require enormous time commitments and training to facilitate rethinking and retooling of pedagogical approaches and strategies.
5. Recently expanded assessment and accountability measures require time for the faculty to develop the expertise necessary to understand the requirements, methods, analytic approaches, and reporting strategies that are necessary to meet these new demands, as well as time simply to carry out the new tasks.

- ***Faculty Professional Development: Maintaining Currency through Research, Creative Activity, and Scholarship*** The term "professional development" has sometimes been used just to describe improving pedagogy or learning new technologies. However, in this discussion "professional development" also includes currency in and active engagement with one's field, as demonstrated through research, creative activity, and scholarly work. CSU students expect to learn from faculty current in their disciplines; thus, ongoing professional development for the faculty is central to the effective teaching that is at the heart of the CSU mission. Research, scholarship, and creative activity contribute to building an education of high quality through their roles in developing an intellectually engaged and productive faculty. Appropriately, currency in and active engagement with one's field, as demonstrated through research, creative activity, and scholarly work, are required for retention, tenure, and promotion, and are a part of the process of the review of tenured faculty. Since temporary faculty members (lecturers) typically fulfill the bulk of their workload through direct instruction, and since many of them teach in the CSU for many years, professional development programs should also meet the needs of temporary faculty.

Current CSU-funded opportunities for professional development to maintain currency in and actively engage with one's field include:

1. funds for travel to professional meetings (to deliver papers, to hear papers by others in the field, to participate in the life of one's discipline),
2. funds for research equipment purchases, travel costs, student research assistants,
3. assigned time, and
4. leaves with pay (sabbaticals, which provide full pay for one semester or half-pay for two semesters; and difference-in-pay leaves, which provide the difference between the faculty member's salary and that of an entry-level lecturer, for either one or two semesters).

A small number of other opportunities for professional development not funded by the CSU are also available (e.g., fellowships from foundations or the National Endowment for the Humanities (NEH) or similar agencies). The Academic Senate CSU strongly endorses all these existing opportunities for professional development, but is concerned that their availability is significantly less than is necessary. However, the attractiveness of NEH or similar fellowships, or of such programs as the Fulbright lecturer program, is dependent upon the ability of the campus to supplement the fellowship, as few such programs provide anything near a professor's salary. Thus the difference-in-pay leave is a necessary complement to most fellowship programs. For senior faculty, as well, a year-long difference-in-pay leave is often more financially attractive than a two-semester, half-pay leave and more professionally attractive than a one-semester, full-pay leave. It should be noted, as well, that the difference-in-pay leave comes at no significant financial cost to the university. The Academic Senate CSU strongly endorses the continuation of the current difference-in-pay leave program.

A number of institutional factors inhibit professional development. One is inadequate institutional funding for attending professional meetings, equipment, student research assistants, assigned time, and leaves with pay. A second is the present CSU workload formula, which allocates 80% of a t/t faculty member's time to teaching, 20% to

Several institutional factors inhibit professional development.

advising and committee work, and none to research, scholarly activity, or creative work. Some CSU campuses and departments have redefined the workload of t/t faculty to specify a proportion of a faculty member's assignment for research, scholarly activity, or creative work, (e.g., 60% for teaching, 20% for advising and committee work, and 20% for scholarly activity). The Academic Senate CSU strongly endorses this move to redefine the faculty workload in such a way as to provide time for this type of professional development, and to require research, scholarly activity, or creative work explicitly as part of the workload. Campuses face significant fiscal constraints however, in trying to accomplish these goals. It is clear that a significant funding increase is required to implement these goals systemwide.

- ***Recruiting and Retaining a Diverse Faculty*** The CSU has a strong commitment to hiring and retaining a diverse faculty. Over the past fifteen years, despite an overall decrease in the number of faculty members, the CSU has increased the number and proportion of female faculty members and the number and proportion of ethnic minority faculty members, as indicated by Table 5.

This success in recruiting and retaining diverse faculty results from departmental faculty search committees' diligent attention to broadened advertisement of openings and other methods of increasing diversity in applicant pools as well as committees' commitment to develop a diverse faculty. Considerable room remains for improvement if the system wishes to expand its current degree of diversity over the next decade. In order to attract ethnic minority and female faculty members, who are in high demand at universities nationwide, it will be necessary for the CSU to attend to issues of comparable salaries, the burden of a teaching load that is 25% higher than at comparable universities, and costs of living exceeding those in most other parts of the nation. These burdens are particularly acute for junior faculty and will need to be addressed before CSU campuses can be truly competitive in attracting the best women and ethnic minority faculty members.

To continue to attract ethnic minority and female faculty members, CSU must attend to issues of comparable salaries, the burden of a teaching load that is 25% higher than at comparable universities, and costs of living exceeding those in most other parts of the nation.

Table 5. Ethnic Minority Status and Gender of CSU Faculty, 1984-85 through 2004-05

Academic Year	Number of Faculty Members		Percentage of Ethnic Minority Faculty Members		Percentage of Women Faculty Members	
	All Faculty	Full-time Faculty	All Faculty	Full-time Faculty	All Faculty	Full-time Faculty
2004-05	21,094	11,069	23.6%	25.4%	45.9%	41.0%
2003-04	22,034	11,674	24.4	25.6	45.5	40.7
2002-03	23,057	11,782	24.1	24.7	44.9	39.4
2001-02	22,226	11,379	23.8	24.0	44.1	38.9
2000-01	21,223	11,089	23.1	23.4	43.6	37.9
1999-00	20,601	10,936	22.4	22.6	43.0	36.2
1998-99	19,657	10,641	21.6	22.2	41.9	34.9
1997-98	18,654	10,581	21.0	21.5	40.9	33.6
1996-97	18,142	10,625	20.7	21.1	40.1	32.6
1995-96	17,472	10,503	20.6	20.7	38.9	31.7
1994-95	16,862	10,459	19.5	20.1	38.0	30.9
1993-94	16,531	10,766	19.4	19.6	36.7	30.2
1992-93	16,615	10,858	18.7	19.4	36.1	29.6
1991-92	17,732	11,820	17.8	18.6	35.0	28.8
1990-91	21,290	12,456	17.5	17.4	35.6	28.2
1989-90	21,202	12,230	16.5	16.0	34.6	26.9
1988-89	20,503	11,908	15.8	15.2	33.6	25.9
1987-88	19,686	11,731	15.4	14.2	32.3	24.8
1986-87	19,252	11,673	15.0	14.0	31.4	25.3
1985-86	19,131	11,721	14.5	13.5	30.7	24.9
1984-85	18,663	11,389	14.5	13.7	29.8	24.6

SOURCE: Tables 159, 164, CSU Statistical Abstract, http://www.calstate.edu/tier3/as/stat_abstract/stat9899/pdf/7a_243-256.pdf
 SOURCE for update: Tables 164, 169, 173, CSU Statistical Abstract to July 2004.

Other factors constrain successful recruiting in particular fields. For example, the pool of ethnic minority and female applicants who hold a terminal degree in the sciences or engineering is very small. Although making faculty salaries competitive (and addressing relocation and cost-of-housing issues) has to occur if the CSU is to replace our retiring senior faculty colleagues with talented, dedicated new hires, even competitive salaries and housing subsidies cannot change the lack of diversity in the hiring pool.

The CSU has also set in place two mechanisms for increasing the diversity of the pool of those with doctorates. First, the California Pre-Doctoral Program focuses on preparing promising undergraduates for doctoral study. Second, the CSU Forgivable Loan Program

The CSU has created programs for increasing the diversity of the pool of those with doctorates.

provides financial assistance (in the form of a loan to complete doctoral study) to CSU graduates whose ethnicity or gender group is underrepresented in their disciplines and links each recipient of financial assistance to a CSU faculty mentor. The recipients may have a percentage of their educational loan forgiven for each year that they are employed by the CSU post-graduation. Sixty percent of these doctoral recipients have returned to the CSU as faculty members.

The recent CSU commitment to funding health care benefits for domestic partners will aid in recruitment of talented individuals. Continuing development of facilities to accommodate people with disabilities should also enhance our ability to attract high-level candidates.

The faculty has a continuing commitment to diversifying the curriculum, including infusion of courses on ethnic diversity into the general education program, as well as enhancement of international studies, women's studies, and ethnic studies programs. Some CSU faculty members are also in the forefront in defining the emerging field of disability studies. These factors may help to attract the kinds of candidates whom the CSU hopes to hire in the 21st century.

Relations Between and Among Systems: CSU and K-12 Education Effective in Fall 2003, the UC and the CSU will have a common set of preparatory course admission requirements: four years of English, three years of mathematics (algebra I and II and geometry), two years of social science, two years of laboratory science, two years of foreign language, one year of visual or performing arts, and one year of designated electives. With this set of common course requirements in place, public schools can better align their course offerings with the needs of all their college-bound students and simplify their counseling of students.

In addition, the experience of the CSU in attempting to reduce the need for extensive remediation of entering students points to additional ways of better aligning the public school curriculum with the needs of students when they enter higher education. Secondary school students should be encouraged to take a full load of academic courses during all four years of high school, so that all their conceptual and analytical abilities remain sharply honed when they enter the CSU. These students should be encouraged to take mathematics during their senior year so as to keep their mathematics skills fresh and to enable them to do college-level mathematics upon entrance to the university.

The public schools should also reassess their course offerings to see if they have the resources available to offer both more and a wider variety of Advanced Placement (AP) courses so that academically prepared students can take college-level coursework during high school. All students who enroll in AP coursework should be required to take the coinciding AP exam.

The public schools and the universities should also examine the relationship between the curricular content of the Scholastic Achievement Test (SAT), the CSU's Entry Level Mathematics placement examination (ELM), English Placement Test (EPT), and UC's Subject A Exam, on the one hand, and the English and mathematics courses offered in the high schools on the other. Some preliminary discussions have taken place about the advisability of having high school juniors take progress tests in English and mathematics to determine if they are working toward the levels of accomplishment that would permit them to enter CSU without having to take remedial coursework and, if not, of prescribing appropriate courses to be taken during their senior years. This approach seems to hold some promise. The CSU and the UC should also work cooperatively to assist the public schools in their college counseling programs to direct students toward the appropriate systems based on their academic qualifications and interests.

