Report of the Excellence in Delivery of Graduate Education (EDGE)
Strategic Planning Subcommittee

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Executive Summary

A Vision for 2020: Graduate Education at the Forefront

Enhancing UCR's reputation, expanding the research enterprise and extramural support, and attracting and retaining the most talented faculty all require a large contingent of the best and brightest graduate students. Therefore, as UCR moves to attain the profile of an AAU institution, we recommend that ***graduate education should be a central focus of the UCR campus, given priority for resources and - to the greatest extent possible - protected from cutbacks.***

What does it mean for graduate education to become a central focus of our campus, as it did for UC Irvine in the early 2000s?[1] It means that the needs of our graduate programs should have the highest priority, and that all major decisions should be evaluated with respect to their potential impact on graduate training and outcomes. For example:

- All faculty hires should be justified based on their potential contributions to graduate programs.
- The reward structure for faculty should provide concrete incentives for high quality mentoring, and for providing financial support of graduate students. The latter should be broadly construed to include not just PI support, but also faculty involvement in assisting students in applying for external fellowships and awards.
- Budgeting should emphasize improving the size and quality of graduate programs; graduate programs should be shielded from cutbacks to the greatest extent possible.
- Graduate student support should be a priority for campus advancement.
- Long-range campus planning should prioritize graduate student needs: family housing, childcare, a more livable campus that is a hub of activity in the evenings, on weekends, and during the summer.

Our vision for 2020 encompasses strategic growth of both academic and professional graduate programs on campus, in order to achieve an AAU profile. Therefore we recommend that UCR ***increase the proportion of graduate students to 20% of the total student population***. Assuming undergraduate enrollment remains constant, we would need approximately 4,250 graduate students (1,850 additional) in order to achieve this profile. Furthermore, we recommend that ***growth and development of graduate programs should be based on excellence.*** We envision graduate education at UCR in 2020 to have attained several centers of excellence in research and graduate training, characterized by cutting edge research of national and international prominence, and also linked wherever possible to the most pressing issues facing the Inland Empire community. These centers of excellence should not be focused in one college or one set of disciplines, but should instead reflect current campus-wide strengths, particularly those that have the potential to create coattail effects for related programs. We believe this can be best achieved by setting a goal of having at least 5-10 of our graduate programs ranked in the top 20 by the National Research Council (NRC), or other comparable rankings, with all other established programs ranked in the top 50.[2]

Attracting a larger number of talented graduate students will require additional financial resources, on a per-capita basis. Relative to other UC campuses, we found that overall funding of our doctoral students was below average, and funding provided by external sources (PI grants, training grants, and student-initiated fellowships) was well below average. We also found reason for concern campus-

[1] UCI Academic Senate Study Group on Graduate Education (2001).
[2] As of 1995, all but one of UCR's programs ranked by the NRC were in the top 80 but none was in the top 20.

wide about the certainty in continuation funding, and multiyear support. Therefore we recommend that ***graduate student financial support should be funded at a level that enables UCR to provide multiyear support packages that can close the competitive gap with other institutions, and meet our graduate enrollment targets.*** This additional expense should not be viewed as a cost, but rather as a strategic investment in our reputation and our ability to attract and retain high quality faculty who value access to a cadre of bright and engaged graduate students.

Talented graduate students who initially might be convinced to choose UCR, in part, by a competitive funding package may consider other options for completing their degrees if they do not feel well-served by their programs after enrolling. Adequate financial resources therefore must be complemented by a commitment to continual improvement of graduate education at the program level. Therefore we recommend that UCR work to ***promote the sense of ownership and goal achievement within graduate programs.*** Although some programs have already developed a culture of ownership by both faculty and students and self-assessment practices for continual improvement, all programs must do so if we are to achieve an AAU profile and improve the overall reputation of the campus for graduate education.

Promoting excellence in graduate education goes hand in hand with increasing diversity. In an increasingly global community, it is essential that the next generation of scientists, leaders, and scholars combine cultural sensitivity with mastery of their fields. A diverse environment enhances the relevance and legitimacy of our campus as a public institution; it provides heterogeneity to augment our collective creativity and problem-solving ability; and it is essential for educating the next generation of path-breaking thinkers who must be able to lead in an ever more diverse and global society. UCR already is a national leader in undergraduate diversity, but graduate student diversity (as measured by URM enrollment) is only somewhat above average for the UC system. Therefore we recommend that all programs ***improve recruitment strategies to attract stronger and more diverse graduate students.***

We also recommend that we ***institutionalize professional development resources for continuing graduate students.*** Not only will this help the campus meet new and emerging requirements from major funding agencies, but it also will better serve our students and further their ultimate career goals.

We also must pay greater attention to the experiences of students in the greater campus community. The availability of high-quality affordable housing, for example, was used successfully by UC Irvine as an effective recruiting tool. Other amenities, such as recreation and dining options, adequate levels of support from administrative staff, a campus that is inviting on evenings and on weekends, and family friendly policies also enhance our ability to attract and retain the best students. Therefore we recommend that ***long range planning should emphasize graduate student needs.***

Finally we believe that special attention must be given to interdepartmental graduate programs (IDPs) in order to achieve our vision. IDPs provide excellent opportunities for innovative research and graduate education in emerging fields. However they tend to suffer from problems related to administrative complications, resource availability and control, and faculty and student ownership and commitment to the program. Because we believe the potential advantages of IDPs outweigh their drawbacks, and because the success of IDPs at UCR remains highly variable across programs, we recommend ***the establishment of an internal task force/committee to explore alternate structural models for IDPs on our campus***.

Our vision for a graduate-centered university, if achieved, will increase the stature of UCR relative to our sister UC campuses, resulting in a profile of an AAU institution. The current document represents a road map for accomplishing this goal.

Section A
Overview and Recommendations

The Excellence in Delivery of Graduate Education (EDGE) Subcommittee was constituted as part of the UCR 2020 Strategic Planning initiative launched on Sept. 29, 2009. A key objective of this initiative is to achieve the profile of an AAU member institution. In order to do so, UCR must be judged to be preeminent in the delivery of graduate education, requiring improvements in both the number and quality of our graduate students, and the visibility and stature of our graduate programs. Review of graduate education on this campus is not a new undertaking. The current committee's work stands on the shoulders of several prior faculty committees, many of whose recommendations we will echo here. Examining these prior reports leads to the view that, in large part, this campus already knows what is necessary to achieve preeminence in graduate education. If we are to bring this conversation to a successful end, a realignment of current priorities is essential. This will require a partnership between the administration, faculty, staff, students and alumni, and a sustained commitment to the idea that graduate education be placed at the very center of the life of the university. We suggest that a cultural shift will be necessary to bring about the needed realignment, producing a change in the way the campus views itself and its future.

Subcommittee Charges and Process

The subcommittee's charges were:

- To identify and promote best practices in graduate academic and professional programs.
- To determine the strengths and weaknesses of our departmental, interdepartmental and interdisciplinary graduate programs; to consider the viability of existing graduate programs and to make recommendations regarding the structure and possible reorganization of graduate programs.
- To develop strategies for increasing the number, caliber and diversity of the graduate student population, including the mix of graduate academic and professional school students.
- To make recommendations about graduate student recruitment, funding, experiences and services.
- To identify means of increasing graduate student support.
- To recommend ways of enhancing and improving the graduate student experience.

