

ACADEMIC SENATE
of
THE CALIFORNIA STATE UNIVERSITY

AS-2534-01/ AA
March 15-16, 2001

New Study of Post-Baccalaureate Programs in the CSU

- RESOLVED: That the Academic Senate of the California State University reaffirm its support for Recommendations on Study of Graduate Education (AS-1987-91/ AA, attached); and be it further
- RESOLVED: That the Academic Senate CSU recommend that its Executive Committee and the Office of the Chancellor develop a new collaborative study of post-baccalaureate programs in the CSU, for the purposes of updating the Study of Graduate Education completed in 1990, determining which of its recommendations have been successfully implemented, developing new recommendations as appropriate, and developing a parallel study of post-baccalaureate programs not part of graduate degree programs; and be it further
- RESOLVED: That the Academic Senate CSU recommend that the new study of post-baccalaureate programs, as a part of developing new recommendations, address the need for and capability and feasibility of expanding existing master's programs and of developing both new master's programs and applied doctoral programs.

RATIONALE: In 1991, the Academic Senate CSU supported a set of recommendations on graduate education in the CSU that were developed over the preceding several years. At the time, however, state funding precluded implementation of several of the recommendations that required additional funding. After an interval of ten years, it is appropriate to reexamine those recommendations. The original resolution and the recommendations are attached.

At its meeting of April 2-3, 2001, the Education Policy and Programs Committee of the California Postsecondary Education Commission took up the current state of graduate study in California's public institutions of higher education. The report is attached. Among other points, the report states:

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. . . .

1. Introduction

2. Methodology

3. Results

4. Discussion

5. Conclusion

6. References

7. Appendix

8. Acknowledgments

9. Contact

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.

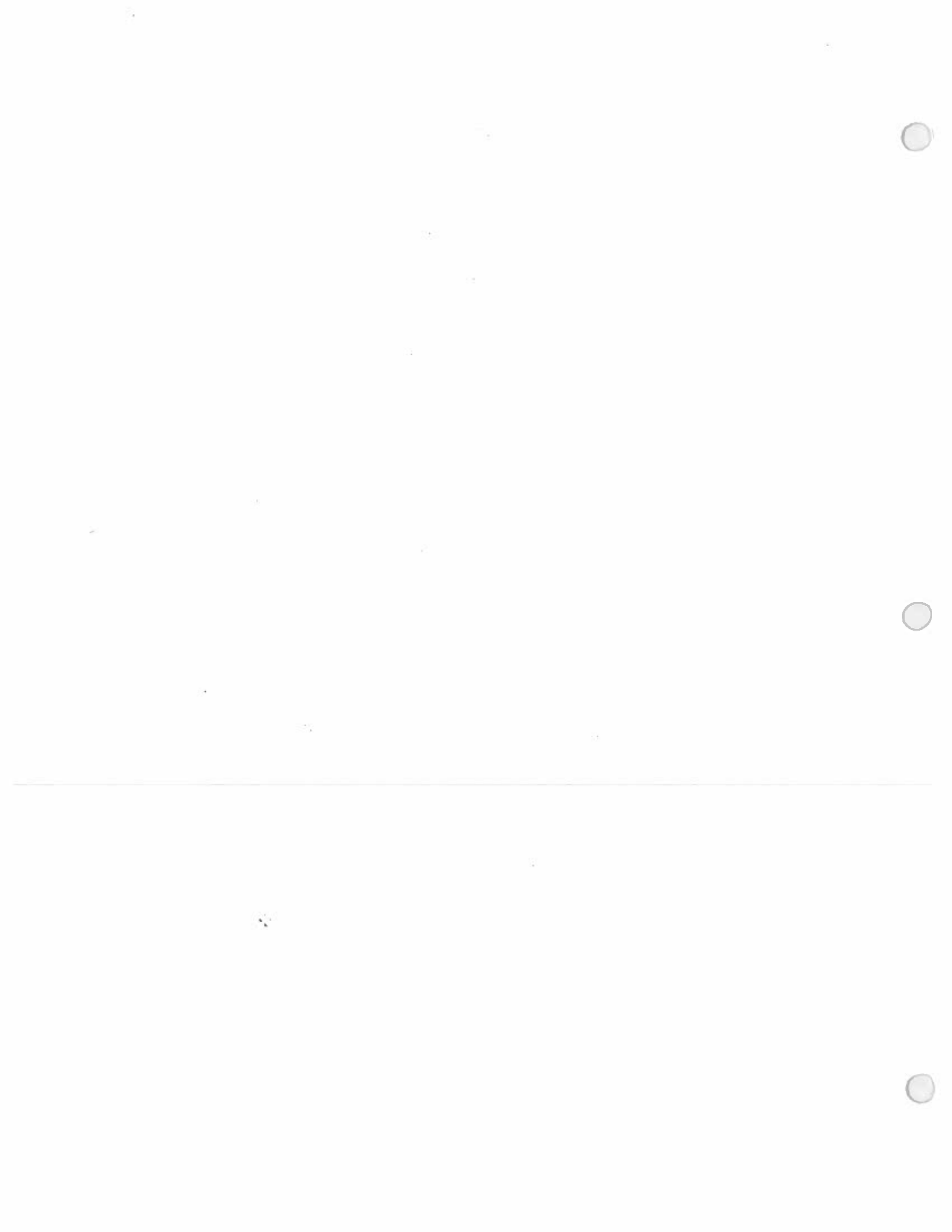
The report notes that nearly all CSU campuses have smaller graduate programs, proportionately, than do comparable institutions such as Arizona State, Wayne State, Georgia State, or SUNY Albany. The report concludes:

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 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.

To meet the needs of California residents for advanced degree programs, a careful study needs to be made not only of the needs of the state and of its people for post-baccalaureate study, but, most importantly for the CSU, 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. Such a study of needs, capability, and feasibility can be advantageously combined with a study of other aspects of post-baccalaureate education.

APPROVED UNANIMOUSLY – May 10-11, 2001



Information Item
Educational Policy and Programs Committee
Graduate Education and Research in California Postsecondary

Higher education is recognized as the foundation on which to build the research, innovation, technology transfer and entrepreneurship needed to vitalize the state's economy. It is the base upon which the attitudes and skills of the workforce are formed, and upon which the California's leadership cadre is developed.

Higher education has many essential, interrelated elements and it is often impossible to weigh the relative, independent importance of any one element. Nevertheless, it is clear that graduate study has a role central to higher education's social purpose.

