

Increase Federal Funding for Graduate Student Support

Commission on the Growth and Support of Graduate Education
University of California
September 2001

The Importance of Increased Federal Research Support

Federal support is essential to the University's ability to increase graduate enrollment. The most crucial element of that support will be related to federal contracts and grants. Federal research funding currently provides \$72 million in research assistantships for today's graduate students, and given the enrollment increases proposed, especially in engineering and computer science, and the physical and life sciences, federal research contracts and grants to UC faculty must increase substantially to produce an additional \$52 million for research assistantships in these fields.

While we firmly believe that faculty of the caliber UC attracts will be competitive in acquiring research funding, the University administration must also work with the federal government to enhance its financial commitment to train the nation's future scientists. Efforts to increase the research budget of NSF will be particularly important, as well as continuing essential growth in research funding for NIH, NASA, the Departments of Defense and Energy, NEA, NEH, and other federal agencies.

Federal Fellowships and Traineeships

There are also two approaches we recommend the University pursue with regard to federal fellowships and traineeships:

- Support efforts to raise the annual stipend level for pre-doctoral fellowships or traineeships to attract the most talented individuals into doctoral programs.

Fellowship and traineeship funding are an important type of graduate student support because they enable graduate students to focus full attention on their studies. Because they are competitive, they also attract and reward the best students. The federal government is currently considering proposals to raise the stipend level for NIH and NSF fellowships and traineeships to \$25,000 over the next several years to attract the most talented individuals into doctoral study. We support these proposals and believe they should be extended to other federal pre-doctoral fellowships and traineeships. If the University of California sustains its typical proportion of these awards, this financial improvement could increase the stipends of 1,700 UC students, providing an additional \$14 million annually.

- Advocate increasing the number of pre-doctoral fellowships or traineeships in targeted areas by 1,500 nationwide.

The number of federal pre-doctoral fellowships and traineeships must also be increased to meet the nation's high-priority needs, including teachers for the next generation of college students and researchers and engineers for the nation's expanding R&D enterprise.

We recommend an increase nationally of 1,500 in three-year pre-doctoral fellowship or traineeship awards. These increases should be targeted to:

-Disciplinary areas already recognized as priorities by the federal government—e.g., engineering, mathematics, the physical and social sciences within NSF’s Graduate Research Fellowship (GRF) Program, as well as NSF’s Graduate Teaching Fellowships in K-12 Education, and fellowships offered by NIH, NASA, the Departments of Defense, Agriculture and energy, the Environmental Protection Agency, NOAA and other federal agencies.

-Fields where students now have limited opportunities for fellowship or RA support, such as the humanities, arts, and social sciences. In addition, some fellowship increases should be allocated to the need-based Javits Fellowship Program.

-Innovative programs, such as NSF’s Integrative Graduate Education and Research Traineeship (IGERT) and programs that promote diversity, such as the need-based Graduate Assistance in Areas of National Need (GAANN).

If these annual awards consist of a \$25,000 stipend and a maximum of \$10,500 for fees and educational costs, and if the University of California sustains its typical proportion of these awards (15%), UC students could expect to receive 225 additional fellowships, providing an additional \$8 million.

Increase Federal Fellowships and Traineeships	
	Initiative (in millions)
Engineering/Computer/ Physical Sciences	\$ 7
Life/Health Sciences	\$ 11
Humanities/Arts/ Social Sciences	\$ 4
Professions (Education, Business, etc.)*	\$ -
Total	\$ 22

*Does not include health sciences professions.

Create a State Postsecondary Teaching Fellowship Program

Commission on the Growth and Support of Graduate Education
University of California
September 2001

The University should propose that the State of California create a new program of "repayable fellowships" or "forgivable loans" for doctoral students in the University of California and California independent universities who agree, in return, to provide four years of teaching service in a postsecondary institution in California.

In the next decade, California postsecondary institutions will need to hire 40,000 faculty because of enrollment growth, retirements, and normal turnover. Ensuring that well-trained candidates are prepared for those positions will be essential if California is to keep its commitment to access to high-quality higher education for the state's young people at a time when California's population is becoming increasingly diverse. A State Postsecondary Teaching Fellowship Program would help meet state workforce needs for faculty at UC, CSU, the community colleges, and independent institutions, and would also help all of California's doctoral granting universities recruit and retain excellent graduate students by providing essential financial support for them. Because a program targeting future California faculty would be especially attractive to many Californians, including underrepresented students interested in college teaching, these fellowships would complement the University of California's continued commitment to substantial efforts in graduate and professional outreach.