Three workgroups were formed to address specific aspects of these charges in depth: Program Evaluation, Funding and Resources, and Student Experience – the goals and membership of each workgroup are listed in Appendix A. Additionally, the full committee met bimonthly to discuss overarching issues relevant to achieving excellence in our graduate programs. The committee consulted broadly with a variety of faculty, students, and administrators on our campus, and selectively with representatives of several of our AAU comparison institutions. At UCR, the committee consulted with the Graduate Dean and Graduate Division staff, the Vice Chancellor for Student Affairs, the Vice Chancellor for University Advancement, the Director of the UCR Child Development Center, the Asst. Vice Chancellor for Planning & Budget, the Chair of the UCR Committee on International Education, the Directors of State Relations and Community Relations, and other relevant faculty and staff members. Committee members also interviewed the UCI Graduate Dean and Assistant Dean for Planning and Administration, and obtained information from campus websites and/or interviews with Graduate Division personnel at several AAU comparison institutions (SUNY Buffalo, SUNY Stony Brook, Univ. of Kansas, Univ. of Missouri, Univ. of Oregon, UCD, UCI, UCSB). Statistical data for various metrics of excellence were acquired from the Graduate Division, and from a questionnaire sent to graduate advisors/chairs. The committee also surveyed current UCR graduate students about the perceived strengths and weaknesses of their graduate programs, held a focus group discussion with current UCR

minority graduate students about diversity issues, and surveyed the UCR faculty about mentoring and diversity in their programs. In addition, the committee chair engaged in email correspondences and/or conversations with various graduate advisors, department chairs, faculty members, as well as the Deans of the Graduate School of Education (GSOE), and the Anderson Graduate School of Management (AGSM). Finally, the committee reviewed a wealth of documents, including numerous prior UCR reports relevant to graduate education. A list of these resources is provided in Appendix B.

The remainder of this document is organized as follows. First, we enumerate our strategic recommendations, in priority order. For each recommendation, a brief description of the context, supporting information, and rationale are provided. This is followed by several sections that provide more detail and quantitative data about program evaluation (Section B), funding and resources (Section C) and the graduate student experience (Section D).

Subcommittee Recommendations

1. Graduate Education should be the central focus of the UCR campus, given priority for resources, and to the greatest extent possible, protected from cutbacks.

1.1. All faculty hires should include justification based on the expected contribution to graduate education. That is, the impact on graduate enrollment should be a priority when identifying new faculty FTE and in hiring and retention decisions.[3]

The recruitment of the very best graduate students depends upon faculty strengths, and the investment of faculty FTE in individuals who will not contribute to graduate education is not a wise use of resources in our view. Attracting and retaining faculty who enhance our graduate programs is crucial for attaining continued graduate enrollment growth and AAU profile measures. A number of graduate advisors/chairs raised concerns in our questionnaire about the ability to retain the best faculty, and saw this as a potential threat to their graduate programs.

1.2 The reward structure for faculty should be altered to provide concrete incentives for quality training and mentoring of graduate students.

To achieve our goal of increasing the number of graduate students on our campus, faculty will be expected to increase their level of involvement in graduate education. The relationship between graduate student and faculty advisor is a critical component of this. A good advisor not only provides guidance for coursework and research, but also should function as a mentor. Faculty mentors play a critical role in the graduate student experience and have a major impact on student success. Indeed, insufficient mentorship is recognized as a primary cause of graduate student attrition.[4] In response to our survey of current UCR graduate students, inadequate or inconsistent mentoring was mentioned frequently as an area of concern.

Despite the fact that mentoring graduate students is recognized as critical to their success, this activity is not given adequate emphasis in the reward structure for UCR faculty. In addition, faculty are not provided with adequate resources or guidance to assist them in becoming effective mentors. Mentoring of graduate students is not typically an activity that assistant professors have experienced prior to their arrival at UCR and is a skill that needs to be cultivated. Therefore, in order to promote effective graduate student mentoring, we place high priority on the following five recommendations.[5]

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[3] We note that a similar recommendation was made in the 2004 report by the UCR Task Force on Graduate Student Support, Recruitment and Retention (GSSRR report), but it does not appear to have been fully implemented.

[4] Ph.D. Completion and Attrition: Policy, Numbers, Leadership, and Next Steps (2004). Washington, D.C. Council of Graduate Schools.

[5] The need for improved graduate student mentoring was also noted in the 2004 GSSRR Task Force Report.

1.2.1 Changes to the Call: Academic Personnel should institutionalize a greater emphasis on graduate education at all levels of faculty merit review. Failure to participate in some material way in a graduate program's educational mission should be considered a weakness and an indication of a faculty member's failure to meet an obligation of his/her appointment.

1.2.2 Unit granting, but unscheduled, teaching (e.g., 290s, 299s) and the direction of dissertations should be counted as part of the official teaching load campuswide.[6] Mentoring graduate students is a significant time commitment: by one estimate, mentoring a single graduate student is equivalent to teaching a one-unit course.[7] Yet UCR faculty do not uniformly receive teaching credit for advising and mentoring graduate students. Many professors would be more willing to advise additional graduate students if the campus recognized and rewarded them for this activity. We recommend that a policy be developed to provide teaching credit for graduate student advising, so that faculty across campus are uniformly given "credit" for this important activity.

1.2.3 Graduate Council should promulgate mentoring standards for faculty and students that define the rights and responsibilities of both parties, with particular attention given to mentoring in a diverse environment. Documents that have been developed by other universities contain a wealth of information and provide a foundation for the development of UCR-specific standards.[8]

1.2.4 Graduate Division should develop online resources and offer workshops on effective mentoring for faculty.[9] We recommend that workshops be offered for new assistant professors as part of their orientation and annual workshops focused on best practices for graduate student mentoring should be offered for all faculty.

1.2.5 College deans and department chairs should create explicit expectations and incentives for mentoring of graduate students. University professors have many demands on their time and are increasingly asked to juggle more and varied activities. Campus expectations regarding graduate student training should be clearly articulated and incentives should be developed to encourage faculty to choose to include training and mentoring graduate students as part of their central campus mission. For example, post-doctoral hiring requests and course releases could be made contingent upon adequate student mentoring.

1.3 The reward structure for faculty should be altered to provide concrete incentives for obtaining external financial support for graduate students.

It is critical to increase the amount of external support for graduate students in order to grow our graduate programs to the desired levels. Students can be supported extramurally in three ways: as a GSR on a faculty member's grant, or via fellowships obtained through faculty-generated training grants or through student-generated awards (e.g., NSF, Ford Foundation). As detailed in Section C, extramural support of UCR graduate students in all three of these areas is below UC averages. However, the

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[6] This recommendation was made previously in the 2007 report by the Ad Hoc Committee on Graduate Education ("Childers Report").

[7] The Ohio State University Graduate Student Guidelines, Advising and Mentoring Graduate Students (2007).

[8] Examples include: How to mentor graduate students: A guide for faculty (2009). Rackham Graduate School, University of Michigan.
How to mentor graduate students: A faculty guide. The Graduate Schoool, University of Washington.
Graduate School Guidelines, Advising and Mentoring Graduate Students (2007). The Ohio State University.

[9] This recommendation is listed as a Promising Practice by the Council of Graduate School's Ph.D. Completion Project ("Ph.D. Completion Project: Policies and Practices Implemented by Partner Institutions to Promote Student Success." *CGS Communicator* 42(10): December 2009).

institutionalized reward structure on our campus currently provides no incentive for faculty effort in these areas. For example, although grants awarded are listed on eFile, there is no indication of the number of graduate students supported. Similarly, faculty involvement in assisting students in applying for external fellowships and awards is highly desirable, but not acknowledged. We recommend the following incentives to encourage faculty to obtain external support for their students.

1.3.1 Merit and promotion files should include a list of the graduate students supported by the faculty (and numbers of quarter supported) on their grants. Similarly, faculty involvement in assisting students' applications for external fellowships and awards should be noted. Both activities should be viewed favorably as evidence of faculty contributions to teaching and service.

1.3.2 Faculty members who take the lead in submitting a training grant proposal should be given a course release for this activity. Such awards are highly competitive, and very time consuming to produce, but yield substantial dividends if successful. Training grants can support a number of students for several years (usually with very attractive stipends), thereby freeing up campus resources to support additional students.

1.3.3 Department chairs and Deans should create explicit incentives and publicly acknowledge those faculty who contribute to the financial support of graduate students. One possible incentive could be the awarding partial matching-funds for successful grant proposals that include student support budgets. Public recognition costs nothing but can be an effective way of encouraging desired activities.