Advanced, and especially doctoral, study is often seen as remote and distant from everyday concerns of the world. It is, in fact, at the core of all education: graduate schools train college faculty and, by extension, all teachers. Graduate study is necessary for research in virtually every field of knowledge. More than ever, it is apparent that success in research is essential to economic growth and development and to furthering our knowledge base.

The development of new knowledge through scientific research and the application of that knowledge through the development of technologies have been the cornerstones of economic growth in many states. Advancing a competitive advantage for California will depend, in part, on its abilities to support emerging, expanding, and transforming businesses with state-of-the-art processes and products.

This item on graduate education and research provides an opportunity for California's independent colleges and universities, the California State University and the University of California to share with the Commission their respective vision for graduate education and research, their plans and needs, and their action agenda to address the issues they face.

Presenter: David E. Leveille.



Graduate Education and Research in California Postsecondary Education: Need and Future Direction

Background For the past decade or more, California's focus in higher education and its financial support has concentrated primarily on undergraduate education. Whether it is increasing access, ensuring that quality or affordability of the programs for students, the locus of attention has been at the undergraduate level.

More recently, 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.

With such growing interest, the Commission has invited representatives of the University of California, California State University, and the independent sector of postsecondary education to present their perspective on graduate education, including program needs, financial support required, and plans to accommodate a larger graduate enrollment, if any.

Graduate education and research

The issue paper "Graduate Education and Research" in the August 1987 *Issue Papers for The Master Plan Renewed by the Commission For The Review of The Master Plan For Higher Education* provided the following accurate perspective on the role of graduate education and research in California's public and independent institutions of higher learning:

"When we think of California's great public and private universities, we think of research and graduate education. Their greatness is defined by the fact and reputation of their graduate programs and research enterprise."

A great university is measured by the strength of its graduate programs, by the scholarly distinction of the faculty members who offer them, and by the quality of the students who pursue them. Since no university can achieve national or international preeminence in every field, selectivity is imperative in graduate education.

Between 1990 and 1999, graduate/professional enrollment has increased approximately 24 percent in California's sector of independent colleges

and universities. Some 75 independent colleges and universities belong to the Association of Independent California Colleges and Universities (AICCU). These institutions account annually for fully half of the Master, nearly half of the doctoral, and some two-thirds of the professional degrees.

Enrollments in graduate education programs in California's public universities have remained somewhat static for the last few years. As shown in Displays 1 and 2, the graduate enrollment of these institutions when compared with selected comparable institutions nationally illuminates the similarities and differences with comparison institutions.

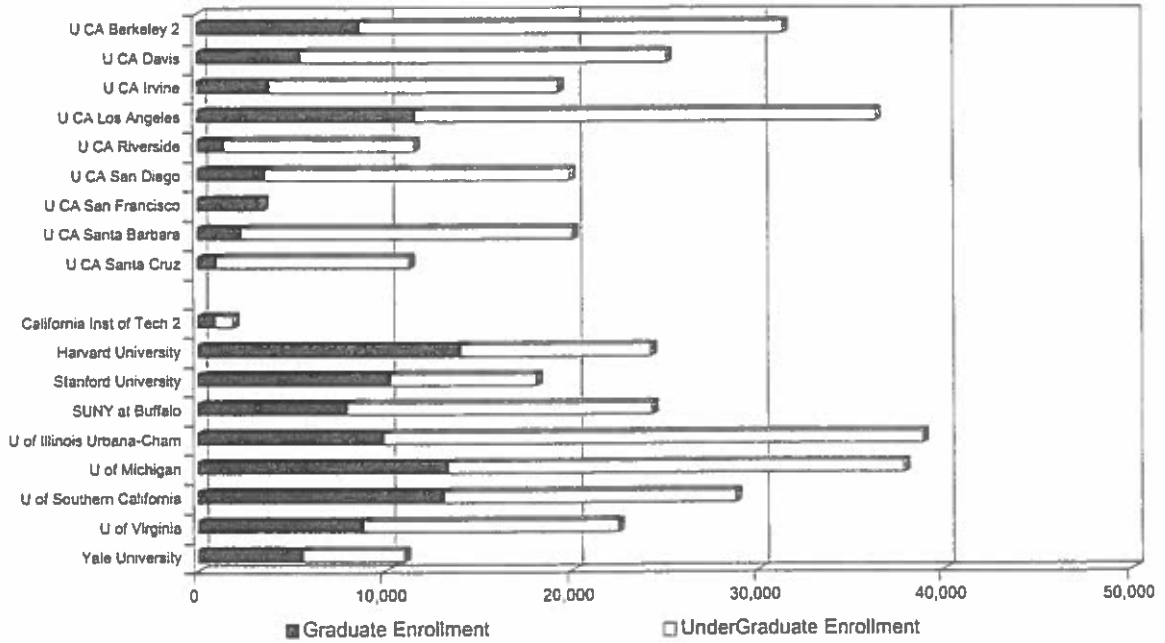
The Commission believes that a major effort in this decade should be devoted to strengthening graduate education. The exercise of program selectivity, the improvement of the quality of graduate programs, and the recruitment of well-qualified graduate students depend in large part on the academic leadership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

Graduate education not only passes on knowledge, examines it critically, and extends it in particular but also relates it to other knowledge and provides the student with conceptual tools to use the knowledge purposefully and consciously. The graduate professional function similarly relates a particular specialty to general knowledge and to society through conceptual and practical skills of the profession.