Relations Between and Among Systems: CSU, UC, and the Community Colleges Several agencies currently link the three systems of higher education. In addition to the California Postsecondary Education Commission (CPEC), which regularly recommends to the legislature regarding the three systems, there are several agencies that bring together those in corresponding positions in the three systems. The California Education Round Table is a voluntary association

of the heads of the systems (or segments) of education in California; it includes the State Superintendent of Public Instruction, the President of the University of California, the Chancellor of the California State University, the Chancellor of the California Community Colleges, the President of the Association of Independent Colleges and Universities, and the Executive Director of the California Postsecondary Education Commission. The Intersegmental Coordinating Committee (ICC) is the operating arm of the California Education Round Table, composed of staff, faculty, and student representatives from all segments of education. The Intersegmental Committee of the Academic Senates (ICAS) brings together the elected Academic Senate leaders of the three higher-education segments, and a similar organization exists for student governments.

The Master Plan specifies that community college transfer students have priority in enrolling at CSU and UC campuses. The Master Plan specifies that at least 60% of undergraduate enrollment should be at the upper-division level, underscoring the significant role anticipated for community colleges in education at the baccalaureate level. In the CSU, transfer students make up 50-60% of all newly entering students, as indicated in Graph 9; a significant proportion of the "other" transfer students (those who transfer from other CSU campuses, UC campuses, or elsewhere) also transfer credits from community colleges. In recent years, transfer students have comprised 27-33% of new UC students, of whom 80-86% are transfers from community colleges.²⁷ The CSU enrolls some 70% of all community college students who transfer to a baccalaureate-granting institution.

The CSU has long sought to facilitate the transfer of community college students.

Only a small proportion of community college students transfer to either CSU or UC, as can be seen in Graph 10.²⁸ The reasons for this have to do in major part with the significant portion of community college students who are enrolled in vocational or personal enrichment courses rather than in courses that prepare them for transfer to a four-year institution. Given its role as the state's major recipient of transfer students, the CSU has long been concerned with facilitating the transfer of community college students. The Intersegmental General Education Transfer Curriculum (IGETC) is a general education program that California community college transfer students can use to fulfill lower-division general education requirements at any CSU or UC campus. This curriculum provides an alternative to any CSU campus's general education requirements or to any UC campus's GE/Breadth requirements. Another program, the CSU General Education-Breadth (GE-Breadth) program, is intended for community college students who know that they wish to transfer to a CSU campus; it allows transfer students to fulfill lower-division CSU general education requirements prior to transfer and provides an alternative to both the IGETC requirements and to a specific campus's general education requirements. The CSU and the Community Colleges have worked together at the level of system administrations and system Academic Senates to address issues involving transfer between the two systems.

The Intersegmental Major Preparation Articulated Curriculum (IMPAC) project originated in ICAS. IMPAC is a unique faculty project designed to assist the student transfer process from the community colleges to the UC and CSU systems for the baccalaureate degree. In June 2000, the Chancellor of the Community College system awarded a \$2.75 million grant to fund the work of IMPAC. The grant funds a five-year process to develop an infrastructure for faculty from the three higher education systems to meet regionally at regular intervals. The purpose is to discuss

²⁷ For UC data and Graph 9, see Tables 52 and 53, CSU Statistical Abstracts.

²⁸ Graph 10 is based on CPEC data, <http://www.cpec.ca.gov/>.

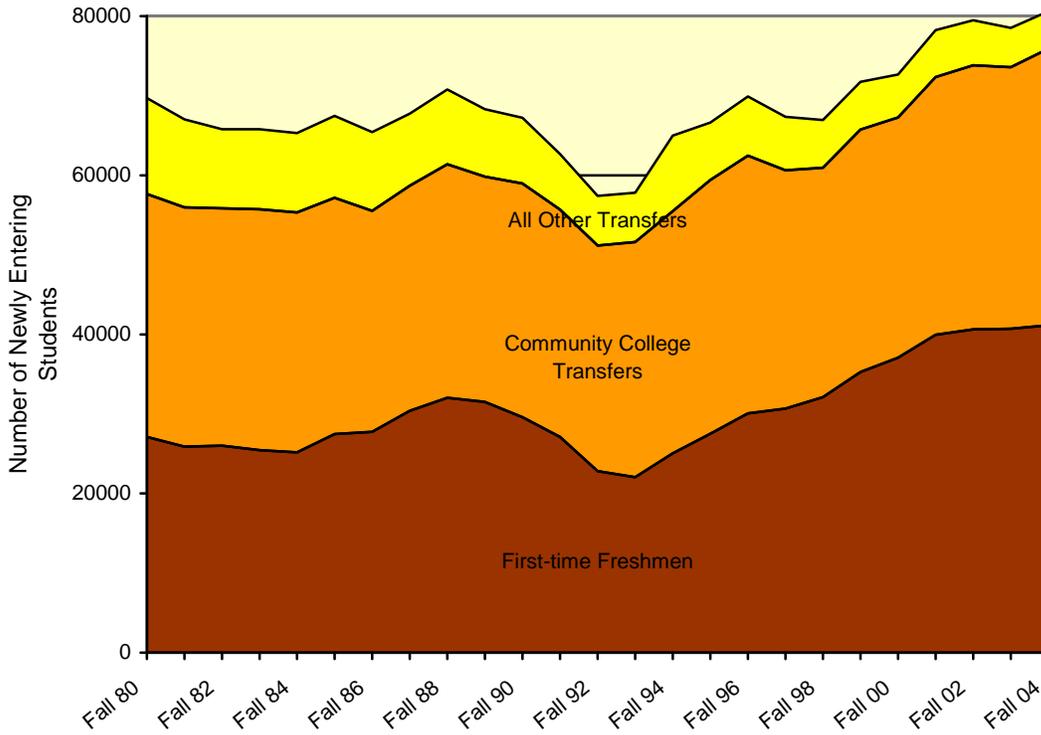
issues, concerns, and problems that inhibit the transfer process for students between the community college and the UC and CSU systems. Specifically, the grant funds faculty

Programs to facilitate transfer:

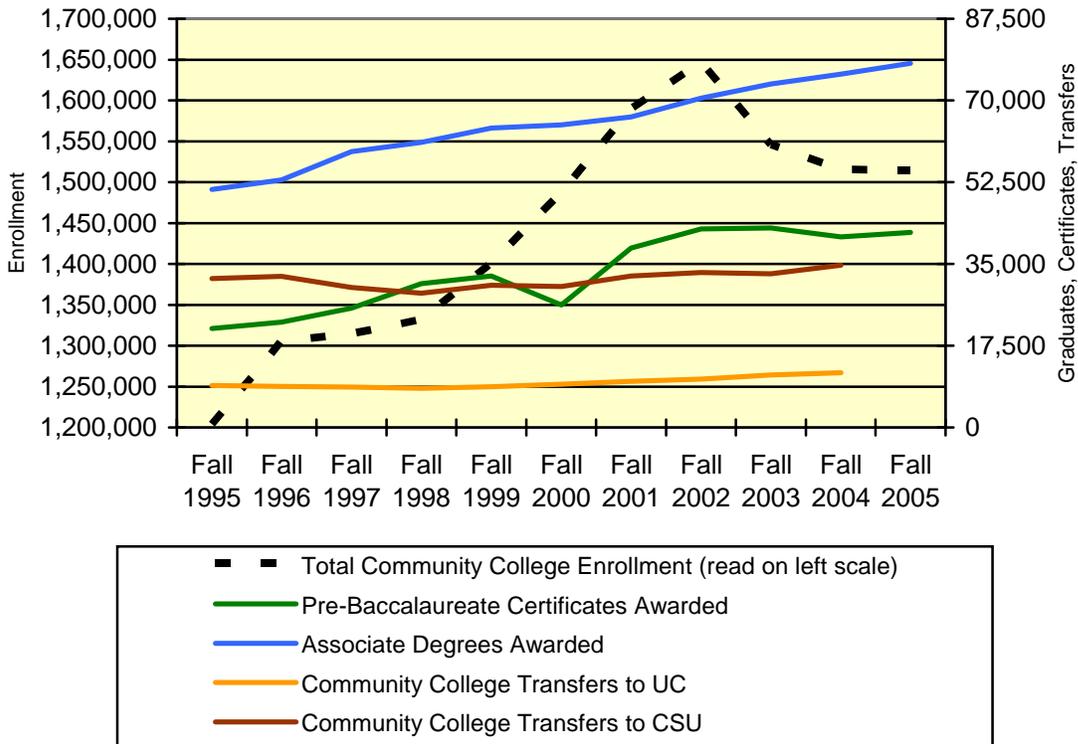
- IMPAC
- ASSIST
- IGETC
- CAN
- Transfer Centers
- Core Alignment

disciplinary and interdisciplinary dialogues that address prerequisite and lower-division courses students must complete prior to transfer to either the CSU or UC systems. IMPAC is expected to continue as long as articulation is needed among the higher education systems and to work with California Articulation Number System (CAN), Articulation System Stimulating Inter-institutional Student Transfer (ASSIST), and the community college counselors. The primary purpose of the meetings is to review, revise, and update prerequisite and lower-division course requirements for the major.

Graph 9. New Undergraduate Student Enrollment in CSU by Source, Fall Semesters, 1980-2004



Graph 10. Community College Enrollments, Degrees, Certificates, and Transfers, 1995 through 2005



The goals of IMPAC include:

- developing intersegmental consensus on the required elements to be included in the lower division preparation for the major disciplines,
- working with existing institutions and programs to expedite transfer, including CAN, IGETC, ASSIST, the CSU Regional Core Alignment Projects, and the Transfer Centers in the Community Colleges,
- increasing the ease of transfer between system campuses and among the three higher education systems, and
- decreasing the time to degree for students.

It is evident that these goals can be accomplished only through faculty dialogues and by faculty working with the institutions and programs that affect the transfer process.