1.4 Launch media relations initiative to spotlight important contributions of UCR graduate students.

As we move towards becoming a graduate-centered campus, it will be important to highlight and publicize the signal achievements of our talented graduate students. We recommend launching a media relations initiative to spotlight the important contributions of UCR graduate student researchers and teachers, to the Inland Empire, the state, and the nation.

2. Increase the proportion of graduate students at UCR to 20% of total student population.

In 2003-04, growth in the graduate student population was endorsed as a high campus priority, and a goal was set for graduate enrollment of 17% of total student population by 2010[10]. To date we are 703 graduate students shy of the 2009 target of 3,146 students, and the current percentage of graduate students on our campus has grown only 1.9% in the past six years. As the chart below reveals, we continue to lag behind comparison AAU institutions in this regard. *If our graduate programs were to continue to grow at this rate, it would take 22 years[11] to achieve an AAU profile of 20% graduate enrollments.*

Nevertheless, there have been substantial numerical increases in UCR graduate enrollment since 2003 (net increase of 595 students), and this rate of increase outpaces that of peer institutions[12] according to a recent report by the Council of Graduate Schools[13]: the average annual increase in total graduate enrollment at all RU/VH institutions from 1998-2008 was 2.2%; for UCR it was 3.9%. It is apparent,

[10] 2004 Report of GSSRR Task Force.
[11] Estimated by linear interpolation.
[12] Under the new Carnegie classification system, UCR is classified as a Research University with Very High research activity (RU/VH).
[13] Bell, N.E., 2009. *Graduate Enrollment and Degrees: 1998-2008*. Washington, DC. Council of Graduate Schools.

then, that the very dramatic increases in undergraduate enrollment on our campus have dwarfed the otherwise impressive gains in graduate enrollments. Hence, in terms of the actions taken by the university, increased undergraduate enrollments were de facto accorded much higher priority than the stated "high priority" given to increasing graduate enrollments. This cannot continue if we are to achieve an AAU profile.

Campus (Year)	Undergrad	Graduate	Graduate Academic	Total	% Graduate	% Grad Academic
U Missouri (F 09)	23,042	7,158	6,028	30,200	23.7%	20%
U of Oregon (F 09)	16,681	3,695	NA*	20,376	18.1%	NA
U of Kansas (F 08)	21,332	8,770**	6,508	30,102	29%	21.6%
SUNY Buffalo (F 08)	19,022	9170	NA	28,192	32.5%	NA
Comparison UC's						
UC Davis (F 09)	24,655	7,498	4,215	32,153	23.3%	13.1%
UC Irvine (F 08)	22,122	5,509	3,648	27,631	19.9%	12.3%
UC San Diego (F 08)	22,518	5,682	4,053	28,200	20.1%	14.4%
UC Santa Barbara (F 09)	18,434	2,958	2,958	21,392	13.8%	13.8%
Other AAU UC's						
UC Berkeley (F 08)	25,151	10,258	6,546	35,409	29.0%	18.5%
UCLA (F 08)	26,536	13,114	5,723	39,650	33.1%	14.4%
UC Riverside (F 09)	**16,996**	**2,443**	**2,216**	**19,439**	**12.6%**	**11.4%**

* NA = not available

**includes 737 medical residents

Therefore, the committee strongly recommends that resources be provided to achieve a firm goal of 20% graduate enrollment by 2020.Assuming no growth in undergraduate enrollments, graduate enrollment would need to grow to 4,250 students by 2020, a net increase of 1,850 graduate students. Assuming 5 graduate students per faculty member, on average, the campus would need 850 faculty members (net increase of 230 additional) to support this larger graduate student population. Several initiatives will be needed to achieve this goal.

2.1. We recommend no increase in undergraduate enrollment until the graduate student proportion reaches at least 16%.

This goal could be achieved earlier if undergraduate enrollments were to decrease in concert with graduate enrollment increases. After the 16% goal is reached, any modest undergraduate growth that might occur should not compromise the ultimate achievement of 20% proportion of graduate students.

2.2 Expand the number and percentage of <u>professional</u> graduate students at UCR.

As the table above suggests, the proportion of graduate students who are professional at AAU comparison schools ranges from very minimal at UCSB to 10.2% at UC Davis.[14] UCR is clearly at the lower end of this distribution and our campus can and should grow professional enrollment at a faster pace than academic student enrollment. We recommend the following means to achieve this:

2.2.1. Carry out planned enrollment of medical students (400 by 2020).

2.2.2. Establish planned School of Public Policy, and achieve expected enrollment of graduate students (120 by 2020).

[14] Percent professional graduate students is 10.5% at UCB and 18.7% at UCLA.

2.2.3. Evaluate growth plans currently developed by AGSM and GSOE, and expand enrollments in these schools.
2.2.4. Conduct a needs assessment within the UC system to determine whether there is an unmet need for professional education in a particular area. If so, begin long-term planning for a 4th professional school at UCR that would fill this need within the UC system.

The committee stopped short of recommending an exact ratio of enrollment increases for professional vs academic graduate students, for two reasons. First, we believe that all growth should be based on the excellence of individual programs, and not on preconceived ideas about "ideal" professional/academic ratios. Second, in our investigations of peer institutions it became clear that the definition of "professional schools" was fluid at best (e.g., Management is considered to be professional at some institutions, but not others), and depending on the definition, any professional/academic ratio UCR would achieve would be within the range of peer institutions. However, there is clear growth potential for professional graduate programs at UCR (both Riverside and Palm Desert campuses); if realized, this growth could substantially increase our graduate student numbers.

2.3. Target growth in <u>academic</u> graduate programs to support those with demonstrated track record of excellence according to objective metrics.

We recommend targeted growth in our academic graduate programs that have demonstrated excellence, and that have not yet reached an optimal size.[15] Growth should include new FTEs, and reallocation of unfilled FTEs. The Program Evaluation Section B of this report will provide data to help identify programs that are achieving excellence in the delivery of graduate education. The committee believes that special consideration should be given to newer programs that have not yet had time to establish a strong track record, but that demonstrate potential for excellence (as indicated by faculty prominence, uniqueness of program, placement of initial graduates, etc). Adequate resources must be made available to provide the opportunity for such programs to achieve excellence.

2.4 Revenue generated by existing and new "paid" Master's programs should be retained within the program to enhance other aspects of research and graduate training.

One way to quickly increase graduate enrollments would be to increase the number and size of "paid" Master's degree programs, such as that currently offered by Biochemistry and Molecular Biology. The committee notes, however, that such programs are less likely to enhance other aspects of an AAU profile institution (e.g., research productivity, number of Ph.D. degrees), and could entail an undesirable "cost" to doctoral education, if faculty resources are insufficient. However, if revenues generated by such Master's programs were retained within the program, these funds could be used to mitigate the impact on, and even enhance the quality of, doctoral programs, provided that faculty resources are sufficient to support the larger student population.

3. Growth and development of graduate programs should be based on excellence.

The committee began its deliberations by identifying the characteristics of an excellent graduate program. These excellence criteria encompass both the reputation of a program and its ability to delivery a quality graduate education (see below), and dovetail with AAU profile characteristics.

<u>Reputation</u>:

- *Faculty who are acknowledged experts and leaders in their area of research or creative activity (indicated by publications, citations, awards)*

[15] Optimal size should be determined by programs based on faculty desires for growth, size of similar programs at peer institutions, and employment opportunities for those with terminal degrees in the discipline.