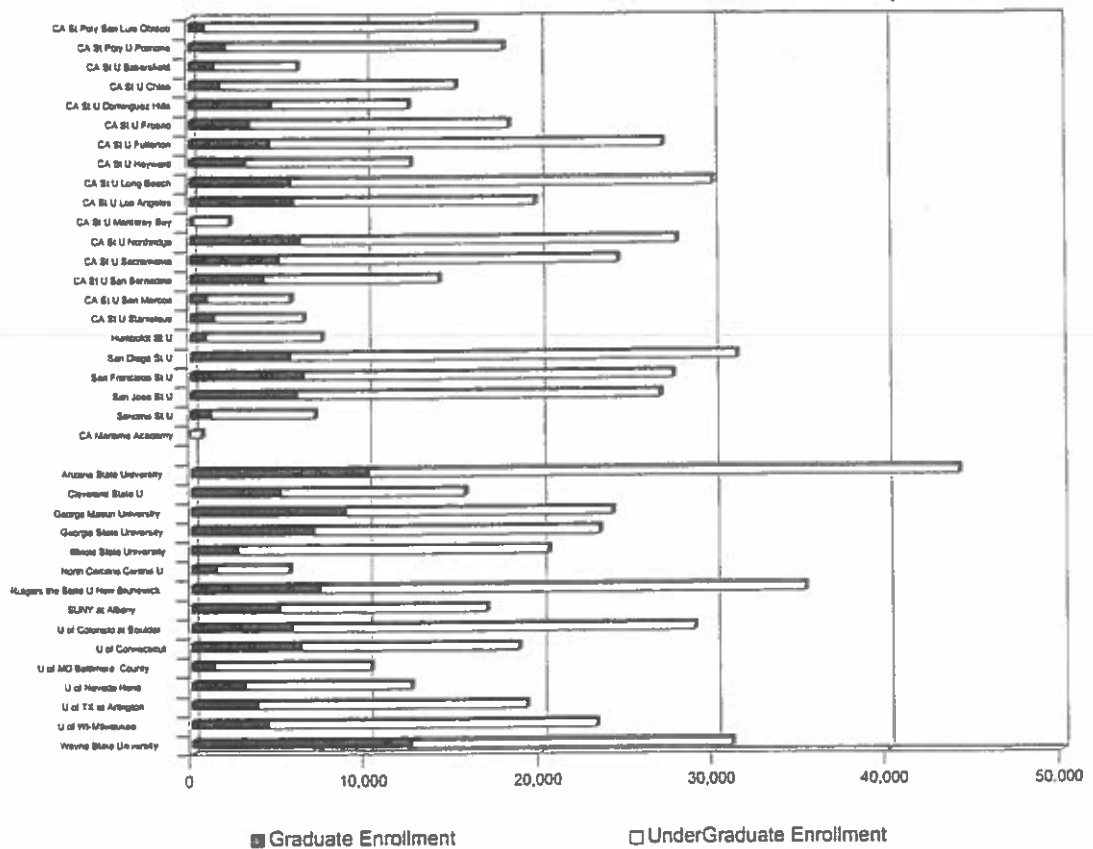
In California, as elsewhere, the control of graduate and graduate professional education in effect rests with departments and professional colleges. As a result the relevance of the concentration comprising the graduate or professional program is measured by the demand for the graduating talent produced. In graduate professional education the profession itself aids by interpreting society's needs and acting as an intermediary. The profession may be organized outside the university, or it may be organized within the university, as with academic professionals in departments.

In sum, the function of graduate and graduate professional education is threefold: (1) deciding which needs for leaders the university must meet; (2) giving high quality advanced training; and (3) equipping the graduate or professional student with conceptual tools by which he or she may relate to society through the field to cope with changing events and influence the future course of events.

DISPLAY 1 Graduate and Undergraduate Enrollment in the University of California and Selected Postsecondary Institutions, Fall 1999



DISPLAY 2 Graduate and Undergraduate Enrollment in the California State University and Selected Postsecondary Institutions, Fall 1999



In the middle of the 20th century when California was one of the few states supporting a world-class public research and teaching structure, attracting the finest graduate students was relatively uncomplicated. Now, however, every state in the country is a contender and the competition for graduate students is intense. Increasingly, it is necessary to offer a good financial package, a challenging research opportunity, and attractive fellowships in order to bring to California institutions those capable of break-through research and innovation.

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. Doctoral students are the research leaders of tomorrow. Outstanding graduate students invest their energies and knowledge in institutions boasting strong faculty, sophisticated research equipment and up-to-date library and information resources. Fresh graduate talent should be treated as a serious and ongoing priority. Assuring the necessary resources is essential to that commitment.

Research Research, particularly university-based research, has both economic and educational values. By supporting creativity and the pursuit of new knowledge in all of its many forms, the State ensures that its postsecondary educational institutions' teaching and public service missions are vital and up-to-date.

Scholarship in its broadest sense includes (1) creative activity – development and transmission of original ideas and forms; (2) research activity – exploration, both basic and applied, to extend the boundaries of knowledge and technology using appropriate available methodology or devising new approaches, and dissemination of results; and (3) expository activity – new means of synthesis and presentation of existing knowledge.

The interaction of ongoing creative scholarship and research programs with instructional and public service programs gives California's institutions of higher learning, particularly the research universities, a distinctive character within the State. Through many scholarly activities these research universities contribute to the economic and cultural well being of California and to the solution of scientific, technical, and social problems confronting all of society.

The three functions often ascribed to higher education – teaching, research, and public service – are not separate but interdependent and complementary. Research is a basic component of good teaching, the source of new knowledge, and the means of producing scholars to carry out the work of expanding knowledge. The habits of mind necessary to function well as educated people are also those fundamental to research: curiosity, the ability to ask relevant questions and the competence to find ways to

progress toward answers. A good teacher develops these traits in students and exemplifies them in the approach to the field of study. Thus students and teachers are mutually involved in knowledge development. This process and interrelationship is especially characteristic of and fundamental to graduate education but can and should occur at all levels.

Public confidence in the ability of research to solve problems is high; yet there is ambivalence about the support of research in universities. The prioritization of limited resources toward undergraduate education has been and continues to be a significant commitment. One reason is the widespread, if ill-founded, impression that research competes with rather than contributes to the achievement of good teaching. Another source of reluctance to commit public funds is the inability to visualize the possible long-range benefits inherent in the basic research characteristic of much of the university-based activity.

Historically, the State of California has invested minimally in direct support for research activities at public universities. State expenditures for research in public universities in California did not increase in any significant degree until very recently. Most recently, the Governor's Initiatives relating to research did result in a marked increase. Funding support by the Governor has resulted in three (3) substantive research grants to the University of California in partnership with some of the most established private sector businesses in California. A commitment to a fourth project as soon as funds can be identified assures that more attention will be given to the role that research plays in the advancement of this State. It is important to note that the institutions are using the state appropriations that have been provided effectively as leverage to bring in many additional outside dollars for research.

Much research support comes from federal government. The cost of university-based research, however, is only a small proportion of expenditures for research in the United States. For example, in 1999, industries in this country provided 7.5 percent (\$2 billion) of the total Research and Development (R&D) expenditures. In California, industry provided 6.6 percent (\$236 million) in research dollars. California Research and Development clearly need a push from more university research.