The IMPAC project will run for five years to create an effective infrastructure within and between academic disciplines. Each year additional disciplines will be added until all academic programs are included. The current (mid-2001) plans for disciplinary involvement are:

2000: mathematics and the sciences: biology, chemistry, physics;

2001: agriculture, computer science, earth sciences, home economics/nutrition, and nursing;

2002: Computer Information Systems (CIS), criminal justice, business, economics, and political science;

2003: anthropology, geography, history, psychology, and sociology;

2004: English, English as a second language (ESL), foreign languages, communications/speech, and journalism;

2005: art/fashion design, theater arts, humanities, music, and philosophy.

It is anticipated that the IMPAC project will become a permanent part of ICAS after the grant ends.

Graph 10 suggests that community college enrollments, degrees, and pre-baccalaureate certificates have all increased since 1995, but that the number of transfers to both CSU and UC has remained relatively static or even fallen slightly. The reasons for this are far from clear. Some blame both four-year systems for their transfer procedures. Some blame the community colleges for not providing adequate guidance to their students about transfer. However, there is a hopeful sign in the graph—the number of pre-baccalaureate certificates has increased steadily, suggesting that the transfers who come to CSU and UC are likely to have completed their lower-division general education requirements. If more students have been staying in community college to complete more of their lower-division requirements, it stands to reason that in the short-run there have been fewer transfers and that, in the long-run, transfers will be better prepared to take upper-division courses. Only by watching transfer data over the next few years will it be possible to determine if, in fact, the decline in transfers does reflect efforts by students to complete more of their courses before transferring.

4. MEETING THE NEEDS OF THE PEOPLE OF CALIFORNIA

The coming decade brings serious challenges for the CSU—dramatic increases in enrollment, a crisis of physical infrastructure resulting from both delayed maintenance and increased numbers of students, and a crisis in faculty hiring resulting from a very high number of projected retirements coupled with the increase in enrollments. These challenges come at a time when California confronts a need for increased educational opportunities in a variety of specialized and often technologically intensive fields. However, current funding formulae underestimate the cost of enrolling additional students and perpetuate a student-faculty ratio that was the product of fiscal crisis rather than reasoned planning. As a consequence, the CSU faces the prospect that growth may drive down the quality of education.

Enrollment Projections: Many More Students The most reliable current projections for enrollment in the CSU during the first decade of the 21st century are those contained in *PROVIDING FOR PROGRESS: California Higher Education Enrollment Demand and Resources into the 21st Century*, a report of the California Postsecondary Education Commission in February 2000. That report states, with regard to the CSU:

The Commission's present Baseline Forecast reveals that total CSU student demand is expected to increase by 37 percent to 479,485 students by 2010 (Display 3-22). The Commission expects undergraduate demand for the State University to increase by about 42 percent over the next 12 years to 395,544 students, indicating a need for the CSU to accommodate 116,947 additional undergraduates by Fall 2010 (Display 3-23).²⁹

Between 1999 and 2010, total CSU student demand is expected to increase by 37 percent, to 479,485 students.
-CPEC

CSU student enrollment has been climbing steadily since the mid-1990s, on some campuses more than others. If CPEC projections are accurate, the CSU will need to enroll 100,000 additional students between Fall 2000 and Fall 2010, from 368,469 students in Fall 2000 to 479,485 by the year 2010. In fact, actual CSU enrollments are slightly ahead of CPEC projections—the report projected a total CSU enrollment in Fall 2000 of 365,505, nearly 1% below the actual enrollment. In Fall 2000, the 368,469 students accounted for 287,021 FTES. If that proportion holds constant, 479,485 students in 2010 will generate 368,469 FTES, an increase of 28%.

The Crisis of Physical Infrastructure Plans are underway to accommodate some of the additional enrollment by using the summer as an extension of the academic year and by offering classes on weekends. The draft capital outlay budget presented to the Board of Trustees in July 2000 also includes projections over the next five years for construction to expand capacity by more than 22,000 additional FTES and 1,300 additional FTE faculty members.

Given *current* student-faculty ratios, an increase of some 111,000 students (and more than 81,000 FTES) should be accompanied by an increase of 4,264 additional FTE faculty

Given *current* student-faculty ratios, an increase of some 111,000 students (and more than 81,000 FTES) should be accompanied by an increase of 4,264 additional FTE faculty members.

²⁹ P. 41.

members. Reducing the student-faculty ratio to 18:1 *for only the new students* would require 4,524 additional FTE faculty members. Although the combination of summer programs, weekend classes, and new construction may produce sufficient physical capacity for the increased number of classes, current building projects suggest a shortfall of as many as 3,200 faculty offices and related faculty laboratory, studio, or other required work space. If there is no additional construction of faculty facilities, the current crowding (see above) will become even more severe.

The Crisis of Faculty Hiring: Many More Students and Many More Retirements As the CSU confronts these burgeoning enrollments and this crisis of space, it will also face a crisis in faculty hiring, due to a combination of increased enrollments, the demographics of the current faculty, disincentives to take faculty positions in California in general and in the CSU in particular, and a failure to hire ahead of the demand curve.

The CSU hires t/tt faculty from a national pool, and therefore faces serious competition for new faculty members. The CSU faces serious constraints on its ability to recruit and retain a faculty of high quality during the coming decade because of:

- the serious and continuing lag of CSU salaries behind those of comparable institutions;
- the considerably higher teaching load in the CSU than in comparable institutions;
- excessive California housing costs;
- inadequate support for faculty professional development;
- crowded and technologically antiquated facilities; and
- noncompetitive benefits programs.

Between now and 2010, it is likely to be necessary to hire more than 8,000 new t/tt faculty members in the CSU:

- if 75% of the 4,264 new FTEF are to be t/tt faculty, this will require 3,198 new t/tt hires to maintain current student-faculty ratios in the face of increasing enrollments, and
- at least half of the current t/tt faculty will reach retirement age before 2010, likely requiring another 4,853 new t/tt hires.

These are minimal calculations. First, age data for the full-time faculty (Graph 11) are based on both t/tt and temporary faculty. Most observers believe that the t/tt faculty are, in fact, older on average than the temporary faculty, and thus it is likely that well over half will reach age 63 before the year 2010. Furthermore, if there is to be any significant change in the current ratio between t/tt faculty and temporary faculty, these numbers will have to be increased significantly. Thus, the number of t/tt faculty hires may well be as high as 10,000 or even 11,000. In Fall 2000, there were 9,705 t/tt faculty members in the CSU; thus, over the decade to come, it will be minimally necessary to hire a

Between Fall 2000 and Fall 2010, enrollment growth and faculty retirements will require that the CSU hire a number of t/tt faculty equal to more than 80% of the current t/tt faculty!

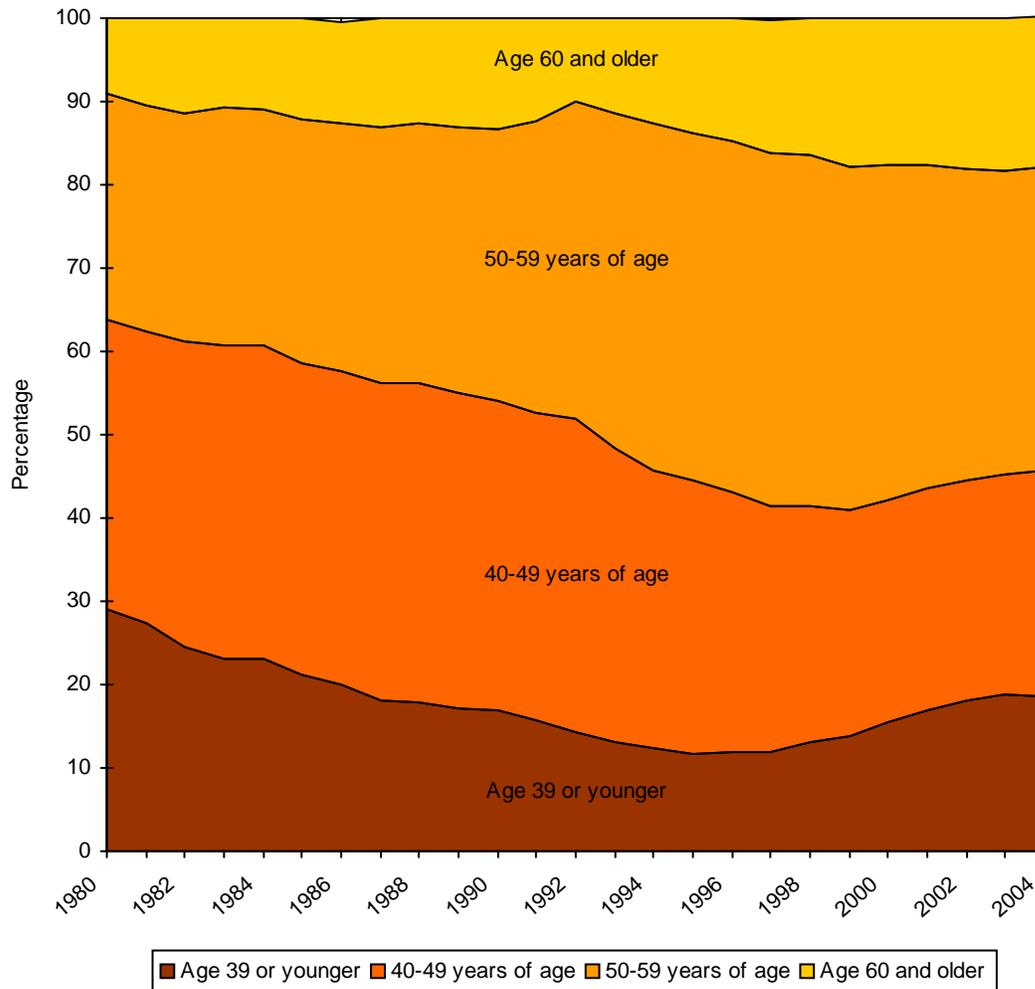
number of t/tt faculty equal to 83% of the current t/tt faculty! If there is to be any effort to reduce the student-faculty ratio or increase the proportion of t/tt faculty, it may be necessary to hire a number of t/tt faculty members equal to 110% of the current t/tt faculty! Furthermore, a number of CSU departments have recently lost newly hired faculty after only a year or two or three, as they have found better salaries, more support for faculty scholarship, and cheaper

housing (or subsidized housing) elsewhere, making it necessary to hire for the same position more than once.