- *Adequate breadth of faculty expertise within the graduate program; critical mass of researchers with complementary, but overlapping interests (provides students with more than one potential mentor); large proportion of faculty involved in graduate education*
- *High quality of students applying to, and entering the program; attracts students nationally and internationally, not primarily from local area*
- *Larger numbers of terminal degree students produced (of acknowledged quality) may have more impact on reputation of program as they are a more visible presence in the field (Caveat: Size of program is very important for excellence in some programs, but not all. Optimal size of program should relate to job market conditions.)*
- *Program among the best or ascending towards the top in national rankings*
- *Program plays a leadership role in attracting under-represented minority (URM) students, and placing them into high profile positions*
- *Large proportion of faculty with significant external support of their research (less applicable to Humanities)*
- *High visibility of students in publications, presentations, awards*

Delivery:

- *Program has well-articulated goals and a clear vision for graduate training that is communicated to the student early and often*
- *Graduate program provides a sense of community, students have good relationships with faculty; cohorts of graduate students combine collegiality and competition in a healthy way*
- *Faculty actively involved in mentoring individual students*
- *Good track record for funding students up to the completion of terminal degree (may be less significant for professional students not pursuing academic careers); funding commitment (duration and amounts) made clear to student at time of admission*
- *Placement of students into competitive post-docs, tenure-track academic positions, industry or government positions*
- *Program trains students from diverse backgrounds, and provides mentoring targeted to individual student needs*
- *Relatively low, but non-zero, attrition*
- *Optimal faculty-to-student ratio (if too high, students not adequately mentored by faculty)*
- *Most students complete program in normative time*
- *Appropriate facilities (labs, equipment, studios, libraries) are provided for student use*

These criteria were developed into metrics and applied to our current graduate programs – see Section B. The ultimate goal is to identify and support centers of excellence in research and graduate training, characterized by cutting edge research of national and international prominence, and also linked wherever possible to the most pressing issues facing the Inland Empire. These centers of excellence should not be focused in one college or one set of disciplines, but should reflect campus-wide strengths. We believe this can be best achieved by setting a goal of having at least 5-10 of our graduate programs ranked in the top 20 by the National Research Council (NRC), or other comparable rankings, with all other established programs ranked in the top 50.

4. Graduate student financial support should be funded at a level that enables UCR to provide multiyear support packages that can close the competitive gap with other institutions, and meet our graduate enrollment targets.

The primary objective of graduate student funding is to improve the quality and visibility of UCR's graduate programs – that is, the number and impact of graduate degrees awarded. Research universities compete for the very best graduate students, just as they do for faculty. Further, having a cadre of bright and engaged graduate students is essential to attract and retain quality faculty. In order to attract such students and ensure their timely completion of graduate study, UCR must provide stable

graduate student financial support that is adequate relative to the cost of attending the University, and is competitive with those offered by institutions competing for the same pool of high-quality students. Section C provides a detailed assessment of graduate student funding issues. Here we present our specific recommendations for graduate student recruitment funding, retention funding, and fundraising.

4.1 Increase the amount available for Chancellor's Distinguished Fellowships (CDFs) to $12,000 per fellowship to improve recruitment of the very best doctoral students.[16]

The competition among research universities for the best and brightest doctoral students is fierce. Based on the responses to our questionnaire, the principal concern of graduate advisors regarding financial support is that our recruitment offers are not competitive for the very best doctoral students. Our commitment to excellence demands that we strategically invest in the recruitment of these students. We believe improving fellowship awards to our strongest applicants will have benefits not only for recruitment, but also for success in securing extramural fellowship funds. As we note herein (see recommendation 4.6 and Section C), our campus must dramatically increase the amount of graduate student funding obtained from external fellowships.[17] These fellowships are highly competitive, and successful applicants are those with very strong academic credentials. By attracting larger numbers of such students to UCR through strategic investment in their recruitment, we will "prime the pump" for additional extramural support, by increasing the likelihood that our campus will field a large number of successful applications.

4.2 To fund anticipated growth in graduate enrollment, proportionally increase funding for both Chancellor's Distinguished Fellowships (CDF) and Graduate Diversity Awards (GDA) yearly for the next decade.

A major objective of our recruiting effort is to enhance the size, quality, and diversity of our graduate student population. Thus, as we increase graduate enrollments, the amount allocated for fellowship funding must increase proportionally, with special emphasis on offering attractive financial support packages to entering graduate students who will increase diversity. The committee therefore recommends yearly increases to both CDF and GDA, proportional to the anticipated growth in academic graduate students.

4.3 Create a special recruitment fund targeted to Master's-to-Ph.D. students, who now leave UCR to pursue the Ph.D. elsewhere due to lack of funding.

Although budget management has benefited from the cohort funding model, some further improvements are needed. Specifically, current attempts to build up our Ph.D. programs have overlooked one source of excellent candidates – students who were originally admitted to a Master's program (e.g., in Engineering, Dance and Music), and later decide to pursue a Ph.D. Graduate advisors inform us that the very best of these students often do not even apply to our Ph.D. programs because they know that the present system does not allow them to receive fellowships if they transfer to the Ph.D. track. And if they do apply, they are frequently lured away to other institutions that do offer fellowship support. In essence, UCR is functioning as a "feeder campus" for competitor Ph.D. programs at the same time that we are attempting to increase the size and visibility of our own doctoral programs. *Retaining these students at UCR is likely to be a more cost-effective way to increase Ph.D. enrollments than recruiting additional post-baccalaureate students.* Funds that accrue when a student leaves a graduate program could provide one revenue source for this special recruitment fund.

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[16] Currently funds are available for 50 CDF's at $10,000 each. We are thus recommending a 20% increase.

[17] The most recent figures available from UCOP indicate that UCR ranks last among the 9 general campuses in the per capita amount of doctoral funding contributed by external fellowships (see Section C, Table C4).

4.4 While not depriving the Graduate Dean of discretion in Central Fellowship Funds allocations, we recommend greater transparency in this process so that graduate programs can understand the criteria for obtaining larger per-student allocations, and strive to meet these criteria.

The graduate recruitment budget administered by the Graduate Division consists of: (1) base central fellowship funds (CFF), (2) nonresident tuition (NRT), and (3) fellowship augmentations to increase excellence (CDFs) and diversity (GDAs). Central fellowship funds (CFF) are allocated by the Central Administration on a per-student-recruited basis for the support of graduate students in a specific cohort. Currently these funds are allocated to the Graduate Division, which in turn apportions graduate funding budgets to individual graduate programs. *Under the current system, per-student allocations of the central fellowship funds vary across programs without seemingly clear justifications.* The committee does not wish to deprive the Graduate Dean of discretion in determining the per-student allocation each program receives. However, as we strategically invest resources in programs with demonstrated excellence, it is important for graduate programs to understand the criteria by which such allocations are determined so that they can strive to meet these criteria. Greater transparency in the decision process is therefore recommended.

4.5 Continuation of current programs for Dissertation Year Fellowships, with proportional growth of such funds as we grow our graduate programs.

The recent augmentation of Dissertation Year Fellowships (begun in 2007-08) is a positive step towards improving retention funding for our best doctoral students (see Section C, Table C14), and we recommend it be continued and expanded as our graduate enrollment increases.

4.6 Provide resources to assist graduate students in securing extramural fellowships; create incentives for students to apply for these fellowships.

Data presented in Section C (Tables C4, C5) indicate that UCR is embarrassingly far behind other UC campuses in the amount and proportion of graduate student funding obtained from extramural fellowships. If we are to grow our graduate programs and achieve an AAU profile, a concerted effort should be undertaken to dramatically increase our students' ability to secure such funding. Some initial steps have already been taken. In Fall, 2009 the Graduate Division held a very successful workshop for graduate students on the preparation of NSF predoctoral fellowship applications (150 students attended). We recommend that such workshops continue to be offered, and additional workshops developed for other sources of graduate fellowship funding (e.g., Mellon and Ford Foundations), with emphasis on the humanities as well as the sciences, social sciences, and engineering. The Graduate Division should be provided with adequate staff to offer assistance to student applicants at all stages of the application process, and to identify and publicize sources of extramural fellowship funding. We also recommend that Deans and Department chairs create incentives for graduate students to submit fellowship applications. For example, travel funds could be given to students who have submitted external fellowship applications.

4.7 To institutionalize sustainable (rather than ad-hoc) efforts at graduate student financial support, UCR should appoint at least one development officer to the Graduate Division who is solely dedicated to raising financial support for graduate students and doctoral students in particular.