On a national scale, the following display represents federal Research and Development flowing into California in comparison with selected states for the period of fiscal year 1999. The data in Display 3 suggests that California receives a significant revenue stream to its institutions of higher education, and leads the top 10 states nationally in total Research and Development monies received. Historically, California has led the nation in total Research and Development monies received as well as from federal sources since at least 1992.

DISPLAY 3 Research and Development Expenditures Nationally and for Selected States by Source of Funds, Fiscal Year 1999

R&D expenditures at doctorate-granting institutions, by state and source of funds:
fiscal year 1999
[Dollars in thousands]

State	Total	Federal Government	State and Local Government	Industry	Institutional Funds	All Other Sources
Total U. S.	27,038,008	15,782,855 58.4%	1,958,050 7.2%	2,016,039 7.5%	5,316,785 19.7%	1,964,279 7.3%
California	3,572,900	2,138,671 59.9%	166,656 4.7%	236,438 6.6%	723,232 20.2%	307,903 8.6%
New York	2,028,668	1,309,809 64.6%	82,155 4.0%	97,407 4.8%	318,344 15.7%	220,953 10.9%
Texas	1,800,582	954,841 53.0%	179,627 10.0%	159,439 8.9%	297,542 16.5%	209,133 11.6%
Pennsylvania	1,389,395	899,053 64.7%	51,785 3.7%	153,606 11.1%	200,269 14.4%	84,682 6.1%
Massachusetts	1,380,737	1,008,037 73.0%	32,735 2.4%	124,412 9.0%	85,095 6.2%	130,458 9.4%
Maryland	1,379,742	1,051,429 76.2%	76,096 5.5%	33,561 2.4%	150,686 10.9%	67,970 4.9%
Illinois	1,086,793	618,342 56.9%	60,265 5.5%	55,164 5.1%	270,777 24.9%	82,245 7.6%
North Carolina	980,612	515,116 52.5%	120,297 12.3%	178,754 18.2%	140,443 14.3%	26,002 2.7%
Michigan	913,823	505,545 55.3%	58,326 6.4%	59,130 6.5%	228,315 25.0%	62,507 6.8%
Georgia	828,886	371,177 44.8%	73,687 8.9%	89,612 10.8%	258,131 31.1%	36,279 4.4%

NOTE: Because of rounding, detail may not add to totals.

SOURCE: National Science Foundation/Division of Science Resources Studies, Survey of Research and Development Expenditures at Universities and Colleges, Fiscal Year 1999

While it is often pointed out that universities tend to do research in the basic sciences whereas private industry research is based on the application of basic science, the reality is that these two concepts of research are by no means mutually exclusive. They complement each other, and university as well as industrial personnel carry on both. It is not surprising, therefore, to find the growth of high technology, knowledge-based industry occurring most frequently in close proximity to universities.

In fact, it is this cross-fertilization between academic and industrial research that distinguishes the United States from other nations and the reason that university scientific discoveries are rapidly translated into new industries, products, and service. The general economic health of California results in part from the resilience resulting from the high technology industries, which have developed here along with medical advances and biotechnology. Computer and electronic industries, agri-business,

biotechnology, and related fields, for example, are dependent upon university research capability and highly trained personnel.

A further indication of the relative strength of California institutions is reflected in Display 4. It is a comparison of total Research and Development expenditures at University of California and California State University campuses with several of their "comparable" institutions nationally from 1992 through 1999.

DISPLAY 4 Research and Development Expenditures

Total R&D expenditures at universities and colleges:
fiscal years 1992-1999
[Dollars in thousands]

Institution and ranking	1999	1998	1997	1996	1995	1994	1993	1992
California State University								
CA Maritime Academy								
CA St Poly U Pomona	1,069	1,331 i	1,589 i	1,847 i	2,105 i	2,363 i	2,621	1,784
CA St Poly San Luis Obispo	11,892	5,972	5,648 i	5,324 i	5,000 i	4,676 i	4,352	3,079
CA St U, Bakersfield	200 e	274 i	346 i	418 i	490 i	562 i	634	-
CA St U Channel Islands								
CA St U Chico	3,106	3,376	3,558	1,629	3,413	2,158	2,158	1,826 i
CA St U Dominguez Hills	8,517	7,191 i	5,869 i	4,547 i	3,225 i	1,903 i	581	-
CA St U Fresno	11,450	10,345	8,785	7,546 i	6,309 i	5,072 i	3,835	3,388 i
CA St U Fullerton	1,749 i	1,749 e	1,749 i	1,749 i	1,749 i	1,749 i	1,749 i	1,749 i
CA St U Long Beach	31,283	18,563 i	5,843	5,843	5,676 i	5,509 i	5,342 i	5,175 i
CA St U Los Angeles	535	1,033 i	1,531 i	2,029 i	2,527 i	3,025 i	3,523	3,274 i
CA St U Monterey Bay								
CA St U Northridge	3,230	2,175	3,059 i	3,940 i	4,821 i	5,702 i	6,583	-
CA St U Sacramento								
CA St San Bernardino	3,301	390	340 i	294 i	248 i	202 i	156	125 i
CA St U San Marcos								
CA St U Stanislaus								
Humboldt St U	5,557	4,417	4,175 i	3,937 i	3,699 i	3,461 i	3,223 i	2,985 i
San Diego St U	45,579	41,915	40,586	43,201	35,287	29,309	32,493	30,683
San Francisco St U	5,000 e	5,079 i	5,155 i	5,231 i	5,307 i	5,383 i	5,459	4,728 i
San Jose St U	21,005 e	21,005 e	21,005 i	21,005 i	21,005 i	21,005 i	21,005	18,326
Sonoma St U	134	194	-	-	-	-	-	-
Selected Institutions								
Arizona State University	107,184	92,019	80,740	84,653	77,009	62,563	66,142	69,346
Cleveland State U	11,893 e	11,211 e	10,884 e	10,690 i	10,496	10,570	9,803	10,939
George Mason University	26,766	22,543	19,126	23,230	22,221	18,871	15,830	11,930
Georgia State University	36,523	31,153	27,069	18,114	17,867	17,100	12,133	10,026
Illinois State University	4,326	4,688 e	4,596	4,608	5,166	5,071	4,535	3,294
North Carolina Central U	825 e	869	869 e	852 i	835	409	335	755
Rutgers the State U NJ	213,838	197,053	183,038	185,103	192,263	173,211	161,025	162,089
SUNY at Albany	64,278	50,568	57,415	66,247	38,771	43,353	37,860	35,856
University of Colorado	318,618	311,203	269,816	251,301	243,932	234,267	193,217	176,266