Faculty members hired during the rapid expansion of the 1960s and early 1970s are now approaching retirement age, if they have not already retired or entered the FERP program. Almost 60% (59.1%) of the current CSU full-time faculty are over the age of 50. By 2005-06, at least 75% of the current tenure-track faculty will reach minimum eligibility to retire (50 years old with a minimum of five years of service). This graying of the CSU faculty can be seen in Graph 11.³⁰

³⁰ Graph 11 is based on Table 164, CSU Statistical Abstracts.

**Graph 11. The Graying of the Faculty:
Distribution of Full-time Faculty by Age, Fall Semesters, 1980-2004**



The CSU is now replacing some of the tenured faculty lost in the early 1990s or lost through recent retirements. No CSU campus has hired *in advance* of the anticipated increase of enrollments. Most institutions of higher education in the United States, due to the need to replace faculty hired during the enrollment growth of the 1960s and 1970s and to constraints on hiring in the early 1990s due to financial exigencies, are in a similar position: they have aging faculties and have embarked on hiring at an increased level. This situation creates a greater competition for the most talented new faculty and a noticeable increase in the senior faculty's workload (tenure-track hiring is very time-intensive) at the very time they have become eligible for retirement. Table 6 indicates the experience of the CSU in separations, searches, and hiring over the past five academic years.

By 2005-06, at least 75% of the current CSU tenured faculty will reach minimum eligibility to retire.

Efforts to hire new t/tt faculty come at a time of increased competition from other institutions, a less competitive CSU salary structure than in the past (Graphs 12 and 13), and housing costs that have skyrocketed, creating a severe crisis in affordable housing. A survey of recently hired faculty and staff at one Bay Area campus revealed that an astounding 82% had considered relocating due to the high cost of housing. There are other disincentives as well:

- health care coverage begins one month after hiring rather than immediately,
- family leave provisions are not competitive with those available at comparable institutions,
- deferred maintenance and failure to expand the physical plant have often produced a crowded and deteriorating environment (on some campuses today, as many as four faculty members share a single office), and
- a teaching load that is significantly higher than that at similar institutions.

Table 6. Separations, Searches, and Hiring of t/tt Faculty Members, 1995-96 through 2004-05

Year	Number of T/tt Faculty Retiring Each Year	Number of T/tt Faculty Resigning Each Year	Number of Searches	Total Appointments of New T/tt Faculty Members	Success Rate for Searches
1995-96	263	126	486	367	75.5%
1996-97	369	127	506	401	79.2%
1997-98	504	120	511	388	75.9%
1998-99	286	156	759	543	71.5%
1999-00	637	141	889	616	69.3%
2000-01	695	160	937	704	75.1%
2001-02	417	183	1,142	845	74.0%
2002-03	495	181	1,291	950	73.6%
2003-04	702	153	1,285	817	63.6%
2004-05	437	235	717	393	54.8%
Totals	4,805	1,582	8,523	6,024	70.7%

Note: NA = Not Available.

Source: "CSU Report on Faculty Recruitment Survey," 1998 and 1999.
 Updated 8-05, CSU "Report of Faculty Recruitment Survey, March 2005." <http://www.calstate.edu/HR/apindex.shtml>.
 Source of retirement data is: "The CSU Faculty Recruitment Survey: A Look Back from 1988-2003," August 2004.

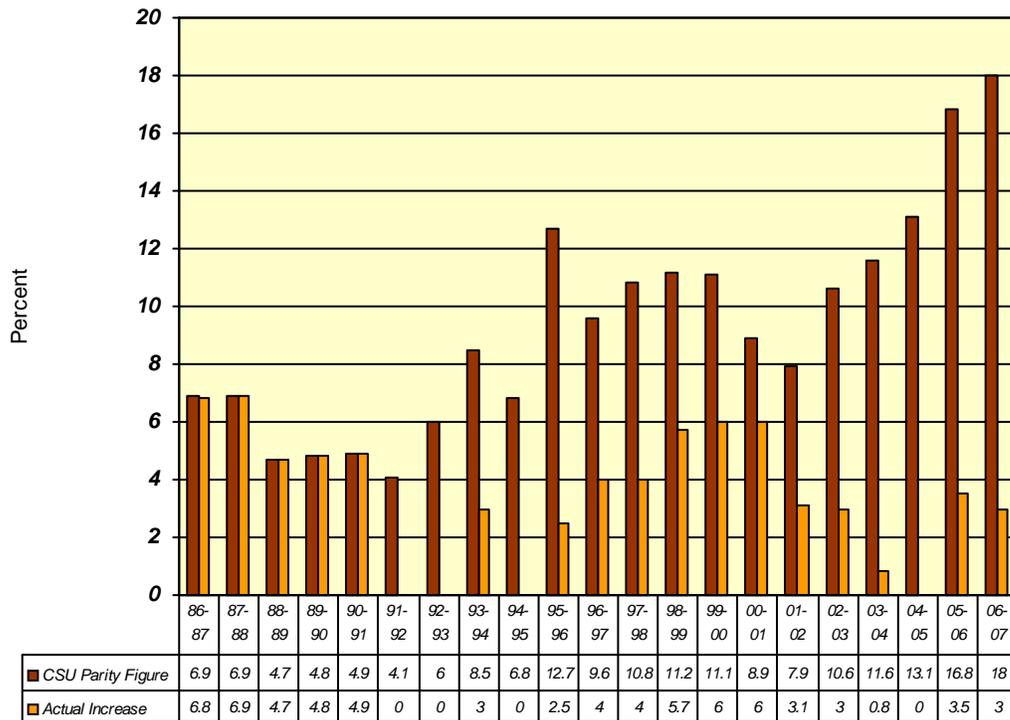
As a consequence, departmental hiring committees must sometimes go beyond the top two or three candidates, sometimes down into the top ten candidates. In nearly a third of all searches in 1999-2000, it was not possible to hire at all. This directly increases the time and workload related to a search. One estimate of the combined department faculty time required to produce one successful hire was 394 hours; another department estimated that it spent a total of 820 faculty-hours for each of two searches, only one of which was successful. Projections of the total faculty workload that will be required just to hire the necessary new faculty are staggering—perhaps 5% of the workweek for every tenured faculty member for the foreseeable future.³¹

The failure of the CSU to provide salaries competitive with comparison institutions is especially striking. Throughout the 1990s, CSU salaries have lagged well behind those of comparison institutions, as indicated in Graph 12.³² From the mid-1980s through 1990-91, the legislature approved a CSU faculty salary increase roughly equivalent to the CPEC-calculated "parity

³¹ Based on 500 hours per t/tt faculty member per search. 500 hrs. x 8,500 new hires = 4,250,000 hours. 4,250,000 hours ÷ 9 years = 472,222 per year. 472,222 per year ÷ 8,200 tenured faculty members = 58 hours per tenured faculty member per year. An academic year typically consists of two semesters each of 15 weeks x 40 hours per week = 1,200 hours per academic year. 58 hours = 4.8 % of 1,200 hours. Of course, the work is not evenly distributed over the semester; in some weeks, members of hiring committees may be called upon to spend 16-20 hours just on hiring.

³² The data for Graph 12 come from CPEC's Higher Education Update, Faculty Salaries at California's Public Universities, Display 2, <http://www.cpec.ca.gov/HigherEdUpdates/Update2000/UP00-1.ASP>. The projection for 2001-02 is based on the legislature voting a 2% increase for 2000-01. If the legislature does not approve that amount, the 2001-02 figure will undoubtedly have to be adjusted upward.

Graph 12. CPEC Parity Figures and Actual CSU Salary Increases, 1986-87 through 2006-07



figure", i.e., the amount CPEC determines is necessary to keep California's higher education salaries in line with those at a set of comparison institutions. Then, from 1991-92 through 1995-

Note: For 2006-07, it is assumed the faculty pay raise will be the 3% in the 2006-07 budget.

96, there were three fiscal years with no increase and two with very small increases. Since 1995-96, though UC faculty salaries have recovered to the point that there is little difference between the UC faculty and their comparison institutions, CSU faculty salaries have continued to lag far behind the CPEC parity figure particularly among senior faculty.³³

The result of this consistent refusal to fund the CPEC recommendation is that the average CSU faculty salary, in constant dollars, has declined significantly since the late 1980s, as can be seen in Graph 13.³⁴

Graph 14 presents data for the average salary for assistant professors, perhaps the data that are most relevant for the impact of salary on hiring.³⁵ Note that, as of 1999, the average salary for an assistant professor had still not recovered to the level of purchasing power that an average assistant professor's salary had in 1989-91. And these calculations are based on national data for purchasing power; they do not reflect the hyper-active California

The average faculty salary in the CSU today has *less* purchasing power than in 1986-91.

³³ It is also the case that the percentage approved by the legislature is not reflected in faculty paychecks. Between Fall 1997 and Fall 1998, for example, CSU data indicate that the average salary of full-time faculty members increased by 3.9% although the legislature voted an increase of 4%. Between Fall 1996 and Fall 1997, the average salary of full-time faculty members increased by 3.2% although the legislature voted an increase of 4%. See Table 161, CSU Statistical Abstracts.

³⁴ Graph 13 is based on Table 161, CSU Statistical Abstracts.