The program's awards should be used as one-time, first-year fellowships for entering students, as a recruitment tool, and for continuing students to reduce their need to work during the years that they are taking their qualifying exams and/or completing their dissertation, and promote timely degree completion.

The awards should be based on merit, with selection of award recipients taking place at the campus level. The specific competitive criteria would depend upon the ultimate design of the program and the students that the program is attempting to target, but the selection process might involve previous academic and employment record, faculty and employer evaluations, interviews, and letters of recommendation. Selection of award recipients would take place at the campus level so that the fellowships could be an integral part of the packages campuses offer their prospective students and not duplicate other awards students might otherwise receive. As in other similar programs, funding for these awards would be allocated to the campuses by the state according to an agreed-upon formula. Such an allocation formula could be based on each institution's respective proportion of doctoral degrees issued statewide in the prior year, or could be designed to support growth in graduate enrollment.

Award recipients who failed to fulfill the teaching commitment would be required to repay the state a set amount, based upon the percentage of the service commitment that the recipient had not fulfilled. Recipients who fulfilled the entire service commitment would not be required to repay anything. The term of four years for the pledged teaching commitment is suggested here because that is the length of the service commitment required of teaching credential students in other state programs that award aid to those students in exchange for a service commitment.

The size of the awards should be tied to the size of National Science Foundation (NSF) Awards, which are moving rapidly toward providing a maximum of approximately \$25,000.

Not all of the next decade's 40,000 faculty positions, especially at the community colleges, will require doctorates. Assuming that future faculty distributions will resemble current ones, we estimate that about 60 percent (24,000) will go to doctoral degree holders. A state program that provided "repayable fellowships" to 1,600 students for an average of two years would provide a pool of 8,000 faculty over ten years as a substantial base for this recruitment. At \$25,000 each, the program would require \$40 million.

The state currently appropriates \$20 million for the Teaching Fellowship program designed to serve the state's workforce needs for high quality teachers at the K-12 level. Under this program teacher credential students, in programs that last one year, receive \$20,000 awards that are non-repayable if the recipient teaches for four years in specified California elementary or secondary schools. In recognition that doctoral programs are longer than teacher credential programs, on average five years, and therefore each student will need more support, it is proposed that the state allocate at least \$40 million for the Postsecondary Teacher Fellowship program described above. Given Ph.D. production patterns in California, it is anticipated that UC students would receive approximately half of the funding with the other half going to students at independent colleges and universities.

Create a State Postsecondary Teaching Fellowship Program	
	Initiative
	<u>(in millions)</u>
Engineering/Computer/ Physical Sciences	\$ 3
Life/Health Sciences	\$ 3
Humanities/Arts/ Social Sciences	\$ 9
Professions (Education, Business, etc.)*	\$ 5
Total	\$ 20

*Does not include health sciences professions.

**Create a Program of State Incentive Grants
for Students Awarded Prestigious National Fellowships**

Commission on the Growth and Support of Graduate Education
University of California
September 2001

The University of California is not competing as well as it should be for students with the strongest academic credentials. Many of the country's finest students apply for fellowships from certain federal agencies and major private foundations to support their graduate education. These fellowships, offered by the National Science Foundation, NASA, the Ford Foundation, the Mellon Foundation and others, bring the student \$22,000-\$27,000, are usually renewable for several years, and are portable; students can use them at any institution they choose to attend. The national programs providing portable fellowships tend to be very prestigious, and the students awarded them are heavily recruited and have many enrollment options. For example preliminary data from a survey of doctoral students admitted to UC for 2001-02 indicate that 59 percent of the students with portable fellowships were admitted to five or more programs, compared to only 40 percent of those without such fellowships.

In an attempt to capture as many of these students as possible, other universities often use some of their own institutional aid to supplement the student's portable fellowship. Among the survey respondents admitted for 2001-02, 58 percent received a supplemental institutional award from the top-choice non-UC institution to which they were admitted. These supplemental awards averaged over \$8,000. To compete effectively for such students, UC needs to do the same. While 48 percent of all survey respondents who were admitted to both a UC and a non-UC campus for 2001-02 planned to attend UC, only 32 percent of those with portable fellowships chose UC.