University of Connecticut	134,986	134,448	140,840	147,522	139,956	136,740	133,054	124,010
U of MD Baltimore	140,903	143,321	134,808	122,207	107,874	110,866	111,772	100,312
U of Nevada Reno	47,939	45,476	52,703	47,977	46,783	42,176	38,564	37,546
U TX at Arlington	11,450	19,075	37,509	24,010	21,135	17,453	14,834	13,896
U WI-Milwaukee	22,207	20,807	19,995	19,679	19,684	19,180	18,245	18,567
Wayne State University	146,832	138,456	124,383	112,151	106,140	94,632	85,627	81,127
University of California								
U CA Berkeley ²	451,539	420,426	377,376	316,320	291,200	289,632	284,346	284,545
U CA Davis	307,950	288,796	267,341	254,604	244,116	230,147	223,758	209,282
U CA Irvine	141,842	130,415	119,669	119,647	109,908	104,778	100,631	89,275
U CA Los Angeles	477,620	447,367	398,865	354,645	303,668	279,869	277,974	270,954
U CA Riverside	75,821	79,775	75,486	71,495	62,539	60,995	59,065	57,536
U CA San Diego	461,632	418,790	376,655	371,509	357,333	331,901	307,051	282,114
U CA San Francisco	417,095	379,970	343,384	320,757	329,742	312,393	314,599	295,784
U CA Santa Barbara	104,561	96,034	91,149	91,284	78,737	73,619	68,775	66,007
U CA Santa Cruz	52,902	56,533	49,428	51,062	44,294	42,457	37,886	36,413
Selected Institutions								
California Inst of Tech ²	212,216	185,066	177,888	157,005	138,016	127,946	115,439	111,733
Harvard University	326,193	306,100	299,961	282,443	276,422	278,459 e	257,207	253,126
Stanford University	426,549	410,309	395,310	351,526	318,871	318,561	306,676	367,980
SUNY at Buffalo	166,823	151,650	135,663	137,701	143,768	141,092	128,203	128,428
U of Illinois Urbana-Cham	358,247	329,266	286,470	268,995	246,174	245,407	252,811	251,970
University of Michigan	508,619	496,761	483,485	468,876	443,070	430,778	425,868	393,059
U of Southern California	280,741	268,806	259,246	244,258	222,159	207,275	-200,822	194,740
University of Virginia	157,487	139,135	114,085	97,334	136,679	129,504	115,786	110,103
Yale University	274,050	262,680	245,536	234,901	231,819	224,939	226,850	211,569

² These data do not include R&D expenditures at university-administered federally funded research and development centers.

KEY: -- = not available

e = estimated

i = imputed

SOURCE: National Science Foundation/Division of Science Resources Studies,
Survey of Research and Development Expenditures
at Universities and Colleges, Fiscal Year 1999

Discussion of the economic importance of research tends to focus on scientific research and its technological applications. Less immediate and dramatic benefits accrue to the State and nation through research in the humanities and social sciences. Such studies focus on the solution of social, economic, environmental and educational problems, many of which were attributable to rapid changes in, brought about by technological developments. Certainly not the least of the benefits of research in the past century has been the application of social and scientific research toward the improvement of the health and well being of the American people.

If university faculties are to keep up with developments in their fields, to contribute to expanding knowledge and to train students as participants in the research process, they must be provided the means to do so. Although

funding for research may appear to be very costly when considered as an independent or isolated expenditure, the State dollars spent for this purpose are a long-term investment, returning inestimable educational and economic benefits to the State.

Conclusion The Commission stands ready to work with leaders from California government, education, and industry who will be called upon to identify the State's outstanding needs in the areas of graduate education and research and to address the recognized needs.

In a preliminary perspective, the Commission believes that within public institutions and their institutional mission, efforts should be undertaken to keep graduate assistantships and fellowship stipends competitive and programs of graduate fellowships to recruit academically distinguished students should be enlarged. In those graduate programs preparing students for employment in business and industry, universities should attempt to obtain supporting funds directly from the relevant enterprises.

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.

As an initial step, the Commission fully expects that the information provided by the independent sector, the University of California, and the California State University will enable it to have an understanding of the issues and future direction. From the discussion, the Commission anticipates that it will be in a position to offer its recommendations associated with legislative and budgetary priorities aimed at addressing the need to increase California's investment in its graduate education programs and research that better accommodate students in the overall process.

ACADEMIC SENATE
of
THE CALIFORNIA STATE UNIVERSITY

AS-1987-91/AA
February 28-March 1, 1991

RECOMMENDATIONS ON STUDY OF GRADUATE EDUCATION

WHEREAS, The Academic Senate of the California State University is on record as supporting with only minor reservations the Report of the Advisory Committee to Study Graduate Education in the CSU; and

WHEREAS, The Board of Trustees received a modified report with its recommendations, and requested the Chancellor to review the recommendations, and to prepare a plan for accomplishing the goals of the report and its recommendations; and

WHEREAS, The Chancellor's staff have prepared (Draft Implementation Plan for Recommendations on Graduate Education 5/1/91) such an implementation plan; therefore be it

RESOLVED: That the Academic Senate of the California State University express support for the Draft Implementation Plan for Recommendations on Graduate Education; and be it further

RESOLVED: That the Academic Senate of the California State University urge the Board of Trustees to endorse the definition of quality in graduate education as the standard for graduate programs in the CSU as recommended in the Report of the Advisory Committee to Study Graduate Education in the CSU and set out in the Draft Implementation Plan for Recommendations on Graduate Education, Section Ia.