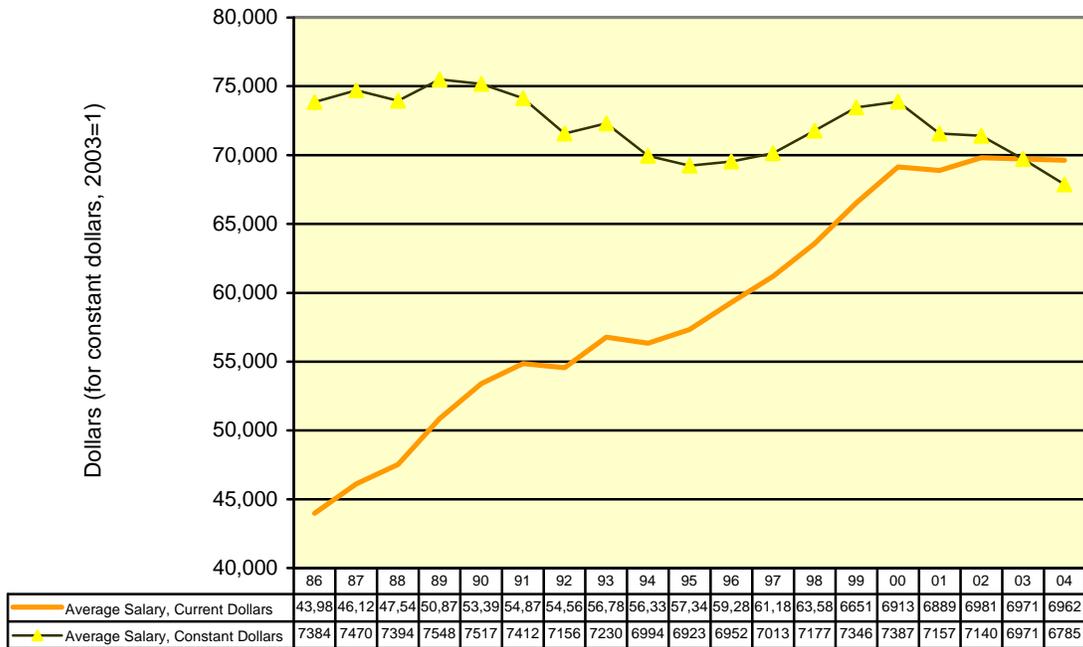
³⁵ Graph 14 is based on Table 161, CSU Statistical Abstracts.

housing market of the past few years. Until the recession of the early 1990s, CSU salaries were among the best in the nation for similar institutions—usually in the top 95th percentile of the

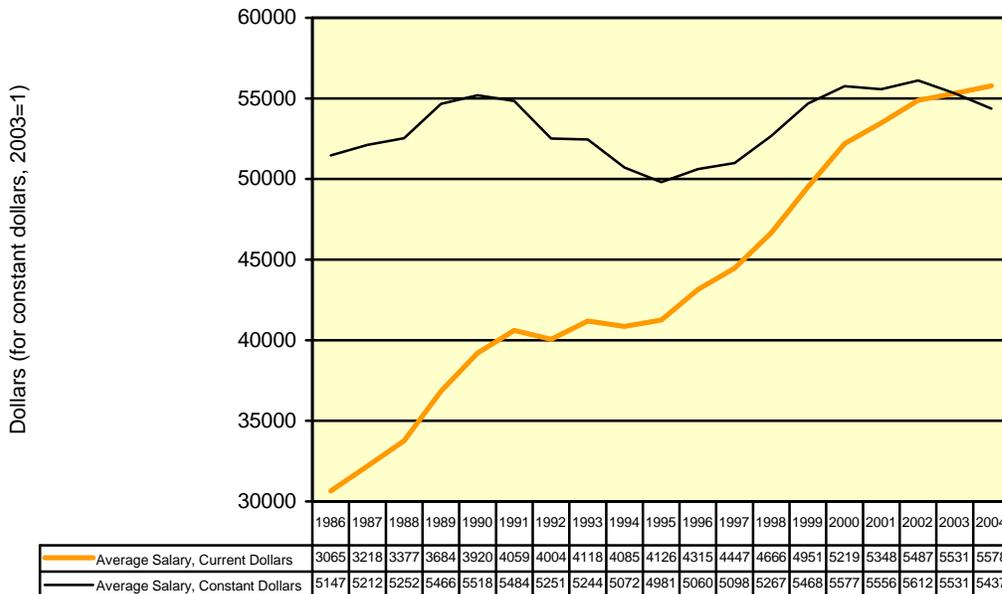
AAUP's annual survey.³⁶ In fact, such salaries were necessary to attract the best quality faculty, given the high cost of living in California and particularly in its urban areas. Now, however, CSU salaries have dropped significantly in the annual comparisons with similar institutions, to something closer to the 80th percentile. As California's housing and energy costs, and the cost of living more generally, have gone up, CSU salaries have failed even to match increases in purchasing power on a national level, much less those in California's urban areas. CSU salaries may be at the 80th percentile nationally for comparable institutions, but the cost of living in California's urban areas often reaches the 99th percentile. The fact that our success rate in hiring has dropped from 79% in 1996-97 to 69% in 1999-2000 almost certainly reflects, in part, these increased pressures.

³⁶ The AAUP annual survey results appear in the March-April issue of *Academe* and are usually summarized soon after in the *Chronicle of Higher Education*.

Graph 13. Average Salary of Full-time Faculty, in Current and Constant Dollars, 1986-2004



Graph 14. Average Salary, Assistant Professors, in Current and Constant (2003) Dollars, 1986-2004

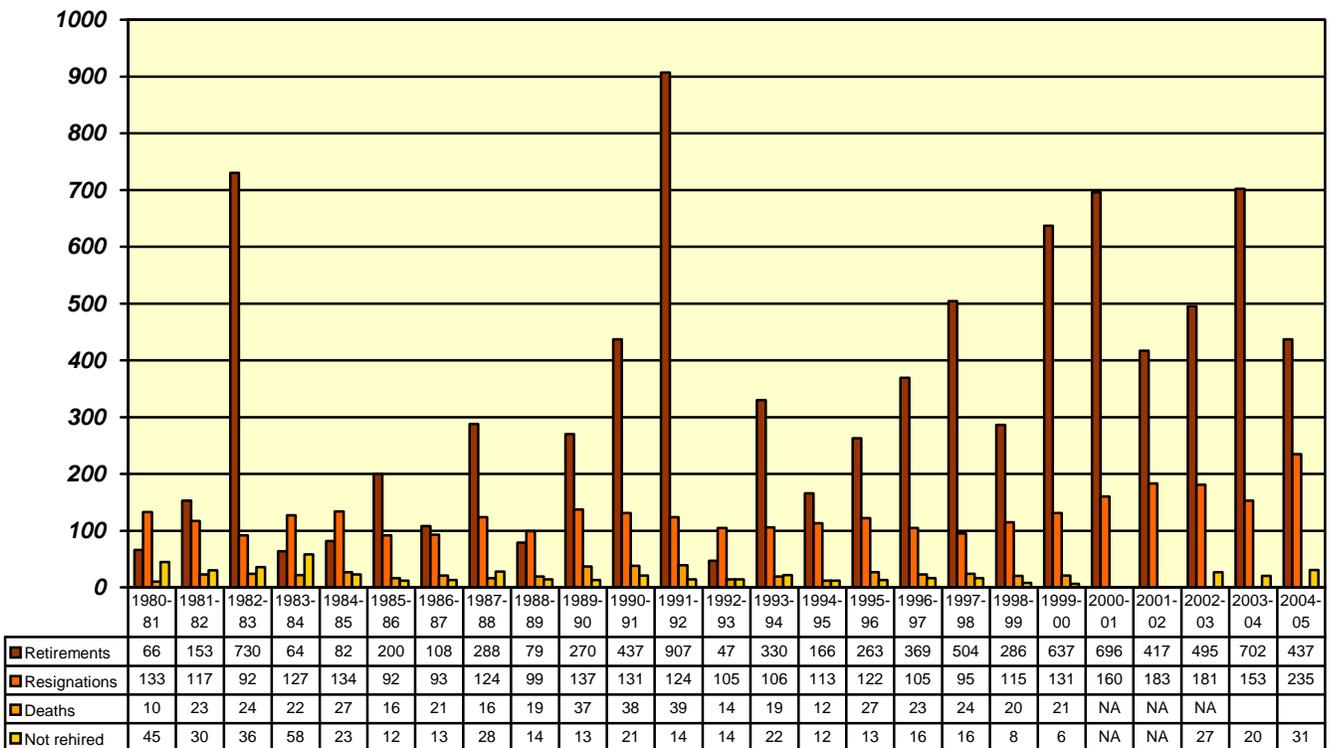


Compounding the Hiring Crisis: Anticipated Retirements The cyclical pattern of separation among tenure-track faculty over the last 19 years, as well as the age profile of the CSU faculty, indicate that a large number of retirements is likely in the very near future. They are likely to occur before recently hired tenure-track faculty complete their six-year probationary period and receive tenure in sufficient numbers to augment the current tenured faculty in meaningful numbers—a situation particularly problematic in personnel matters, as only tenured faculty members may sit on hiring, retention, tenure, and promotion committees. For example, if all hires in Fall 1999 were to be tenured in the normal six-year cycle, it would be Fall 2005 before they could participate in a single hiring or personnel decision—the same year that 93% of CSU full-time faculty will meet minimum eligibility for retirement. If higher education in California and particularly in the CSU is going to maintain a faculty able to provide a high caliber of instruction to an increasing number of students, to conduct the scholarly research necessary to maintain currency in their fields, to expand the knowledge base critical to their fields, and to conduct the academic and shared governance work that is the responsibility of the faculty, significant changes in institutional resources and faculty support are clearly necessary.

If the CSU is going to maintain a quality faculty in sufficient numbers, significant changes in institutional resources and faculty support are clearly necessary.

The twenty-year history of faculty separations in the CSU is shown in Graph 15. Given the age demographics in Graph 12, there is every reason to anticipate that the number of retirements will continue to increase dramatically for the next half-dozen years or more. In the mid-1980s, on some CSU campuses, administrators supported hiring ahead of the curve, that is, hiring in anticipation of retirements as a way to prevent the problem of a department having to do multiple

Graph 15. Faculty Separations by Cause, 1980-81 through 2004-05



searches all in the same year (an almost impossible task, if searches are done properly). Any such notions went by the boards in the early 1990s, as departments lost large numbers of senior faculty who, in many cases, were never replaced. If the CSU responds to this coming crisis in faculty retirements by replacing retiring faculty members only as they leave the CSU (especially given the provisions of FERP), it will create two problems: it will add even more to the burdens of the remaining t/t faculty (since FERP participants and probationary-tt-faculty cannot participate in searches or retention and tenure decisions), thereby driving the more senior among them to retire or FERP; and it will recreate the present demographic structure—there will be a new demographic bulge that will mean the same problem will appear in roughly 30-35 years. A more active approach to hiring, including hiring ahead of predictable retirements and hiring some senior faculty, will help to alleviate these problems, but will also require additional resources.