As detailed in Section C, the dollar amount of funds for graduate support from gifts and endowments has increased steadily over time, while the percentage of graduate student support derived from such sources has decreased. Regardless, less than 2% of graduate student support comes from such sources (section C, Table C1).[18] To "expand the pie" with more external resources for graduate student financial support, UCR should follow a model of development on behalf of graduate students that falls somewhere between the University of Michigan, which has four development staff assigned to their

[18] Biomedical Sciences is an exception, with approximately 10% of total graduate student support derived from gifts and endowments. However, this is one of our smaller graduate programs.

Graduate Office, and the University of Oregon, which just this past year appointed a half-time development officer to their Graduate School. We note that two of our AAU comparison universities (UCD, U of Missouri) have development officers devoted to graduate education. The responsibilities of the proposed development officer are described in Section C.

The current cohort funding model is designed primarily for efficient recruiting. Graduate student retention, therefore, falls primarily to Colleges/Schools, graduate programs, and faculty funding of Teaching Assistant (TA) and Graduate Student Researcher (GSR) positions. Some programs have been reluctant to submit multi-year recruitment offers because the number of future TA positions is unpredictable,[19] or because GSR funding by individual faculty members cannot be accurately foreseen. Yet multi-year offers are essential to attract the best students. The following three recommendations are intended to improve the amount and stability of continuation funding of graduate students.

4.8 Teaching assistant allocations should be based on the needs of the graduate programs, as well as undergraduate instructional requirements.

TA funding, is, and will continue to be, an important source of retention funding for graduate students. In some programs, particularly in the Arts and Humanities, TA funding may be the only major source of support for continuing graduate students. The committee found that a discrepancy exists between colleges that regard teaching assistantships only as compensation for instruction in undergraduate courses (CHASS), versus those that also acknowledge them as sources for graduate student financial support and growth of graduate programs (CNAS and BCOE) (see Section C). Moreover, BCOE is the only college that explicitly takes into account the size of graduate programs in its departmental TA allocations. *Although no single policy for TA allocations is expected to work equally well for each unit, it is worth emphasizing that teaching assistantships are critical for the professional preparation and development of graduate students, and that teaching assistantships should not be justified only on the basis of providing undergraduate teaching labor.*[20] Added benefits of our recommended approach are greater funding stability to permit multiyear recruitment packages, and smaller discussion sections that would enable undergraduates to receive higher quality instruction. Furthermore, in order to provide flexibility in the recruitment and retention of graduate students, we also recommend that programs be allowed to allocate teaching assistantships at 25%, 33% and 50% appointments. We recognize the additional financial burden that this recommendation may yield, but believe that the benefits of more graduate students working as teaching assistants at 25% or 33% appointments would justify the costs.

4.9 Required matching funds for training grant submissions must be provided by the administration from sources other than cohort fellowship funds, so that, if awarded, central fellowship support is not diminished.

The committee was also dismayed to learn that UCR currently has very few active training grants, which contributes to the low percentage of extramural fellowships on our campus. Federal training grants and program project grants are a mechanism for supporting large numbers of graduate students. They provide excellent multi-year support for graduate students, and can be constructed to emphasize training of URM students. Recommendation 1.3.2 concerns faculty incentives for submitting training grants. We also recommend that, when training grants are secured, there be no diminishment of central fellowship support for graduate students so that continued growth in graduate enrollment is achieved.

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[19] The recent dramatic decrease in 09-10 TA funding will have ripple effects extending over several years as programs recruit smaller classes in order to fund continuing students, and as graduate advisors become more conservative in estimating future TA positions. This works against our goal of increasing UCR graduate enrollments.

[20] This point was earlier made in the 2007 Childer's Report.

4.10. Encourage additional GSR support by returning to the PI full NRT, and half of GSHIP and partial fee remission, paid by grants.

The committee noted that the percentage of graduate students at UCR supported as GSRs is well below the average for UC campuses in general, and also well below the average for the four comparison UCs (see Section C, Tables C4-C6). Although the dollar amount of GSR support on our campus has steadily increased, the percentage of total support provided by GSR funds has declined (Section C, Table C13). This indicates that funding of graduate students on extramural grants has not kept pace with recent numerical increases in our graduate enrollments. It is essential that we substantially increase GSR support for graduate students on our campus. We believe the best way to achieve this is to provide concrete incentives for faculty members to encourage greater effort for the financing of graduate education.

The committee also believes that the high cost of NRT and the continuing increases in student fees may inhibit needed growth of GSR support on our campus. It is well known that the high cost of NRT presents a serious impediment to the recruitment of highly qualified out-of-state (particularly international) graduate students, thus to the growth of our graduate programs. This problem is particularly acute in fields such as Engineering and Economics, that do not attract sufficient domestic applicants. Therefore we recommend that the full amount of NRT and half of the cost of student benefits (GSHIP) and partial fee remission be returned to the PI, who should be strongly encouraged to use the returned funds for the support of additional graduate students.[21] If return to the PI is not possible, then these funds should be returned to the program and earmarked for the support of graduate students within that program.

4.11 Strategic Sourcing savings from General Fund-supported and student fee supported programs should be allocated to doctoral student financial support.

Another potential revenue source for graduate student financial support is savings resulting from UC's Strategic Sourcing Initiative. The Strategic Sourcing Initiative is a process to leverage the University of California's enormous buying power in the marketplace and to increase UC's purchasing efficiency with the goal of lowering the cost of goods and services in a large array of categories. While it is difficult to estimate savings from the Strategic Sourcing Initiative, they are expected to be substantial. We recommend that such funds be designated for doctoral student financial support.

5. Promote sense of ownership and goal achievement within graduate programs

If we are to achieve a more graduate-education centered campus, the culture of some of our programs/departments may need to be altered. It is this committee's view that some programs already give graduate education the highest priority, and have evolved practices of self-examination that lead to improvements in the delivery of graduate education and in the program's standing within the discipline. However, all programs will need to adopt such practices if we are to achieve an AAU profile and improve the reputation of our graduate programs. The following recommendations are intended to help bring this about.

5.1 Each program should outline the vision and goals for their graduate training to be communicated to prospective and current students (website, graduate student manual) – this should align with the actual training provided to students.

5.2 Each program, in consultation with the Graduate and/or College Dean, should determine the set of criteria (objective metrics and benchmarks) against which progress in their program should be evaluated.

[21] The University should also continue to lobby the State to waive NRT for academic graduate students, at least for those who are TAs or GSRs.

Section B of this report includes sample evaluation frameworks, but the most relevant criteria are best determined by individual programs. Criteria should identify discipline-specific metrics and involve comparisons to top ranked programs. However, all programs should evaluate their performance in at least the following areas: quality and diversity of students entering the program, number of degrees granted, % of students successfully completing degree requirements within normative time, attrition rates, student publications and performances, external awards/fellowships to students, placement information.

5.3 Each program is charged with reviewing its performance on the metrics on a yearly basis in order to track progress and identify areas needing attention, and communicating the findings to the Graduate or College Dean.

Progress on the metrics can provide an objective rationale for allocation of resources to the program, and potential development of new programs. Examination of recruitment data should be part of this yearly evaluation. Underperforming programs should adopt relevant best practices per the 2008 Graduate Division survey of graduate program practices.

6. Improve recruitment strategies to attract stronger and more diverse graduate students.

6.1 Programs should make special efforts to foster interest in research among UCR undergraduates and encourage talented students to pursue graduate education, particularly URM students.[22]

Our discussions with current minority graduate students revealed that "bridge" programs such as CAMP-UCR, UCLEADS, and MSRIP can be crucial to their decisions to consider graduate school and critical to their success after enrollment. Currently these programs focus on the STEM fields; we believe they should be maintained and expanded to reach students in a broader set of disciplines to promote diversity across the campus.