APPROVED UNANIMOUSLY - May 2, 1991

THE CALIFORNIA STATE UNIVERSITY
Office of the Chancellor
400 Golden Shore
Long Beach, California 90802-4275

Code: AAP91-04

Reply Requested
March 15, 1991

Date: January 16, 1991
To: Presidents
From: Lee R. Kerschner, Vice Chancellor
Academic Affairs
Subject: Recommendations on Study of Graduate Education

At its meeting, of November 27-28, 1990, the Board of Trustees adopted the following resolution pertaining to proposed recommendations on graduate education:

RESOLVED, By the Board of Trustees of The California State University, that the Board receives the report of the Advisory Committee to Study Graduate Education in the California State University, with the recommendations as shown in Attachment A to Agenda Item 2 of the November 27-28, 1990, meeting of the Committee on Educational Policy; and be it further

RESOLVED, That the Board of Trustees requests the chancellor to review the recommendations contained in the report to determine:

1. those that can be effected immediately, without additional resources;
2. those that can be effected only if additional resources are obtained,
3. those that would require changes in Board of Trustees policies or regulations;
4. those that would require action by campus senates and presidents; and
5. those that have implications for collective bargaining agreements;

and further requests that the chancellor prepare, with appropriate consultation, a plan for accomplishing the goals of the report and its recommendations; and be it further

Distribution: Vice Presidents, Academic Affairs (w/attachment)
Associate Vice Presidents, Academic Affairs (w/attachment)
Deans of Graduate Studies (w/attachment)
Chairs, Academic Senates (w/attachment)
Chancellor's Office Staff

RESOLVED, That the Board of Trustees directs the chancellor to encourage the campus presidents and faculty to pursue actively the goals of the recommendations of the report, subject to available resources, and to file periodic reports to the chancellor on campus progress towards the goals, and be it further

RESOLVED, That the Board of Trustees acknowledges the need to meet and confer with the appropriate bargaining agents as required by law; and be it further

RESOLVED, That the Board of Trustees expresses its appreciation for the work of the Advisory Committee to Study Graduate Education in the California State University.

I am pleased to forward to you, attached, the full report of the Advisory Committee to Study Graduate Education in the California State University. As you can see from the above resolution of the Board, a sorting of recommendations and an implementation plan have been requested. I am enclosing the proposed plan (labeled D 1/1 4/9 1), which will be submitted as an information item to the Board in March and as an action item in May, and I am seeking your comments and suggestions on the placement of particular recommendations into categories and on the implementation plan proposed within each category. The draft will be discussed at the Executive Council meeting, of February 13, but a formal campus response is being requested after that date.

This is not a request for comments on the recommendations themselves. The campus responses to the recommendations were sought from you in an earlier draft version distributed in September 1989 (AAP 89-35), and were subsequently used by the Advisory Committee to modify its recommendations. In preparing its final recommendations, the committee was able to incorporate most of the suggestions and accommodate most of the concerns made by campuses in their formal responses. Because the recommendations were renumbered after the campus responses were received, I am attaching a table that cross-references the numbers in the attached Trustee document; shows which recommendations were subject to comment by campuses; and shows whether the recommendations were revised as a result of campus comments.

While the proposed plan will be presented as an information item to the Trustees in March as it is shown in the attachment, we plan to address campus recommendations in the action item scheduled for the May Trustees meeting. To meet the agenda deadline, we will need formal campus responses by March 15, 1991. Please address questions to Dr. Sally Casanova (213) 590-5952 or ATSS 635 5952) or Dr. Janice Erskine (213) 590-595').

Attachment 1

Implementation Plan for Recommendations on Graduate Education

1. Recommendations that can be effected immediately, without additional resources.

a) The Board of Trustees endorses the following definition of quality in graduate education as the standard to which graduate programs in the California State University should aspire

Graduate programs of quality in the CSU require:

1. An institutional infrastructure which provides:
 - * appropriate standards and processes for admission, continuation, and graduation;
 - * adequate facilities and resources (including library and information technologies) to conduct graduate work and research at an appropriate level and in an appropriate and timely fashion;
 - * recognition of the need for appropriate teaching loads, resources for research opportunities to maintain professional and pedagogical currency, and opportunities for renewal for faculty who teach graduate courses;
 - * a scholarly environment providing such support programs as visiting lecturer series and faculty seminars.
 - * appropriately qualified faculty to teach graduate courses or direct graduate research;
 - * the involvement of graduate students in the program evaluation process, and
 - * the opportunity for graduate students to participate in the intellectual discourse of departments.
2. A personalized learning format that permits greater student-professor contact (instruction, advising, and

guidance) than the undergraduate model.

3. A core curriculum in each program (where it applies) which emphasizes integration of knowledge and preparation for specialization and which is designed to assure mastery of requisite knowledge and skills.
4. A curriculum characterized by advanced disciplinary content and intellectual rigor beyond the baccalaureate level which imparts within its scholarly or professional context an appreciation of the intellectual and/or professional contributions of women and minorities, and prepares scholars and practitioners for a diverse society.
5. A teaching faculty with the Ph.D. (or other appropriate terminal degree) and relevant professional experience where required.
6. A required demonstration of fundamental knowledge of research methods appropriate to the discipline.
7. A required demonstration of oral and written communication skills.
8. An opportunity to integrate and apply sophisticated knowledge in internships or practice related to the discipline.
9. A required culminating experience (e.g., thesis, project, or comprehensive examination) which demands demonstration of breadth of knowledge in the discipline, depth in specific areas, and the ability to integrate that which has been learned. (Recommendation 1)

b) The Board of Trustees directs the Chancellor to take the necessary steps to implement the following policies and/or practices, effective immediately:

• New graduate programs should be initiated only if they have the enrollment potential to achieve this [four courses annually] minimal level of course offering. (Portion of Recommendation 3b)

• Information about successful approaches [to ensuring graduate student writing competency] should be disseminated among the campuses. (Portion of Recommendation 4)

• California State University campuses proposing joint doctoral programs shall evaluate proposals on the basis of the following minimal criteria:

1. Faculty with extensive experience in offering graduate programs, including supervision of thesis research; extensive, relevant, and on-going research experience and interest; demonstrated potential for obtaining funding for research.

2. Space, facilities, equipment, and support staff required for doing advanced research in the discipline.

3. Potential for obtaining funding to provide financial support for students and for student research projects.

4. Library holdings and staff appropriate for advanced study and research in the discipline. Institutes or Centers engaged in relevant work on the campus or in the region are desirable. (Recommendation 8)

• The Office of the Chancellor should add as criteria for system approval of new master's degree programs evidence of a department's capacity to support the level of research required for a graduate program, the capacity of the proposing department to offer at least four graduate level courses per year, departmental plans for recruiting underrepresented students, and campus/-departmental plans for assuring that each student is assigned to a major professor and a faculty committee. (Recommendation 15)

• System guidelines establishing minimum standards for graduate certificate programs should be developed. Authority for approval of graduate certificate programs should remain delegated to the campuses. (Recommendation 17)

• A separate graduate application form should be designed, taking into account the need to expedite student notification of admission while simultaneously recognizing the primary role of the department in the process of graduate admission.