This is a crisis fully comparable to that facing the state in the late 1950s, at the time of the original Master Plan. To address this current crisis, at least in part, the Academic Senate CSU returns to and endorses the recommendation of the Liaison Committee of the State Board of Education and the Regents of the University of California in 1960 that:

*Greatly increased salaries and expanded fringe benefits such as health and group life insurance, leaves, and travel funds to attend professional meetings, housing, parking and moving expenses, be provided for faculty members in order to make college and university teaching attractive as compared with business and industry.*³⁷

Earlier recommendations regarding salaries, the need to fund faculty professional development, and a redefined faculty workload funded to include research, scholarship, and creative activity all have an impact on the ability to recruit and retain a faculty of high quality. In addition, the Academic Senate CSU also commends the following:

- improvement of health coverage, so that it takes effect *immediately* when a faculty member begins work in the CSU,
- improvement of family leave, to make it competitive with that in comparable institutions,
- housing subsidies, subsidized housing, or both,
- increased financial assistance with relocation expenses,
- increased financial assistance to departments for expenses incurred in the hiring process, and
- broader and earlier access to fee waiver programs for faculty members' dependents.

Developing New Programs to Meet State Needs The CSU has recently demonstrated its ability to respond to new state priorities to increase significantly the number of students who complete credential programs for teachers—in 1999, a year ahead of schedule, CSU faculty met the Board of Trustees' goal of increasing by 25% the number of student teachers recommended annually for credentials. The faculty has also made significant changes within its teacher preparation programs by developing multiple pathways for students to attain teaching credentials.

CSU faculty members, with support from the Chancellor's Office and legislature, have also been developing programs to address emerging needs in the biotechnology and biomedical fields. In the past ten years, California has experienced a rapid growth of biotechnology and biomedical companies. Collaborative research efforts in the work place necessitate preparing graduates who can work as members of interdisciplinary research teams. CSU campuses are attracting new

³⁷ Liaison Committee of the State Board of Education and the Regents of the University of California, *A Master Plan for Higher Education in California, 1960-1975* (Sacramento, 1960), p. 133.

faculty members with interdisciplinary expertise including biology, biochemistry, computer science, engineering, agriculture, and medicine. CSU program for Education and Research in Biotechnology (CSUPERB) is a statewide intercampus effort that has been funded annually by the Legislature to promote biotechnology needs in the state. The faculty members and students work with the state's biotechnology industry to provide hands-on experience for the baccalaureate and master students. Research and development of technology are the outcomes of this collaboration.

With the proper resources, the CSU could expand its curriculum to meet emerging state needs in a number of other areas. The growth of the population over the next decade is likely to bring a significant increase in the need for a variety of educational, health, and social services. For example, as the current cohort of Californians aged 10-20 move into their childbearing years, the already strained K-12 system will come under increased pressures. It will be necessary to educate even more teachers and educational administrators than are now being produced. If pre-school education were to be significantly expanded, as has been discussed by the Joint Committee, this would produce a major need for properly prepared early childhood education specialists. The CSU could expand existing masters' degree programs and develop new, applied graduate degree programs at the masters' and doctoral levels. However, any expansion of post-baccalaureate programs should be based on careful study of the capability and feasibility (especially financial feasibility) of the CSU to offer programs to meet those needs.

With the proper resources, the CSU could expand its curriculum to meet emerging needs in a number of areas.

The Chancellor's Office has recently issued a report on the need for and prospects for offering independent Ed.D. programs. The report indicates the need for more K-12 administrators and the potential for some CSU campuses to offer such doctorates to address that need.³⁸ CSU already educates the largest proportion of the state's teachers, K-12 administrators, nurses, counselors, and social workers. In each of these areas, with proper funding, some CSU campuses (individually or jointly with nearby CSU campuses) could offer high-quality doctorates as a way of increasing the number of qualified K-12 administrators and instructors for the community colleges in selected disciplines.

The situation in nursing provides an example of an instance where the CSU could offer a doctorate that would go far in meeting the needs of California. According to the California Department of Consumer Affairs, California ranks 50th in the nation in the proportion of Registered Nurses (RNs) to 100,000 population, and California faces a serious shortage of RNs. Projections by the state Employment Development Department (EDD) suggest a shortfall of 25,068 RNs by 2006. Currently *half* of California's RNs receive their nursing education in another state or country. Nursing education programs in the state are all at or very near capacity and nearly all have waiting lists. There is thus a need not only for more nurses but also for more nursing instructors. One estimate suggests that to educate the increased number of students it will be necessary to double the number of full-time faculty positions in nursing schools and to triple the number of clinical instruction faculty. At least half the additional nursing faculty will require doctorates. The CSU currently educates most of the state's baccalaureate RNs and most of state's recipients of the MS degree in Nursing; community college programs prepare large numbers of

³⁸ *MEETING CALIFORNIA'S NEED FOR THE EDUCATION DOCTORATE: A Report Examining California's Needs for More Holders—and Suppliers—of Education Doctorates* (California State University, March 2001), online at http://www.calstate.edu/issues_ideas/2108EddReport.pdf.

associate-degree RNs.³⁹ With proper funding, some CSU programs could offer the Ed.D. as a way to prepare more faculty members in nursing education, thus permitting an expansion of community-college and CSU nursing programs. The UC system is not meeting this need, and has not indicated that it plans to do so in the near future. What is true of the CSU Nursing programs is likely also to be the case for some other professional programs, (e.g., Communication, Criminal Justice, Public Administration, and Social Work).

Funding Quality and Funding Growth Earlier sections of this report have pointed to a number of areas in which additional funding is needed to address pressing issues of quality—in several cases, simply to restore levels of funding typical of the late 1980s:

- reducing the student-faculty ratio,
- improving funding for graduate programs, especially through redefinition of a full-time graduate student for funding purposes,
- restoring library collections and staffing,
- addressing the need for more secretarial/clerical and technical/paraprofessional staff,
- upgrading the technological infrastructure,
- expanding the physical infrastructure, and
- increasing tenure-track hiring.

This final section of the report examines three additional areas involving funding: the funding for scholarship, the funding for growth, and a comparison of funding levels in the CSU and UC systems.

Funding Scholarship The Academic Senate CSU wants particularly to emphasize the inadequacy of attention to and funding of the continuing professional development of the faculty. The Academic Senate CSU strongly endorses the following statements:

The 1960 Master Plan left ambiguous the state's commitment to support research at CSU...The CSU faculty, with appropriate state support, has much to contribute through research to its students and to society in general.

Commission for Review of the Master Plan for Higher Education,
*The Master Plan Renewed: Unity, Equity, Quality, and Efficiency
in California Postsecondary Education*, Sacramento, 1987.

Central to the role of any decent teaching institution is the research, scholarly and creative activity essential to the development of good teaching, and essential as a part of the education of students. The state should acknowledge this in the Mission of the California State University, and endeavor to support it. Let us be more specific here. We intend that the state support research, scholarly and creative activities at the California State University if they are of the following kinds: first, scholarly and creative activities in the service of the university's instructional mission. . . . The governing logic in these instances is the legitimate

³⁹ Wendy Hollis and Louise Timmer, *IMPAC: Summary of Meetings: Nursing Discipline, 2000-2001*; California Strategic Planning Committee for Nursing, Report on Additional RN Pre-Licensure Nursing Education Slots Needed; State of California, Department of Consumer Affairs, Board of Registered Nursing, *1998-1999 Annual School Report*, May, 2000; State of California, Employment Development Department, Labor Market Information, Occupational Projections-Introduction and Methods, Sacramento, CA, July 1998; K.R., Sechrist, E.M. Lewis, D.N. Rutledge, and the California Strategic Planning Committee for Nursing, *Planning for California's Nursing Work Force Final Report*, 1999.

need for creative intellectual work on the part of any teacher. Second, we support research undertaken as part of the intellectual work of course and programs – that is, research which directly involves students. . . . Third, we support research undertaken at the California State University when it studies an issue or problem relevant to the changing social, environmental, economic, or cultural life of any of California's many regions. . . . were the state to explicitly announce its concern to support such projects, it would liberate much talent within the CSU, and have the salutary effect of encouraging that talent to serve public ends.

Joint Committee for Revision of the Master Plan
for Higher Education,
*California Faces California's Future:
Education for Citizenship in a Multicultural Democracy*,
Sacramento, 1989.

66010.4. *The missions and functions of California's public and independent segments, and their respective institutions of higher education shall be differentiated as follows:*

(b) The California State University shall offer undergraduate and graduate instruction through the master's degree in the liberal arts and sciences and professional education, including teacher education. . . . Research, scholarship, and creative activity in support of its undergraduate and graduate instructional mission is authorized in the California State University and shall be supported by the state.

Research, scholarship, and creative activity in support of its undergraduate and graduate instructional mission is authorized in the California State University and shall be supported by the state.
-The Donahoe Act, as amended.

The Donahoe Act, as amended
California Education Code
<http://www.leginfo.ca.gov/>

This amendment to the Donahoe Act came just before the state entered the fiscal crisis of the early 1990s and, consequently, no specific additional funding was provided to effect the change in policy. Those funds in recent CSU budgets identified as "research" are for particular projects, not for the support of faculty professional development across the board. Substantial funding is required to make this policy real—especially funding to alter the current faculty workload in such a way as to define part of the t/t faculty workload scholarship and professional development and funding to provide support for the range of scholarship and professional development that is so poorly funded now, including monies for sabbaticals for all who qualify for them and increased dollars for research assistants (thus providing valuable research experience for students), equipment, and professional travel. The Senate urges the Chancellor and Board of Trustees to request increased funding for these priorities and urges the Legislature to appropriate funds accordingly.