A number of factors contribute to enrollment choice, of which financial support is only one. However, we know that providing UC fellowships can make a difference. Among those in our survey who were offered a UC fellowship, 52 percent chose UC, while only 3 percent of those with no UC fellowship did so.

The State of California has a special interest in attracting excellent students to the University, because students who enroll here in graduate education often stay in the state for employment afterward. The state could contribute to UC's ability to enroll top students by providing matching funds which campuses could use to give portable fellowship recipients a "state incentive supplement" to encourage them to attend UC. At a minimum the supplemental award should cover any remaining tuition and fee charges not covered by the portable award. Most portable awards, in addition to providing a living stipend, pay for tuition and fees but place a cap on the amount. The fee cap for National Science Foundation fellowships, which is currently \$10,500, is typical. For UC graduate students paying nonresident tuition, such a cap means that the student would need a supplemental award of approximately \$5,000 just to cover remaining tuition and fee charges.

At the current time, UC enrolls approximately 360 students who are recipients of these prestigious national fellowships. We recommend that the state provide through UC's budget sufficient funds for a "state incentive supplement" of \$10,000 that would allow the University to compete with those in other states and recognize the higher cost of living in California. An incentive supplement at this level could be used to recruit 1,000 students with portable

fellowships. This investment of \$10 million would bring to California not only more of the nation's best minds, but also about \$25 million annually in national fellowship funding, as top students elect to attend UC.

Create a Program of State Incentive Grants	
	Initiative (in millions)
Engineering/Computer/ Physical Sciences	\$ 3
Life/Health Sciences	\$ 5
Humanities/Arts/ Social Sciences	\$ 2
Professions (Education, Business, etc.)*	\$ -
Total	\$ 10

*Does not include health sciences professions.

Develop a Program of Collaborative Industry-University Internships for Graduate Students

Commission on the Growth and Support of Graduate Education
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Each University of California campus should establish a Collaborative Industry-University Internship (CIUI) program for graduate students. Such a program should be designed to provide (a) practical experience complementary to a student's academic studies, (b) mentored training, and (c) financial support for graduate students. It would offer industries, in return, highly skilled, quality employees who are involved through their studies in cutting-edge ideas and research developments and a chance to mentor and evaluate students whom they may want to recruit as permanent employees after they graduate.

Collaborating industries could be quite varied and might include, for example, high-tech companies, manufacturing firms, publishing companies, financial and consulting firms, policy research institutes, environmental protection agencies, public relations firms, or retail businesses.

Implemented well, internship programs can strengthen the University's degree programs by adding to them an opportunity not only to apply the discipline's research skills in a real-world setting, but also to acquire business and professional skills that can complement graduate academic training and extend the students' career views beyond traditional academic paths. Internships would be of particular value in providing support for students in professional master's programs but could also offer doctoral students the opportunity to investigate career opportunities beyond academia.

The CIUI program should be modeled after existing successful programs like the SAGE (Student Achievement Guided by Experience) Scholars Program for undergraduates, now in operation at the Irvine and Berkeley campuses and in development throughout the UC system, or the UC Berkeley Engineering Cooperative Education Program, which enables undergraduates and graduate students to gain practical work experience in their chosen fields.

Building on these programs' patterns, the CIUI program would select graduate students for academic achievement and for the match between their skills and industry needs. Students accepted into the CIUI program would receive (a) fee awards at a UC campus, (b) career exploration and job shadowing within a participating employer community, and (c) comprehensive paid internships with sponsoring businesses.

Business sponsors would provide selected UC graduate students with comprehensive, paid multi-year internships and financial awards. Each company participating in the CIUI program would make an annual contribution per intern to the program fund. The fund would support student fee awards, with a small percentage directed for program development and administration. (The current contribution for sponsorship in the SAGE Scholars Program is \$6,500 per year per intern.) In addition, the company would pay interns directly for hours worked.