(Recommendation 14)

• The Chancellor should establish a Task Force to develop a comprehensive, strategic plan for addressing the generation of resources for instrumentation, technological, and other support needs of The California State University instructional program. That plan should incorporate recommendations for change in Federal and State policies; steps to increase the competitiveness of CSU in receiving donated equipment; changes in laws on gifts, bequests, and donations; proposals for new methods of financing; and such other strategies as may be developed. The Task Force should include campus representatives with expertise on the special instrumentation and technological needs of graduate and professional programs and expertise on public financing. (Recommendation 19)

c) The Board of requests that staff return with an action plan to implement the following recommendations:

• The Board of Trustees should aggressively support the Student Aid Commission in its attempt to seek full funding for financial aid programs in order to permit all students who are eligible to receive aid. (Recommendation 25a)

*The Board of Trustees should seek statutory changes that would permit the California Graduate Fellowship program to include full fees and sufficient funds in its grants for living expenses. (Recommendation 25b)

**The CSU Board of Trustees should establish or attempt to have an appropriate funding agency establish a program of financial aid for postbaccalaureate students who are preparing for entry into master's degree programs. (Recommendation 25c)*

2. Recommendations that can be effected only if additional resources are obtained.

The study of graduate education had several recommendations for the generation of additional resources for graduate education. While several of these budget items were in fact requested in 1991-92 Program Change Proposals, it is clear that funding possibilities are slim until the State revenue situation improves. As soon as feasible, the Board requests that proposals be prepared to ensure that explicit State support is generated for the following activities, all of which are required to meet fully the definition of quality in graduate education.

**Faculty who earn workload credit for supervising graduate theses and projects should receive compensating courseload reductions. The Office of the Chancellor should seek necessary formula adjustments, and the campuses should assure that workload policy permits such recognition. (Recommendation 23a)*

**The recommended instructional workload for those with significant responsibilities for graduate instruction should be reduced. The California State University should seek funding to implement this workload provision. Budgetarily, this could be accomplished by changing the definition of a full-time equivalent graduate student to 12 Student Credit Units instead of the current 15, by negotiating an increase in the weighting assigned to graduate course units, or by adjusting the normative ratios by which faculty positions are generated for graduate instruction. (Recommendation 23b)*

**The California State University should continuously seek the number of faculty positions required to provide instruction of*

quality. A portion of these positions should be dedicated to tasks in support of graduate education beyond those associated with direct instruction. (Recommendation 24a)

**The Board of Trustees should continue to seek funding to meet the needs of CSU libraries, including funding to keep pace with inflationary price increases. In addition, The Office of the Chancellor, in consultation with CSU and other cooperating library directors and the Deans of Graduate Studies, should develop a specific plan for providing CSU graduate students and faculty with electronic access to specialized information not available in local campus libraries. Attempts should be made to develop mechanisms for communicating widely and quickly the information available to graduate students and faculty. (Recommendation 24b)*

**State support for research, scholarship, and creative activity should be increased to a base level of need expressed by faculty in 1988-89. At such time as the funding is increased, the Advisory Committee on Research, Scholarship, and Creative Activity should revise the program guidelines to permit flexibility in support of faculty time, including released time. (Recommendation 24c)*

**The Board of Trustees should seek General Fund support of the Doctoral Incentive/Forgivable Loan for Minorities and Women and the California Pre-Doctoral Program for Minorities and Women. To further support minority students and women in significantly the number of fellowships currently awarded. The Chancellor's Office should study the possibility of combining these categorical programs to provide campuses with greater flexibility in meeting the unique needs of local graduate students for support in master's and doctoral degree programs. (Recommendation 25e)*

3. Recommendations that would require changes in Board of Trustees policies or regulations.

The Board of Trustees requests that the Chancellor initiate consultation to effect the following changes:

** Title 5 should be revised to implement the admission categories proposed in Recommendation 12 [below] and to implement the required increase in graduate level coursework from 50 to 70 percent as proposed in Recommendation 3 [below]. (Recommendation 16)*

• The percent of graduate coursework required in a graduate program should be increased from 50 to 70 percent (e.g., from 15 units to 21 units in a 30-unit program). A phase-in period of five years should be permitted for existing programs. (Recommendation 3a)

• The following categories of postbaccalaureate student should replace current Title 5 categories and be used by all CSU campuses for admission and student classification and for systemwide reporting: Graduate Classified, Graduate-Conditional, Graduate-Special, Postbaccalaureate-Credential Certificate, and Postbaccalaureate (2nd Baccalaureate Degree). (Portion of Recommendation 12)

• The Office of the Chancellor should create a position classification that will accommodate graduate students who are teaching under supervision. (Recommendation 18)

4. Recommendations that require action by campus senates and presidents.

The Board of Trustees encourages campuses to adopt policies and practices that support quality in graduate education. As the study of graduate education says, those recommendations on campus infrastructure attempt to protect campus autonomy in matters of administration while recognizing that any campus placing a priority on graduate education will need to support it with appropriate administrative and policy structures. The recommendations on budgeting are grounded in the

assumption that budget generation is a matter of system formulas and Trustee action, while budget allocation, which is a campus responsibility, will allow for needed local flexibility in the assignment of priorities. In accord with the advice of the committee the following recommendations are supported by the Board as defining sound practice at the graduate level, but they are advisory rather than mandatory to the campuses.