Funding Educational Quality through Funding Growth: The Marginal Cost Formula The Academic Senate CSU is deeply concerned about the current funding pattern for the CSU and especially with the funding for growth. Formerly, funding for campus growth was based on an elaborate statistical model embodied in a set of need-based formulae known as the Orange Book. Then, in the midst of the State's financial crisis, unallocated reductions in CSU funding grew

from year to year. Finally the formulae of the Orange Book were dropped because the Trustees saw little utility in making need-based requests that were funded then reduced significantly but with the expectation that access would be unaffected. With the demise of the Orange Book, the CSU, UC, Department of Finance (acting on behalf of Governor Pete Wilson), and Legislative Analyst's Office negotiated a new approach based on a percentage increase in the previous year's funding plus a specific amount per student (the "marginal cost") for enrollment growth. This approach was first used in the 1995-96 budget. For fiscal year 1996-97, the parties negotiated a marginal cost methodology based in part on previous practice and in part on justifying the figure of \$5,900. The formula developed then has been used since then, adjusted each year based on appropriations from the previous year.

This marginal-cost formula incorporates a number of factors, the largest single component of which is the cost for additional faculty, which is calculated based on the annual salary of a mid-range assistant professor (currently, in the formula, \$44,940) and a student-faculty ratio of 18.9:1. The cost of teaching assistants is based on a teaching assistant to student ratio of 107:1. Several cost elements are "discounted", i.e., calculated at between 65% and 90% of the previous year's average on the assumption that there are economies of scale—that adding an additional student does not require adding the full dollar amount per student. Some costs do not appear in the marginal cost formula at all, on the assumption that there are fixed costs that exist independently of the number of students.

The Academic Senate CSU has two major concerns with the current marginal cost formula:

- The current average salary for an assistant professor, as of Fall 1999, was \$49,510, as compared to the \$44,940 used in the formula (the \$44,940 figure is based on Assistant Professor Step III on the salary scale, long the standard for figuring the cost of a new hire). Even the \$49,510 figure is misleading, for some campuses have recently found that they must offer at least \$50,000 to attract new hires in the humanities and social sciences (traditionally the most poorly paid disciplines) and considerably more in business and other hard-to-hire fields. Yet \$44,940 appears in the current calculations because the formula specifies a particular step on the salary scale. The formula is based not on the average dollar amount *necessary to recruit new t/t faculty*, but instead on *a particular step on the salary schedule*. It has already been noted that the CSU salary schedule lags behind those of comparison institutions. In addition, only a part of recent salary increases has been used for general (across-the-board, or cost-of-living) salary increases, and only a general salary increase applies to all the steps on the schedule. At an earlier time in the history of the CSU, there were fewer steps on the salary schedule and a large portion of every annual salary increase was a general increase, i.e., was applied to every step. More recently, a significant part of every salary increase has been used to fund step increases and merit pay, and there has been a considerably smaller proportional general increase than was formerly the case. As a consequence, the *salary schedule* has failed to increase at anything close to the changes in the cost of living or the salaries at similar institutions. Thus, the \$44,940 figure is an artifact of a previous time, not an accurate reflection of current reality. The clear implication of the continued use of this artifact is that the more a new t/t hire is paid above \$44,940, the fewer dollars will remain to hire lecturers to fill those classrooms for which the marginal-cost formula does not supply sufficient funds

By employing an artificially low faculty salary, the marginal-cost formula contributes significantly to a continued reliance on poorly paid lecturers.

to hire a t/tt faculty member. Thus, the marginal cost formula contributes significantly to a continued, and even increasing, reliance on poorly paid lecturers.

- The 18.9:1 student-faculty ratio (SFR) in the marginal-cost formula is a similar artifact of a particular time in the State's history. Before the fiscal crisis of the early 1990s, the CSU was *budgeted* for a SFR that ranged from a low of 16:1 in 1966-67 to a high of 18.07:1 in 1986-87. For the five years from 1986-87 through 1990-91, the last five years when there was a *budgeted* SFR, the range was from 17.74:1 to 18.07:1, with a median of 17.85:1. During those same years, the *actual* SFR ranged from 18.15:1 to 18.51:1, with a median of 18.39:1. Yet the marginal-cost formula incorporates a SFR of 18.9:1, which was a compromise between the 18.1:1 SFR sought by the CSU and the 19.6:1 SFR that actually existed in 1993-94. Thus, 18.9:1 is another artifact of the crisis years of the early 1990s when the SFR ratcheted upward in a sudden and dramatic fashion. By employing 18.9:1, the marginal-cost formula freezes in place this artifact of the crisis rather than seeking to restore pre-crisis levels of funding and creates a floor on efforts to reduce the SFR. In addition, the 18.9:1 ratio fails to differentiate between lower-division, upper-division, and graduate FTES.

By employing a student-faculty ratio of 18.9:1, the marginal-cost formula freezes in place an artifact of the crisis of the early 1990s rather than seeking to restore pre-crisis levels of funding.

In addition to those major concerns, the negotiated discounted marginal rates raise questions. Instructional support is discounted by 10%, academic support by 15%, student services by 20%, and institutional support by 35%. While no one will question that there are economies of scale, these particular percentages should be examined periodically in the light of empirical data to verify that, in fact, the size of the discount is appropriate to the actual economics of scale. Finally, there is the assumption that some costs exist independently of the size of the student body and therefore need not appear in the marginal cost formula. The salary of the president is often presented as an example of such a fixed cost. However, the average presidential salary for the seven largest campuses (as of July 2000) was \$217,786, the average presidential salary for the eight mid-sized campuses was \$211,807, and the average presidential salary for the seven smallest campuses was \$196,539, which suggests *some* relationship between presidential salary and size of student body, if not a direct, one-for-one relationship. To be certain, presidential salaries make up a very small proportion of total costs, as do the salaries of provosts and police chiefs. Like the discounted costs, the fixed costs need to be subjected periodically to some empirical testing to confirm that, in fact, they continue to exist independently of changes in FTES.

All in all, the current marginal-cost approach works contrary to several of the major objectives of the faculty of the CSU to restore or enhance the quality of CSU education:

- The current marginal-cost formula discourages significant reduction of the student-faculty ratio and discourages efforts to reduce class size.
- The current marginal-cost formula discourages tenure-track hiring and contributes significantly to a continued reliance on poorly paid lecturers.
- The current marginal-cost formula discourages the growth of graduate programs by funding them in the same way that it funds lower-division undergraduate programs.

- The current marginal-cost formula may discourage the growth of high-cost programs—whether they are high-cost because of a low SFR (as is the case with many graduate and post-baccalaureate professional programs), or because they rely heavily on senior faculty, or because of significant equipment costs.

The Academic Senate CSU acknowledges and supports efforts by the CSU to modify the marginal-cost formula by increasing the faculty salary level and introducing a graduate differential. The Academic Senate CSU urges the continuation of those efforts and expansion of them to address other shortcomings in that formula and in other components of the CSU budget to make the budget as a whole more sensitive to the needs of CSU instruction. If the state wants increased attention to the high-cost, high-tech, upper-division and graduate programs that will prepare tomorrow's workforce, then CSU needs permanent (not one-time) funding supplements that recognize the costs of such programs. The Academic Senate CSU also recommends creativity. Instead of following the long-time pattern of funding following growth, use funding to encourage particular developments: create a fund for quality and innovation aimed specifically at restoring and enhancing quality (e.g., reducing SFR by creating introductory seminars in majors or for general education, encouraging major degree programs to require a senior seminar) and at launching or expanding high-cost programs to meet workforce needs.

Funding in the CSU and Funding in the UC The Academic Senate CSU has a related concern regarding state funding. Growth in both UC and the CSU is funded on the same marginal-cost principle. However, for 2001-02, the state-funded marginal-cost (excluding the university fees) for CSU was \$6,360 and that for UC was \$9,300. The Academic Senate CSU fears that this approach may, over the long run, contribute further to the already serious gulf in per-student spending between the two systems.

In 1999-2000, the UC system spent \$2,416,547,000 on instruction for 178,410 students,⁴⁰ or about \$13,500 per student. During 1999-2000, the CSU spent \$1,495,265,000 on instruction for 281,782 FTES, or about \$5,300 per FTES.⁴¹ These are probably not strictly comparable figures, but they make clear that UC funding per student is several times that in the CSU. The Academic Senate CSU does not find it convincing that the large difference can be explained solely by the economies of scale in the CSU (which has nearly three times as many students) and by UC's commitment to doctoral instruction. Table 7 provides recent data on the degrees awarded by the two systems.

In addition, the UC has announced its intention to seek *additional* funds from the legislature to upgrade the quality of its undergraduate instruction:

The [proposed UC] budget also places an emphasis on efforts to strengthen the undergraduate educational experience for UC students overall by requesting an \$8 million increase to the \$6 million provided in the 2000-01 year for this

⁴⁰ UC Annual Financial Report <http://www.ucop.edu/ucophome/cao/reports/2000/pdf/ucfib.pdf>.

⁴¹ Table 184, CSU Statistical Abstract.

*purpose. This funding supports such efforts as reducing class sizes, offering additional lower-division seminars, providing more undergraduate research opportunities and offering more academic advising.*⁴²

The Academic Senate CSU suggests that such expenditures, if not extended to the CSU in proportion to the size of the two systems' undergraduate student bodies, will further increase the already enormous funding disparity between the two systems. If the UC, with its much greater funding per student, requires additional funding to improve undergraduate education, then surely the CSU requires at least as much or more for similar purposes—to reduce the student-faculty ratio, to increase the number of undergraduate seminars, and to fund the ongoing needs of those students requiring remediation during their first year.

UC's funding for baccalaureate and masters' instruction seems appropriate and reasonable, and comparable CSU baccalaureate and masters' level instruction should be comparably funded.

Table 7 points to very strong similarities in the instructional missions of the two systems, except only for the UC doctoral and first professional degrees, which together account for a bit over 11% of all UC graduates. In the cost per-student data above, all medical school costs have been removed; removing health professions professional degrees from Table 7 would further reduce the differences between the two systems. The large and long-standing⁴³ difference in funding per student is difficult to understand if, in fact, the two systems provide similar undergraduate instruction, as their mission statements and descriptions and the data on degrees awarded suggest that they do.

If the legislature continues to fund expansion of the two systems at the marginal-cost, and if the two systems continue to charge fees as they do presently, and if the UC system continues to request and receive additional funds to improve the quality of its undergraduate and graduate education, the Academic Senate CSU can only anticipate that the current difference in expenditure per student will not only continue but also increase.

These facts do not suggest that UC is funded too well. On the contrary, UC's funding for baccalaureate and masters' instruction seems appropriate and reasonable, and comparable CSU baccalaureate and masters' level instruction should be comparably funded.