The intern programs could be designed so that interns worked part-time during the academic year (10-15 hours per week) and full-time for three months at sponsoring businesses (the SAGE pattern), or full-time for six months (the Berkeley Engineering pattern). CIUI program staff would work closely with students to answer questions, assist them in making wise career choices and selecting appropriate internships. The sponsoring businesses and interns would make the

final determination of placement. Interns would also be matched with business mentors and peer advisers. Students would be supported throughout the program with group orientations, career development programs and meetings with business partners, and in addition to their employment, would participate in coursework specially designed to enhance their business and leadership skills.

Developing such a program and the essential industry partnerships will require an initial investment of funds by each campus but should quickly become self-supporting. The initial SAGE experience indicates that this will require approximately \$100,000 per year to cover 2-3 staff FTE and program costs for the first few developmental years. It can provide graduate students with \$16,000-21,000 per year in fee grants and salary.

Because this internship opportunity would strengthen our academic programs, offer our students more career options, as well as financial support, and improve the University's support from business and industry, it would be a valuable investment.

Develop a Program of Collaborative Industry-University Internships	
	Initiative
	<u>(in millions)</u>
Engineering/Computer/ Physical Sciences	\$ 2
Life/Health Sciences	\$ 2
Humanities/Arts/ Social Sciences	\$ 1
Professions (Education, Business, etc.)*	<u>\$ 3</u>
Total	\$ 8

*Does not include health sciences professions.

Create a University of California Graduate Fellowships Endowment

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While much of the need for additional graduate student support can be met through increased federal and state commitments to graduate training, it will be particularly important to increase private giving and add significantly to the University's endowment funds in order to provide fellowship funding.

The key to competing successfully for graduate students is to be able to offer multi-year packages of funding that allow students to experiment freely within a discipline at the beginning of their program, work as teachers, researchers, and interns to develop their skills, and then be freed again to concentrate intensively on the dissertation that completes their degree. The ability to offer students full fellowships for their first year and for their dissertation year would make an enormous difference in the University's attractiveness and also in the students' ability to complete their degrees in a timely way.

At the current time, the University has a significant problem competing with other research universities for the best students because the work commitment we expect is greater than that of other universities. Students in the sciences and engineering have good access to research assistantships but not always to fellowship funding for the crucial first and last years, and students in the humanities, arts, and social sciences have a particular need for fellowships because research funding is harder to generate and the time demands of teaching assistantships demonstrably lengthen time-to-degree.

This Commission shares the concern expressed in the recent report of the Humanities Commission, submitted to the President in June, that University will have difficulty achieving even the modest growth planned in humanities fields at the quality level our faculty expect without more fellowship support. The problem is acute in the humanities, arts, and social sciences, but exists in all disciplines.

Solving this problem will require a significant effort to generate more foundation and private funding—both by increasing annual contributions and building an endowment. Our Commission believes the University should set as a goal the creation of a \$125,000,000 endowment, which would yield \$5,000,000 annually for graduate fellowships. This might be done as a systemwide, coordinated effort or by creating a systemwide umbrella for campus efforts. However, because we also recognize that building an endowment takes time, a balanced approach will be necessary that also emphasizes increased annual campus fund raising. Each Chancellor should make this a campus priority.

Create a UC Graduate Fellowships Endowment

	<u>Initiative (in millions)</u>	
	<u>Endowment</u>	<u>Annual Income Produced</u>
Engineering/Computer/ Physical Sciences	\$ 50	\$ 2
Life/Health Sciences	\$ 25	\$ 1
Humanities/Arts/ Social Sciences	\$ 50	\$ 2
Professions (Education, Business, etc.)*	\$ -	\$ -
Total	\$ 125	\$ 5

*Does not include health sciences professions.

Develop a Case for Increased Funding for Nonresident Graduate Students

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The Commission is deeply concerned about the University's ability to attract and fund nonresident, and particularly international, graduate students. It is understandable that the taxpayers of California would want to limit nonresident enrollments at the undergraduate level because its public university should give priority to State residents for bachelor's degrees. But at the graduate level, UC's responsibility is to draw into California the very best minds from throughout the country and the world in order to provide this state with the strongest possible research products and cutting-edge developments on which its economy thrives.

UC's proportion of nonresident students is low compared to other research universities, and their value to California is far higher than generally recognized. In addition to the contribution these bright students make to UC's research and instruction while they are enrolled, 40-50 percent of them typically remain in California after graduation, contributing to the State's economy, and many of those who return home remain connected to California in ways that benefit our state's economy and culture.