• Campuses should assure that students have an organized program of advisement and that all students' progress be monitored. Each graduate student should have a major professor and a faculty committee. The committee should normally be chaired by a tenured or tenure-track faculty member with the Ph.D. or appropriate terminal degree who is also the thesis adviser and/or major professor for the student. (Recommendation 2)

• Each department offering a master's degree program should make available at least four regular graduate courses in addition to supervision and independent study per year. (Portion of Recommendation 3b)

• The use of graduate independent study courses should be carefully controlled, and no graduate program should utilize independent study courses (excluding thesis or project) to meet more than 20 percent of the unit requirements for graduate level work. In disciplines which are research-intensive, 30 percent is allowable. (Recommendation 3c)

• The use of "dual-listed" courses (courses offered under both an undergraduate course number and graduate course number and which enroll both undergraduate and graduate students) should be eliminated or limited to a few justifiable instances (e.g., studio or laboratory courses where the instruction is one-on-one). Existing small programs central to each University's mission may use, dual listing where it is necessary to assure sufficient offerings and where course requirements are clearly more rigorous for graduate students. (Recommendation 3d)

• *The development and assessment of graduate student writing competency demands renewed attention. Procedures for assuring writing proficiency both prior to admission and at advanced levels should be periodically examined by each campus. While all students must meet campus standards, alternative means of meeting those standards for students with special needs should be arranged. (Portion of Recommendation 4)*

• *When reviewing proposals for new master's degree programs, each campus should use, as one of the criteria for approval, the department's ability to provide graduate students with appropriate opportunities for research, scholarship, and creative activity. (Recommendation 5)*

• *Teaching opportunities or training should be provided to students as a regular part of graduate programs where appropriate to the discipline. All graduate students employed by the CSU in teaching positions shall be required to participate a discipline-related seminar, or the equivalent, on teaching. Each campus should provide an orientation or workshop for graduate students who will teach. (Recommendation 6)*

• *The choice of culminating experience should be that which is educationally most appropriate to the student, and to the discipline. Where a project or exam serves as the culminating experience, it should be equivalent in rigor to the thesis. An oral defense should be part of the culminating experience. (Recommendation 7)*

• *Policies concerning the qualifications of faculty teaching or serving in other roles in graduate programs should be established at each of the campuses. (Recommendation 9)*

• *Regular program review and evaluation should be used by each campus to assess the quality of its graduate program. The evaluation design should ensure that the graduate program is given specific attention separate from the other offerings of the*

department. The program review guidelines now used at each campus should be reviewed and revised to incorporate the specific criteria and indicators of quality set forth in Section I, above, and in the following recommendations on campus policies and practices. External reviewers should be used in all evaluations of graduate programs, and graduate program review should be monitored by the Dean of Graduate Studies. (Recommendation 10)

• *In addition to assessment of discriminatory barriers, each campus should explicitly assess the needs of all present and potential students in its constituency and develop plans to address the special needs of graduate students. (Recommendation 11)*

• *Graduate certificate programs should be utilized as a means of responding to student needs for occupationally related graduate coursework without unduly interfering with degree programs. The graduate dean should have administrative responsibility for policies and for monitoring of graduate certificate programs. (Recommendation 11)*

* *The department (or program) should be responsible for recommending admission of students to graduate programs. Students should be admitted either to Graduate-Classified or Graduate-Conditional status from the outset, if the students' objectives are a graduate degree and they are eligible for admission. Students not admitted to the department or program may be admitted as Graduate-Special, with the understanding that Graduate-Special students are not eligible to take graduate coursework in the department (or program) in which they have been denied admission, without explicit approval of the graduate dean and the department or program graduate coordinator. (Portion of Recommendation 12)*

• *To improve the pipeline which ultimately produces doctorally qualified faculty, each campus should attempt to reach an agreement with doctoral granting institutions for articulation of one or more of its master's degree programs with a doctoral program,*

emphasizing those fields where the underrepresentation of women and minority faculty is most acute. The CSU in addition should increase the number of joint doctoral programs it offers. (Recommendation 13)

- Each California State University campus should identify an administrator who is the chief spokesperson for graduate education and who has direct administrative responsibility for actions and policies affecting the quality of graduate programs. This individual should be the designee of the president in such areas as admissions and graduation policies involving graduate students; should be centrally involved in graduate program development and evaluation, including decisions regarding the implementation of programmatic or budgetary changes that derive from such evaluations; and should be recognized as the campus official (under the president and in consultation with the faculty) most directly concerned with all matters pertaining to graduate program enhancement. (Recommendation 20a)

- The faculty graduate coordinator in a department or program should be recognized as an important element in promoting graduate student diversity and providing leadership necessary to the vitality and quality of the graduate program. Such recognition should be made explicit by adjustment of teaching load. (Recommendation 20b)

- A review of campus infrastructures (policies and practices) that support basic and applied research should be initiated by each campus. The review should consider such issues as hours of laboratory, library, and facility availability; computer access policies; equipment conditions and availability; campus policies for the governance of research; and processes for the flow of financial resources that support research.

- To support the kind of research required for graduate education of quality, campus policies on intellectual property rights should

be more clearly delineated, and procedures should be established which encourage faculty and students to produce and disseminate original work, with appropriate protection and advice for patents, licenses, and copyrights. (Recommendation 21)

- Means should be sought to increase graduate course enrollments to economically justifiable levels while increasing the availability of graduate level coursework. Such means might include "pooling" graduate courses between related departments, encouraging cross-registration, or coordinating graduate offerings in a between related departments, encouraging cross-registration, or coordinating graduate offerings in a region with other campuses and institutions. (Recommendation 22)

- Until such time as full funding is available to support graduate students who are eligible for financial aid, each campus should review its policies on the relative priority of undergraduate and graduate students for receipt of financial aid and consider the extent to which some percentage of financial aid funding should be reserved for graduate students, particularly for students who have historically been underrepresented in graduate study. (Recommendation 25d)

- Joint doctoral programs should be implemented only when supplementary budget support is provided for them. (Recommendation 24d)

5. Recommendations that have implication for collective bargaining agreements.

The following recommendations have been included in the categories above. They will need to be negotiated with the bargaining agent prior to implementation.

- Faculty who earn workload credit for supervising graduate theses and projects should receive compensating courseload

reductions. The Office of the Chancellor should seek necessary formula adjustments, and the campuses should assure that workload policy permits such recognition. (Recommendation 23a)

• The recommended instructional workload for those with significant responsibilities for graduate instruction should be reduced. The California State University should seek funding to implement this workload provision. Budgetarily, this could be accomplished by changing the definition of a full-time equivalent graduate student to 12 Student Credit Units instead of the current 15, by negotiating an increase in the weighting assigned to graduate course units, or by adjusting the normative ratios by which faculty positions are generated for graduate instruction. (Recommendation 23b)

• The faculty graduate coordinator in a department or program should be recognized as an important element in promoting graduate student diversity and providing leadership necessary to the vitality and quality of the graduate program. Such recognition should be made explicit by adjustment of teaching load. (Recommendation 20b)

Note: This draft contains recommendations submitted to the Board of Trustees in November 1990. In recommendations 8 and 13, references to doctoral programs have been revised to indicate that these are "joint doctoral" programs. All other recommendations are identical to those previously submitted.

SLC DRAFT 5/1/91 Grad mpl. May 91