⁴² UC Office of the President press release, at <http://www.ucop.edu/ucophome/commserv/budgetplan111600.html>. The announcement implies that these funds to reduce class size and increase student-teacher contact are in addition to the 4% Governor's compact. There is the same implication in online Department of Finance materials at [http://www.osp.dgs.ca.gov/Publications/Governors Budget/pdf/ed.pdf](http://www.osp.dgs.ca.gov/Publications/Governors%20Budget/pdf/ed.pdf). Regardless of whether these funds are within or outside the compact, they are funds earmarked for improving undergraduate instruction by reducing class size.

⁴³ See, e.g., the data in Liaison Committee of the State Board of Education and the Regents of the University of California, *A Master Plan for Higher Education in California, 1960-1975* (Sacramento, 1959), esp. chapter 9.

Table 7. Degrees Granted, CSU and UC, 2005

Degrees Granted	CSU		UC	
	Number	Percentage of all CSU degrees	Number	Percentage of all UC degrees
Baccalaureate Degrees:				
Professional (Business, Parks, Recreation, Natural Resources, etc.)	20,575		3,735	
Humanities	12,307		6,672	
Social Sciences	10,872		13,070	
Liberal Arts, Interdisciplinary Studies	8,311		6,472	
Health and Human Services	5,069		602	
Engineering	3,304		3,318	
Education	2,236		9	
Physical Sciences	2,184		2,055	
Biological and Life Sciences	1,930		4,928	
Unknown			1	
Total	66,768	79.5%	40,862	75.2%
Masters' Degrees:				
Professional	3,375x		2,262x	
Biological Sciences	262x		247x	
Engineering	1,375x		1,315x	
Health and Human Services	2,869x		1,021x	
Social Science	1,125x		743x	
Humanities	1,721x		880x	
Physical Sciences	804x		811x	
Education	5,049x		1,038x	
Liberal Arts, Interdisciplinary Studies	587x		261x	
Total	17,167x	20.4%	8,578x	15.8%
Doctoral Degrees:	53	0.1%	3,001	5.5%
First Professional Degrees:	0	0.0%	1,896	3.5%
Totals	83,988	100.0%	54,337	100.0%

SOURCE: CPEC Reports, Performance indicators of California Higher Education 1999 (2/2000), Section V, Student Outcomes, Sections 5D-1, 5-D2, 5-E1, 5E-2, tables 5DE, CSU Degrees, 1992/3-1997/8, and 5DEF, UC Degrees, 1992/3-1997/8.
Update August 2005: CPEC Reports, Performance Indicators of California Higher Education.

In order to expand high-cost academic programs, the State needs to fund according to real costs. Included in these costs are competitive salaries and employment packages to attract and retain appropriate faculty, and the provision of state-of-the-art equipment and laboratories for instructional assignments. With projections of significant increases in enrollments each year, it is a major challenge just to maintain the quality of existing programs. The successful initiation of new programs can only be contemplated if accompanied by new resources and funding.

5. RECOMMENDATIONS

This section presents recommendations for changes in code and in funding that proceed from the analysis in sections 3 and 4. In developing its recommendations, the Academic Senate CSU has focused on restoring and enhancing the quality of the teacher-learner relationship in the CSU. Improvements in K-12 that bring better prepared students to the CSU would have warm support from the CSU faculty, but recommendations in that area are beyond the scope of this report. These recommendations are *not* presented in any priority order.

Recommendations Requiring Legislative Action:

1. Provide to all CSU faculty members the opportunity to devote a minimum of one-fifth of their assigned workload to research, scholarship, and creative activity. Research, scholarship, and creative activity is necessary in every discipline and program for maintaining currency in the field and hence for effective teaching. The Donahoe Act, as amended in 1989, states, "Research, scholarship, and creative activity in support of its undergraduate and graduate instructional mission is authorized in the California State University and shall be supported by the state". However, this change in law has been funded by the legislature only to the extent of a few specific programs. At some point, the repeated failure to fund a policy becomes a negation of that policy.
2. Revise current budget formulae to restore and enhance quality and to encourage new program development. Provide for growth based on the full cost for additional programs and for the growth of high-cost programs, particularly masters' degree programs. Revise the marginal-cost formula to reflect current costs of hiring new tenure-track faculty, to reduce the SFR, and to recognize the graduate differential. Future instruction at upper-division and graduate levels and in technology-intensive areas are all more expensive than average (i.e., than marginal cost). Funding for growth should reflect the need for high-cost, high-tech, upper-division, post-baccalaureate, and graduate programs. When such funds have been made available in the recent past, they have typically been as temporary augmentations rather than additions to the base. Such an approach assumes that increased costs are temporary, an assumption contrary to the experience of CSU faculty. Post-baccalaureate programs (e.g., for teaching credentials) and graduate programs, by their very nature, are more intensive, have lower student-faculty ratios, and often require more sophisticated facilities and equipment than do undergraduate programs. These differences should be addressed through a redefinition of full-time graduate student, for funding purposes, and also full-cost funding for all new or expanded post-baccalaureate and graduate programs.
3. Authorize and provide appropriate funding to CSU campuses to offer the Ed.D. The current doctorate-granting institutions of California do not meet the projected demand for applied doctoral degree programs. This problem will loom much larger in the near future as it is necessary to replace many faculty who are reaching retirement age at the same time that the student body is likely to expand dramatically. Over the past forty years, a number of CSU programs have developed curricula and faculty such that they could, if appropriately funded, offer doctorates to meet the growing needs of K-12, some community college programs, and perhaps some CSU programs.

Other Recommendations:

1. Reduce the current student-faculty ratio to the level typical before the state's fiscal crisis of the early 1990s. The student-faculty ratio is the most direct measure of contact between teachers and learners and is a frequently used indicator of educational quality. During the 1980s, the student-faculty ratio in the CSU averaged 18.2, ranging from 18.0 in 1984-85 to 18.5 in 1988-89. Since the 1991-92 academic year, the student-faculty ratio has averaged 19.7, ranging from 19.1 in 1999-2000 to 20.4 in 1992-93. Reducing the student-faculty ratio would permit smaller classes and greater contact among teachers and learners.
2. Remedy insufficiencies due to delayed maintenance and delayed purchasing during the early 1990s. Bring state-of-the-art technology to more CSU classrooms.
3. Augment CSU library collections and restore library staffing. Proportionately greater cuts were made in library funding in the early 1990s than were made in general CSU campus expenditures. Though recent budgets have addressed some of the restoration of collections, library staffing remains at sharply reduced levels.
4. Establish incentives to attract new faculty members of the highest quality, including improved benefits, housing subsidies or subsidized housing, and moving expenses. Roughly half of the current CSU faculty are likely to retire during the coming decade, at the same time that increasing student numbers will necessitate expansion of the faculty. To attract new faculty members of the highest quality, the CSU needs to improve benefits and to address the serious problem of housing costs.
5. Hire additional tenure-track faculty and improve funding for searches; reduce the current proportion of lecturers by hiring more tenure-track faculty. Permanent (t/tt) faculty are expected to carry out a wide range of responsibilities in addition to teaching, including advising, curriculum development, personnel actions, governance, and scholarly activity. Nearly all temporary faculty members (lecturers) are hired to teach specific classes, and they are not paid for other tasks. Since the early 1990s, the proportion of temporary faculty has increased significantly. The greater the proportion of lecturers in a faculty, the greater the amount of non-teaching responsibilities that falls on the t/tt faculty. Searches for tenure-track faculty are expensive, and any significant increase in tenure-track hiring will require additional resources for conducting nationwide searches.
6. Increase the number of secretarial/clerical staff and technical staff who provide services to faculty and students. Improve staff wages and benefits to attract and retain the best quality staff in these positions.
7. In recognition that research, scholarship, and creative activity are required for effective teaching, increase support for all CSU faculty members to engage in these activities; specifically, provide additional sabbaticals and other research support for CSU faculty and reconfigure the CSU faculty workload so that a one-fifth is devoted to faculty development (including research, scholarship, and creative activity). Though the Donahoe Act states, "Research, scholarship, and creative activity in support of its undergraduate and graduate instructional mission is authorized in the California State University and shall be supported by the state", this commitment has not been interpreted to provide opportunities for all CSU faculty; current research funding is very limited. Specific research support should include sabbaticals and other research support. The expectation that CSU faculty members teach twelve units per semester (or the equivalent for faculty members on the quarter system)

places the CSU at the highest level among comparable institutions with regard to teaching load. The large majority of CSU faculty members have no component of their workload that is specified for research, scholarship, or creative activity. This means that such activities must be done as an overload. Reducing the teaching load to a maximum of three-fifths of the total workload and specifying that a minimum of one-fifth of the total workload be devoted to scholarly activity will bring CSU faculty more closely into line with the faculty at comparable institutions and will attract new faculty of the highest quality.

8. Adjust CSU faculty salaries to achieve parity with comparison institutions. Each year, CPEC calculates a "parity figure", a projection of the amount that CSU faculty salaries would have to be increased to keep compensation at parity with that of comparison institutions. Through much of the 1980s, the legislature approved salary increases at parity. However, the last time the legislature voted a salary increase equal to CPEC's parity figure was 1990-91. Despite the booming economy of the late 1990s and the state's budget surpluses, salary increases have never achieved parity. As a result, CSU salaries have lagged behind those at comparable institutions; on average, CSU faculty members now earn less, in constant dollars, than in 1989-90. This persistent disparity makes more difficult the recruiting of new faculty members who must face extraordinary housing costs.
9. Improve the current CSU physical plant to provide adequate facilities for existing programs and for growth. Current capital expansion plans include increased space for students and some increased space for faculty. However, despite a twenty-year-old commitment to end multiple-person faculty offices, many CSU faculty members still share offices and many even share desks. Such working conditions hamper student contact and faculty scholarship. Over the coming decade, projected enrollment increases and the consequent need to expand the faculty are likely to result in a significant shortfall of faculty offices and related faculty laboratory, studio, or other work spaces. Formulae that specify sizes for faculty workspace need to be reexamined in the light of current technology to be certain that they provide sufficient space for computers and other technological equipment.

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