Because international students cannot become California residents and must pay nonresident tuition for every term they enroll, the cost is often an overwhelming challenge to them. Other comparable research universities waive nonresident tuition for teaching and research assistants and provide fellowship support for international students. While most UC campuses do pay for research assistants' tuition from grant funds and apply limited flexible funding to other high priority cases, there are considerable savings to those flexible funds if non-international students are chosen, presenting choices that can compromise quality.

There is no question that California's future will be an international one, and California's ability to be effective in that economy depends on educating here the people who will be its leaders. It is time to overcome the provincialism inherent in our tuition policy and recognize that the inclusion of students from other states and countries in our graduate programs is essential if UC is to support this state's future directions.

However, the Commission realizes that the present economy would likely preclude a state allocation to UC's base budget that would provide the \$10-15,000,000 necessary to support this priority, in large part, we believe, because the problem and lost opportunity are not well understood by the state, or for that matter, by private donors. Consequently, rather than recommend a funding strategy in this report, our Commission recommends that the University develop a solid case for more funding for nonresident students, gathering better data about their impact on California's economy and culture, demonstrating how they create jobs for California citizens and what they do for California when they return home. Then UC should embark on a campaign to inform decision makers about the importance of educating international students in our state and pursue the funding necessary to accomplish it at an appropriate level.

Make Graduate Education a Higher Internal Financial Priority

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University of California
September 2001

In addition to seeking greater financial support for graduate students from external sources, the University and each of its campuses must ensure that existing resources are being deployed in ways that help accomplish the planned growth in graduate numbers and the success of our students. The Commission recommends a careful reexamination of campus and systemwide policies and practices related to graduate student support, and annual attention to campus decisions that will be needed to keep the value of financial support from eroding in the face of rising costs (e.g., housing, nonresident tuition, and other future fee increases).

1. Reconsider current campus allocations

- Increase the return-to-aid from graduate fees to one-half from its current one-third.
- Review carefully all increases in funding that come to the campus and make graduate student support a priority for their use, e.g., revenue from non-resident tuition increases, and undesignated fund raising.
- Review all current scholarships, and where possible, introduce broader definitions of eligibility for them to include graduate students.
- Set a clear expectation with holders of endowed chairs that income from their chairs should be used for graduate student support to the extent possible.
- Use more federal work-study funds to fund teaching assistantships and research assistantships, as well as other professional work opportunities for graduate students who have financial needs. Consider using these funds as a leveraging match for industry internships if that would be useful.

2. Change Universitywide allocation policies and program requirements

- Given the improvements to undergraduate student aid in recent years, consider putting more emphasis on graduate funding in the allocation of the University Student Aid Program (USAP).
- Include nonresident tuition in the current Regental policy that allocates at least one-third of all fee increases to financial aid.

3. Change existing campus practices to facilitate UC's competitiveness

- Make graduate fellowships a clear priority for fund raising.
- Set an expectation for departments to offer multiple-year awards to entering graduate students, and facilitate the departments' ability to do so by creating a reserve fund to back up their commitments.

- Recognize that the purpose of graduate student support is to attract and keep the very best students for our programs, which is different from the undergraduate goal of access. Except in those instances where a demonstration of need is required by extramural fund sources, eliminate the use of federal need analysis in the distribution of University-controlled aid, which, at the graduate level, creates unnecessary administrative complications.

**Ensure that Graduate Student Housing Is a Priority on Every Campus
Especially for First-Year Students**

Commission on the Growth and Support of Graduate Education
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September 2001

Interviews with graduate students, faculty, and staff during the course of the Commission's work, and preliminary results from a Spring 2001 survey of 5,000 graduate students admitted to the University of California clearly indicate, with surprising consistency, what it is that matters in recruiting graduate students and helping them succeed in pursuing their degrees.

To recruit high quality graduate students, it is essential to offer excellent academic programs, interesting research opportunities, student support that is sufficient and guaranteed for several years, and access to affordable housing. The University has in place well-established mechanisms for ensuring the quality of its faculty, academic programs, and research activities, and the Commission is addressing the need for student support in other recommendations. However, there is also a need for each campus to address housing issues.