6.2 Programs should establish and maintain strong relationships with "feeder" schools and hold open house events/recruitment weekends for prospective and admitted applicants, with particular attention to URM students.[23]

Feeder schools could include local Cal State campuses and institutions nationwide that have hired our former Ph.D. students. Some aspects of the recruitment events could be broadcast online (e.g., research talks, Q&A sessions) for students not able to attend in person. These events can be a highly effective strategy for leveraging our comparative advantage in diversity at the undergraduate level, and growing our URM population at an even faster rate than the overall graduate student body.

6.3 Programs should assign a trained staff member the responsibility to update graduate web pages frequently with news about publications, grants, fellowships, awards, and particularly student placements.[24]

The committee noted significant variability in the recruiting effectiveness of graduate program websites and associated faculty web pages. Some websites have no information about student placements, yet this is crucial information often sought by prospective applicants. Publishing placement data also fosters continuing relationships with alumni that can benefit programs in myriad ways. Computer

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[22] This recommendation was made previously in the 2008 summary of best practices for graduate programs by the UCR Graduate Division. It also is listed as a Promising Practice by the Council of Graduate School's Ph.D. Completion Project (op. cit.).

[23] This recommendation was made previously in the 2004 UCR GSSRR Task Force report, and in the 2009 summary of best practices for graduate programs by the UCR Graduate Division.

[24] This recommendation was made previously in the 2004 UCR GSSRR Task Force report, and in the 2009 summary of best practices for graduate programs by the UCR Graduate Division. It also is listed as a Promising Practice by the Council of Graduate School's Ph.D. Completion Project (op. cit.).

Science and Engineering has an excellent alumni page that allows graduates to edit their own profiles and contact information (http://www1.cs.ucr.edu/people/phd/). Program websites also should have very clear entry points for prospective applicants who should be able to click through to application materials and contact information.

6.4 Faculty should establish and maintain personal contact with newly admitted students throughout the recruitment process.

Personal contact of prospective students with faculty members is essential during the recruitment process. We heard from students that this type of outreach makes them feel more valued and welcomed by the campus, and can have a positive effect on their matriculation decisions. Students should not be pressured into accepting offers; rather inquiries into how a student's thinking is evolving and offers of objective information and consultation should be made. By demonstrating a genuine desire to advance a prospective student's own best interests, a faculty member also demonstrates some of the fundamental qualities of a desirable mentor.

6.5 When making admission offers, programs should consider the match between prospective students and faculty research interests.

We also believe it is important for programs to consider the match of faculty and student interests when making offers, rather than just admitting students based on quantitative indices.[25] Anticipating how students might eventually sort themselves among faculty advisers can help manage the advising workload for each faculty member and prevent difficulties from arising around the time of advancement to candidacy. This strategy also facilitates maintaining close personal contact throughout the recruiting and admissions phase because it makes clear which faculty members are responsible for which prospective students.

7. Institutionalize professional development resources for continuing graduate students.

7.1 Professional development training should be a requirement of all academic Master's and PhD programs at UCR.

Recently, major funding agencies such as NSF have focused attention on professional development training for graduate students and postdoctoral fellows, and instituted policy changes to encourage this. Such training includes career counseling, training in preparing grant applications, guidance on ways to improve teaching skills, and training in research ethics. An increasing number of our competitor universities have instituted professional development opportunities for their students, including online resources, periodic seminars, and for-credit courses. Some, but not all, of our graduate programs already provide this type of training to their students. Because we fully expect these trends to continue, and because we believe most of our own programs continue to lag behind their peers in terms of professional development opportunities, we recommend that such training be required for all graduate programs on our campus. The Dean of the Graduate Division and Vice Chancellor for Research recently have requested that the Graduate Council adopt such a requirement. We endorse this request and recommend that it be implemented as a requirement for advancement to candidacy, believing that the benefit from earlier training outweighs the potential impact on progress towards candidacy. Section D provides greater detail on the rationale for, and potential implementation of, professional development training opportunities on our campus.

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[25] This recommendation was made previously in the 2004 UCR GSSRR Task Force report. It also is listed as a Promising Practice by the Council of Graduate School's Ph.D. Completion Project (op. cit.).

8. Long range planning should emphasize graduate student needs

8.1 The campus should prioritize the graduate and family student housing areas in the housing plan.

On-campus housing is an effective tool for student recruitment and community-building, and a critical mass of graduate students housed on campus will produce positive feedback effects for both efforts. In 2003, UCR completed a Strategic Plan for Housing that was to be implemented over a 13-year time period. Despite the excellent plans for new graduate student housing, campus housing projects to-date have predominately focused on serving the needs of the undergraduate population. The need for additional family housing may be particularly acute. Currently, 183 graduate students reside in family housing on campus (69% of available family housing units; 31% are occupied by undergraduate students), but there are even more graduate students (191) on the waiting list.[26] This problem will only become more acute as we increase graduate enrollments, unless we plan ahead for the expected increase. We note that universities such as UC Irvine have successfully utilized the provision of high-quality, affordable graduate student and family housing as an effective recruiting tool.

8.2 To promote affordability, rent should be tied to the level of stipends provided to graduate students.

Providing additional campus housing for graduate students will meet their needs only if students can afford to live there given their net earnings. Therefore, if average stipend levels decline, rents should decline as well.

8.3 Graduate Division should provide permanent staffing for a Graduate Student Resource Center (with particular attention to URM issues) and dramatically improve online resources to provide a single entry point for graduate students.

Currently on our campus graduate students in search of information and services face many different offices and potential "points of entry" across campus. Navigating among these points of entry can be overwhelming for both new and continuing students. Some campuses (including UCSB, UCI, and UCLA) already have created Graduate Student Resource Centers (GSRCs) that provide coordinated services, information, and support. A UCR GSRC not only would serve as a clearinghouse for existing services, but also would be charged with advocating for, prioritizing, and expanding new services for graduate students (e.g., graduate writing workshops). In addition to a physical presence, the GSRC also should have a web presence with a virtual "single entry point" via a link through R'Web. Section D provides greater detail of our vision for a UCR Graduate Student Resource Center.

9. Improve structure of interdepartmental/intercollege programs (IDPs)

9.1 An internal task force/committee should be established to explore alternate structural models for IDPs on our campus.

The administration of IDPs is problematic as they function without the administrative, financial, and leadership platform provided by departments. Students in such programs have no bricks and mortar "home" shared with other students in the program, and often must negotiate numerous offices scattered across campus for various functions. Contributing faculty can experience administrative and structural hurdles as they may participate in a home department, a different undergraduate major, and often several different graduate programs. It appears that many aspects of the current IDP structure are inefficient and needlessly complex. Some have expressed the view that the department structure within CNAS should be reorganized to better reflect the disciplinary boundaries of modern science. Yet interdisciplinary study is

[26] Additional students may have elected not to join the waiting list, believing it to be exceedingly long.

attractive to many graduate students and cross-discipline research collaborations and grants should be encouraged.

The committee recognizes the challenges posed by IDP graduate programs, but a thorough examination of this issue is beyond the scope of our committee. Therefore, we recommend the immediate establishment of an internal task force/committee to examine alternate models for IDPs on our campus. This group should include faculty across CNAS departments and programs, and representatives from all current IDPs and from the Graduate Division. This committee should consider a range of alternative structures from UC Davis style “graduate groups” (essentially IDPs but with dedicated funding resources) to complete reorganization of life science departments. The goal is to establish a firmer structural foundation for interdisciplinary study that would promote centers of excellence for graduate study in the sciences.

A summary list of the committee’s recommendations follows.