When students move from one part of the country to another, or even from one part of the state to another, the security associated with knowing they will have a place to live can make the difference in their willingness to do so. In the words of one student we interviewed, "It's scary not to have a place to live when you first arrive, or to have only bad housing options because it's all you can afford."

It is evident from the survey of admitted students that a number of UC's competitors guarantee affordable housing to first year students, including Caltech, Stanford, and Columbia, and that every one of the University of California's campuses is losing students because of concerns about the availability and cost of housing. For example, respondents said:

- There should be more available grad housing so we don't have to worry about being homeless when we get there.
- The primary reason I decided not to attend UC Irvine was expensive housing. The financial offer was very comparable to all other schools, but cost of living was far higher than in many other cities.
- Easier graduate housing would have helped. I dreamed of going to Berkeley for a long time, but I decided to go to Yale because I would not have to worry as much about money.
- Affordable graduate housing on campus helped me make Stanford as my choice for grad studies.
- Availability of more student housing or more affordable housing in San Francisco might have caused me to choose UC San Francisco.
- The fact that UCSB offered less money than other schools, yet has the highest housing costs of any schools I looked at was a large detraction.
- UC San Diego would have been an affordable option if I had access to graduate student housing.
- Compared to all the other programs that I was admitted to, UC Santa Cruz has probably the most unreasonable graduate student housing costs, and that was something that was affecting my decision process.

The Commission feels that this issue deserves a high level of attention on every campus. The University's Task Force on Housing will be examining this need in addition to housing issues for undergraduate students, faculty, and staff. It is our hope that the Task Force and each campus will seriously consider implementing the following recommendations:

1. Make first-year graduate students a priority in on-campus housing.
2. Work with campus housing systems and local landlords to set aside living space and enable financial offers to first-year graduate students to include offers of housing.
3. Include more family student housing in campus expansion plans.

Make the University of California's Campuses
the Ten Best Campus Environments in the Nation
for Graduate Students

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1. Review admissions and recruitment processes to make sure applicants' experiences foster their desire to enroll.
 - Each campus Graduate Division should work with academic departments to ensure that adequate priority is given to prompt correspondence with applicants, appropriate faculty contact, well designed visits, and timely reimbursement for applicants' expenses, paying special attention to problems identified in the Spring 2001 survey.

2. Ensure early and clear communications about what is available to graduate students and what is expected of them.
 - Every department should have an orienting seminar required of all first-year students that will:
 - introduce them to the range of intellectual activities available to them in the department
 - inform them about disciplinary issues such as the ethics of authorship in publication
 - provide information about the department's typical curricular patterns, time-to-degree, and the job placements of recent graduates
 - help them get to know each other, and
 - inform them about campuswide services and opportunities.

3. Ensure that faculty know what is expected of them in mentoring graduate students and that the responsibility is carried out well.

- The Council of Graduate Deans and campus Graduate Councils should be asked to work together on this problem and formulate campuswide and discipline-based approaches. Those approaches might include:

--asking every department to write a statement expressing its strategy for mentoring and feedback (how often, about what)

--offering systemwide, discipline-based symposia where faculty, and especially department chairs, can learn from each other the most successful practices for good mentoring

--designing an orientation for newly hired faculty members that will include an explanation of what the University expects of them in mentoring, and

--providing fallback advising for students who run into trouble with their mentors.

4. Provide community spaces for graduate students.

- Campuses should provide places on campus dedicated to graduate students in which they can gather, exchange ideas, study, and participate in the campus's intellectual life to contribute to community building for graduate students. Group study spaces, gathering rooms, and opportunities for cross-disciplinary interaction, in departmental or college spaces and in campus housing, can enrich traditional academic offerings and reduce the sense of isolation felt by many graduate students. Simple facilities with lockers and microwave ovens could also be of great assistance to students who live off campus and would draw them to participate in such graduate centers.

5. Foster students' development as scholars and teachers.

- Departments should be more strategic about graduate seminars, incorporating in them opportunities to practice the skills and habits of scholars. Graduate seminars should assist students in making the sometimes difficult transition to being an independent scholar by encouraging conscious scholarly practice.
- Each department and each Graduate Division should create on-campus opportunities, for example research colloquia and teacher training programs, that will help students engage as members of the profession they are joining.
- All departmental websites should contain easy links to professional associations and information about conferences.
- Funding to enable graduate students to travel to conferences or to other campuses within California to deliver professional papers should be more available.

6. Assist graduate students with career planning and placement.

- Since a significant number of graduates are now pursuing non-academic careers, it is important to make sure that advice about those careers is available. Students need to

know what skills are necessary for different careers and what the potential is in their discipline for both academic and non-academic jobs. Each campus's career counseling center should have at least one staff member devoted to assisting graduate students.

- In addition to the career assistance Graduate Divisions now provide to students, they could be helpful by developing for the campus a clearer view of what CSU and the community colleges need from our graduates as they become faculty in those institutions, so that training about teaching techniques that go beyond normal departmental expertise can be developed as needed.

7. Provide well-planned, funded, and coordinated student services.

- Each Graduate Dean should review the articulation between services offered by the Graduate Division and by other Student Services units to be sure that graduate student needs are being met and that programs work well together. Each campus should assess the appropriateness of the extent to which student fee income from graduate students supports graduate services.

8. Implement family-friendly support services.

- Because many graduate students have families, their progress can be assisted by ensuring that family issues are addressed, for example:

- child care in non-traditional hours
- insurance for dependents
- adequate family student housing

Create and Use Benchmarks to Monitor Success in Graduate Education

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In order to ensure that the University of California's campuses and graduate programs are recruiting and retaining excellent students and offering them a first rate education and supportive campus and departmental environment, it is important to measure programmatic success and progress along a number of relevant dimensions.

1. Each campus should develop a set of benchmarks and the databases necessary to make use of them.
 - These should include measures of
 - the nature of the applicant pool (including the residency and undergraduate school of the applicant)
 - the program's success in recruitment (admits per applicant, enrollees per admit, and other measures of student quality, selectivity, and diversity)
 - the amount, type and source of student financial support awards
 - attrition and completion rates
 - time-to-degree
 - placement (preferably both 1-1/2 and 5 years after graduation)
 - student satisfaction with the program
 - The results should be reviewed in the context of information about the financial support packages received by students to ensure that campus support offers are competitive. The data gathered systemwide about net stipends in recruitment offers from UC and other institutions (i.e., fellowship, RA, and TA support less tuition and fee charges) can be particularly helpful in this regard.
 - The Council of Graduate Deans, working with the Office of the President, should oversee the creation of these data and measures to ensure that they have consistent data definitions that will permit intercampus comparisons.
 - Each campus Graduate Division and Graduate Council, in collaboration with departments, should develop benchmarks appropriate for different disciplines.
2. These data should be reviewed at campuswide and departmental levels.
 - Each campus Graduate Division and Graduate Council should review these benchmarks regularly.
 - Individual departments should be asked to consider the meaning of these benchmarks and think strategically about how they can improve their results.
3. Every Chancellor and Executive Vice Chancellor should make it a priority to ensure that each Graduate Division has sufficient resources to develop, maintain, analyze and use these benchmarks in the review of graduate programs.

- In addition to program review, campuses should consider other strategies to use these benchmarks to improve graduate programs – for example, by disseminating “best practices” to other departments, making evaluations public within the campus, or tying funding to successful program outcomes.

**Membership of the
Commission on the Growth and Support of Graduate Education**

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David Warren, Executive Vice Chancellor, UC Riverside
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Commission Process

The Commission on the Growth and Support of Graduate Education met four times, in January, March, May, and July of 2001. To address key areas of concern, it divided into four subcommittees:

Making the Case—how best can UC make a convincing case to potential funding sources to support graduate growth?

Government Funding—what is the potential for increased funding from the federal and state governments, and what approaches would work best to match their interests and UC's needs?

Private Funding—what is the potential for increased funding from industry, foundations, and private donors, and what approaches would work best to match their interests and UC's needs?

Campus Environment—what can the University do itself to improve our campuses' ability to recruit excellent students, offer them a superior experience, and ensure that they graduate in a timely way?

Each subcommittee reviewed available data and information in its area, gathered perceptions from students, faculty, and staff where more was needed, brainstormed ideas, and made recommendations to the Commission for consideration by the group as a whole. The Commission then identified and developed the most promising ideas, which are presented in this report.