Summary of Subcommittee Recommendations

1. ***Graduate Education should be the central focus of the campus.***
   - 1.1. Contribution to graduate education should be a priority in hiring and retention decisions.
   - 1.2. Alter reward structure for faculty to provide concrete incentives for quality training and mentoring of graduate students.
     - 1.2.1. Academic Personnel should institutionalize a greater emphasis on graduate education at all levels of faculty merit review through changes to the Call.
     - 1.2.2. Count unit granting, but unscheduled, teaching and the direction of dissertations as part of the official teaching load campus-wide.
     - 1.2.3. Graduate Council should promulgate mentoring standards for faculty.
     - 1.2.4. Graduate Division should develop online resources and offer workshops on effective mentoring for faculty.
     - 1.2.5. College deans and department chairs should create explicit expectations and incentives for quality mentoring of graduate students.
   - 1.3. Alter reward structure for faculty to provide concrete incentives for obtaining external support for graduate students.
     - 1.3.1. Merit and promotion files should include a list of the graduate students supported by the faculty (and numbers of quarter supported) on their grants.
     - 1.3.2. Faculty members who take the lead in submitting a training grant proposal should be given a course release.
     - 1.3.3. Chairs and Deans should create explicit incentives and publicly acknowledge faculty who contribute to the financial support of graduate students.
   - 1.4 Launch media relations initiative to spotlight important contributions of UCR graduate students.

2. ***Increase the proportion of graduate students at UCR to 20% of total student population.***
   - 2.1. Do not increase undergraduate enrollment until the graduate student proportion reaches at least 16%.
   - 2.2. Expand the number and percentage of professional graduate students at UCR.
     - 2.2.1. Carry out planned enrollment of medical students.
     - 2.2.2. Establish planned School of Public Policy, and achieve expected graduate enrollment.
     - 2.2.3. Evaluate growth plans currently developed by AGSM and GSOE, and expand enrollments in these schools.
     - 2.2.4. Conduct a needs assessment within the UC system to identify any unmet needs for professional education; if warranted, begin planning for 4th professional school.
   - 2.3. Target growth in academic graduate programs to those with demonstrated track records of excellence.
   - 2.4. Retain revenue generated by "paid" Master's programs within the program to enhance other aspects of research and graduate training.

3. ***Growth and development of graduate programs should be based on excellence.***
   Use principles of excellence and performance metrics described in Section B to identify "centers of excellence" in research and graduate training. Target growth to high-performing programs.

4. ***Improve graduate student financial support.***
   - 4.1. Increase amount available for Chancellor's fellowships to $12,000 per fellowship to improve recruitment of the very best graduate students.
   - 4.2. To fund anticipated enrollment growth, proportionally increase funding for both Chancellor's Distinguished Fellowships and Graduate Diversity Awards yearly for the next decade.
   - 4.3. Create a special recruitment fund for Master's-to-Ph.D. students.

4.4. The Graduate Dean should provide greater transparency in criteria for assigning per-student central fellowship allocations.
4.5. Grow current programs for Dissertation Year Fellowships proportional to enrollment growth.
4.6. Provide resources to assist graduate students in securing extramural fellowships; create incentives for students to apply for these fellowships.
4.7. Appoint development officer to the Graduate Division who is solely dedicated to raising financial support for graduate students.
4.8. TA allocations should be based on the needs of the graduate programs, in addition to undergraduate enrollments.
4.9. Required matching funds for training grant submissions must be provided from sources other than cohort fellowship funds, so that, if awarded, central fellowship support is not diminished.
4.10. Encourage additional GSR support by returning to the PI full NRT, and half of GSHIP and partial fee remission, paid by grants.
4.11. Allocate Strategic Sourcing savings from General Fund-supported and student fee-supported programs to doctoral student financial support.

5. Promote sense of ownership and goal achievement within graduate programs.

5.1. Each program should outline the vision and goals for their graduate training to be communicated to prospective and current students.
5.2. Each program, in consultation with the Graduate and/or College Dean, should determine objective metrics and benchmarks against which progress in their program should be evaluated.
5.3. Each program should be charged with reviewing its performance on the metrics on a yearly basis and communicating the findings to the Graduate or College Dean.

6. ***Improve recruitment strategies to attract stronger and more diverse graduate students.***

6.1. Programs should make special efforts to foster interest in research among UCR undergraduates and encourage talented students to pursue graduate education, particularly URM students.
6.2. Programs should establish and maintain strong relationships with "feeder" schools and hold open house events/recruitment weekends for prospective students, with particular attention to URM students.
6.3. Programs should designate a trained staff member to update graduate web pages frequently.
6.4. Faculty should establish and maintain personal contact with newly admitted students throughout the recruitment process.
6.5. When making admission offers, programs should consider the match between prospective students and faculty research interests.

7. Institutionalize professional development resources for continuing graduate students.

7.1. Require professional development training for all academic Master's and PhD programs.

8. Long range planning should emphasize graduate student needs.

8.1. Prioritize the graduate and family student housing areas in the housing plan.
8.2. Tie rents for campus housing to the level of stipends provided to graduate students.
8.3. Provide permanent staffing for a Graduate Student Resource Center.

9. Establish an internal task force/committee to explore alternate structural models for interdepartmental programs on our campus.

Section B
Program Evaluation

To achieve our goals of excellence in the delivery of graduate education, we need to take an objective look at the current status of our graduate programs. To that end, the committee gathered statistical data about numerous metrics from the Graduate Division and other central sources. In addition, we sent a brief questionnaire to all graduate advisors and department chairs/deans to solicit needed information that was not available centrally. The metrics we selected followed from the principles of excellence described earlier in this document, and from AAU criteria. No single metric can represent the overall health of a program, and below we describe caveats and special circumstances that should be kept in mind when interpreting each metric. We ask that this section of the report (both text and accompanying charts and tables) be read thoughtfully and thoroughly. The strength of a program is best revealed by the pattern of data across multiple metrics.

Data Analysis Decisions

Wherever possible the committee examined yearly data from the past 10 years. Because year-to-year fluctuations are not likely to be meaningful, data were averaged over 5-year spans. Thus, for some of the metrics, we report data both from the most recent 5 years,[27] and from the immediately prior 5 years. In such cases, we also examined the change in the metric across these time periods to estimate the trajectory of the program over time. For some metrics it was only possible to analyze data from a single recent year. Such data then represent a "snapshot" in time, and should be viewed accordingly. Trajectory data are not relevant for newer graduate programs (see Table below), and, for the most recently initiated programs, even data from recent years is sparse. This should be kept in mind when evaluating such programs. In addition, two graduate programs are currently in moratorium (Microbiology – since 2004, Soil and Water Sciences – since 2009). Data from these programs was included when available.

Table B1.

Recently Established Graduate Program	Degrees	First Students Admitted
Management	MA, PhD	2010
Materials Science and Engineering	MS, PhD	2010
Ethnic Studies	MA, PhD	2009
Music	PhD	2008
Bioengineering	MS, PhD	2007
Southeast Asian Studies	MA	2006
Religious Studies	MA, PhD	2005
Visual Art	MFA	2003
Creative Writing and Writing for the Performing Arts (WPA)	MFA	2002
Experimental Choreography	MFA	2001
Mechanical Engineering	MS, PhD	2001

Some data was available to the committee only combined across Master's and Ph.D. degrees; however, wherever possible, data are separated by degree objective. Master's degree data was only examined for programs that accept students into a Master's degree program. [Note that Music accepted students for a Master's program only until 2008; since then Master's students are only rarely admitted]

It would be ideal to compare UCR data to that from comparable institutions on a program-by-program basis, as within campus cross-program comparisons are likely to involve "apples to oranges"

[27] For some metrics data was available for 09/10; in other cases 08/09 was the most recent year for which data could be obtained.

contrasts. However, this is not an achievable goal for the current committee, nor for any other campus-wide faculty committee. As recommendation 5.2 suggests, it should be the responsibility of each program to collect such data from peer institutions for the purposes of self-evaluation. The data reported here can provide the opportunity for data-based improvement in all of our graduate programs.

Metrics of Excellence in the Delivery of Graduate Education

1. Quality of faculty in research and creative activity as indicated by publications, citations, and awards. Program among the best or ascending towards the top in national rankings.

A strong graduate program is anchored by faculty who are active and visible researchers, and distinguished in their areas of expertise. This contributes to national rankings of programs. These very important metrics for graduate education are being examined by the Academic Excellence subcommittee, and are not included in the current report.

2. Quality of students applying to, and entering graduate program.

The committee examined the mean GRE and GPA scores for applicants, admitted students, and enrolled students for Ph.D. and Master's students applying/enrolling between 2005-2009, providing two different metrics for evaluating the academic ability of recent UCR graduate students. Figures B1 and B2 below shows the mean GRE scores for this period, sorted by descending GREs for newly enrolled students, separately for Ph.D. and Master's students. Comparable data is included for applicants and admits. The GRE is a useful metric because all students take the same exam. However, it may not be the best predictor of success in the creative arts fields.

Figure B1.

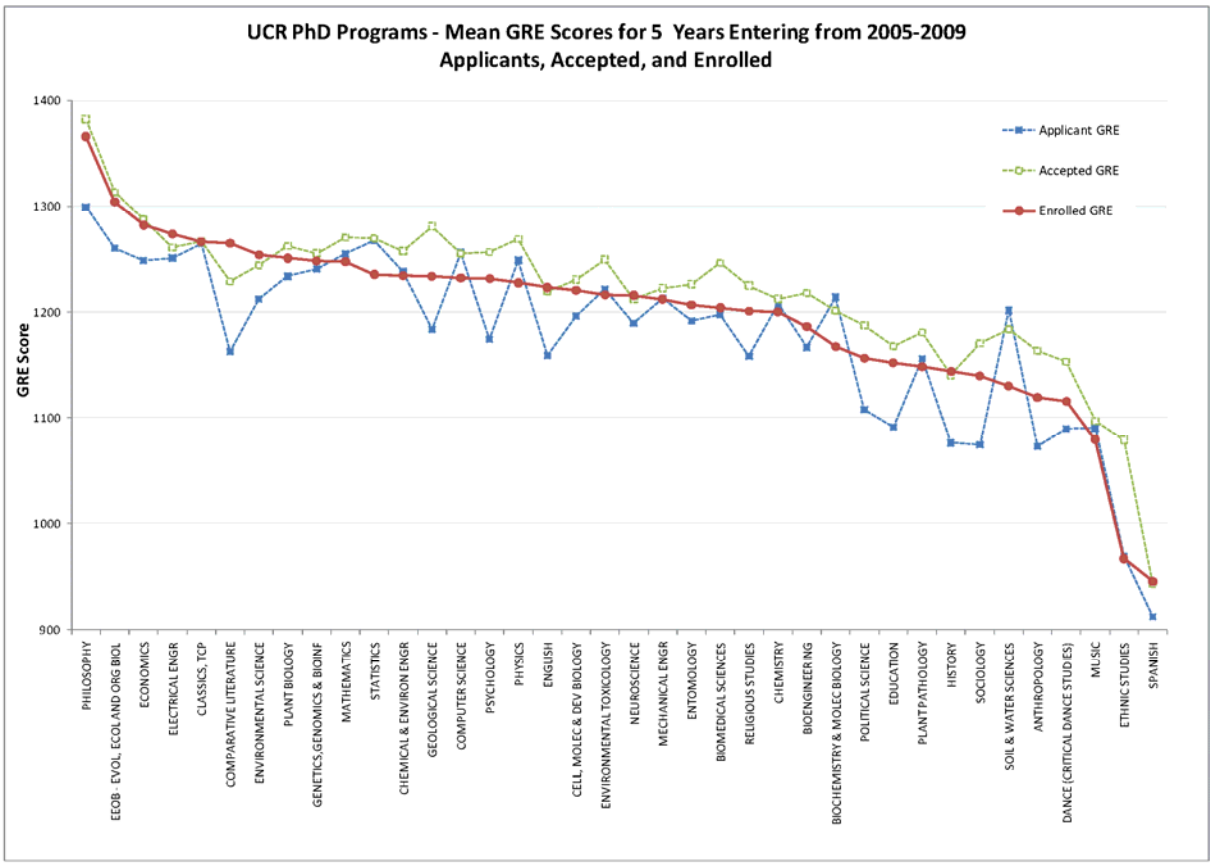
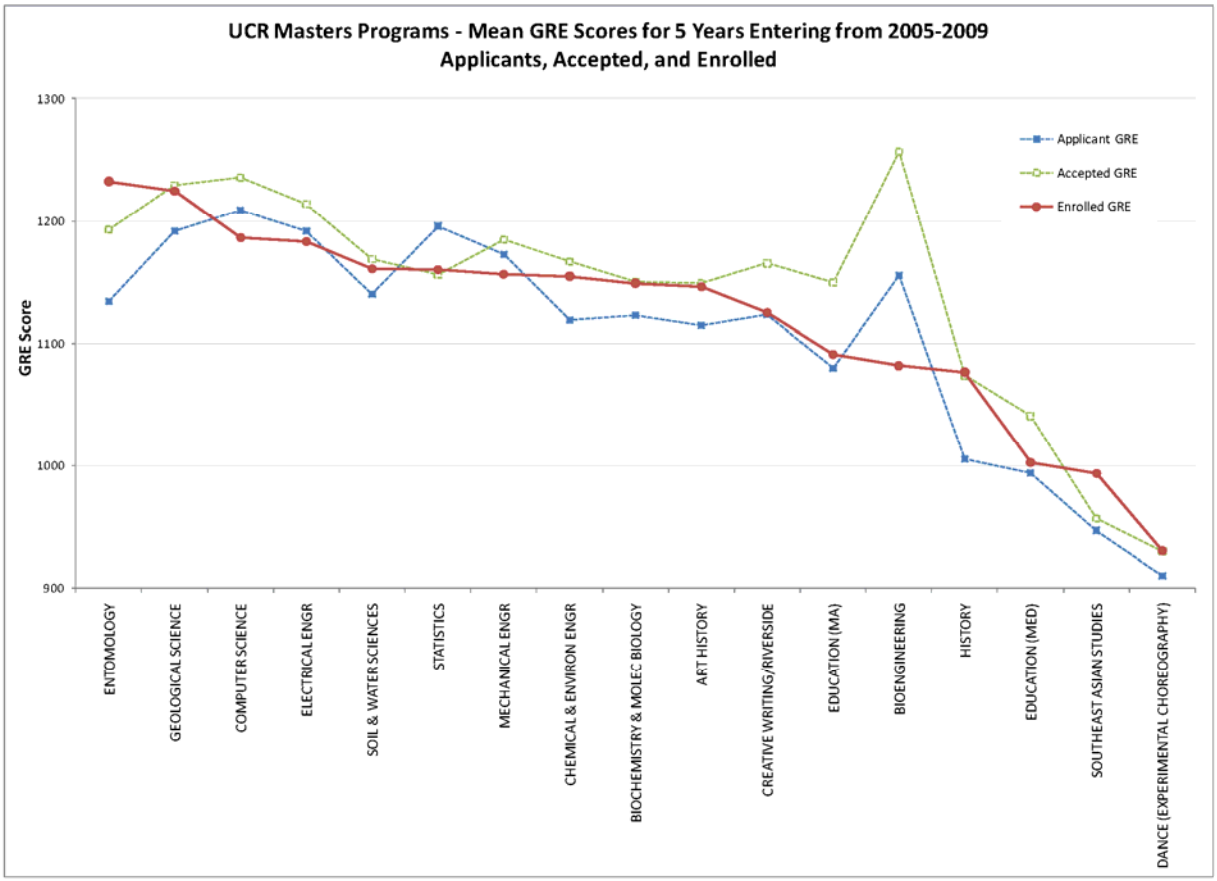


Figure B2.



Figures B3 and B4 below display the GPA data, sorted by descending mean GPAs for enrolled students, separately for Ph.D. and Master's students. One would not expect GPAs for social science or humanities students to be comparable to those from the sciences. However, it may be useful to compare across the science departments, or across the social science departments, to discern more comparable differences in academic preparedness.

Figure B3.

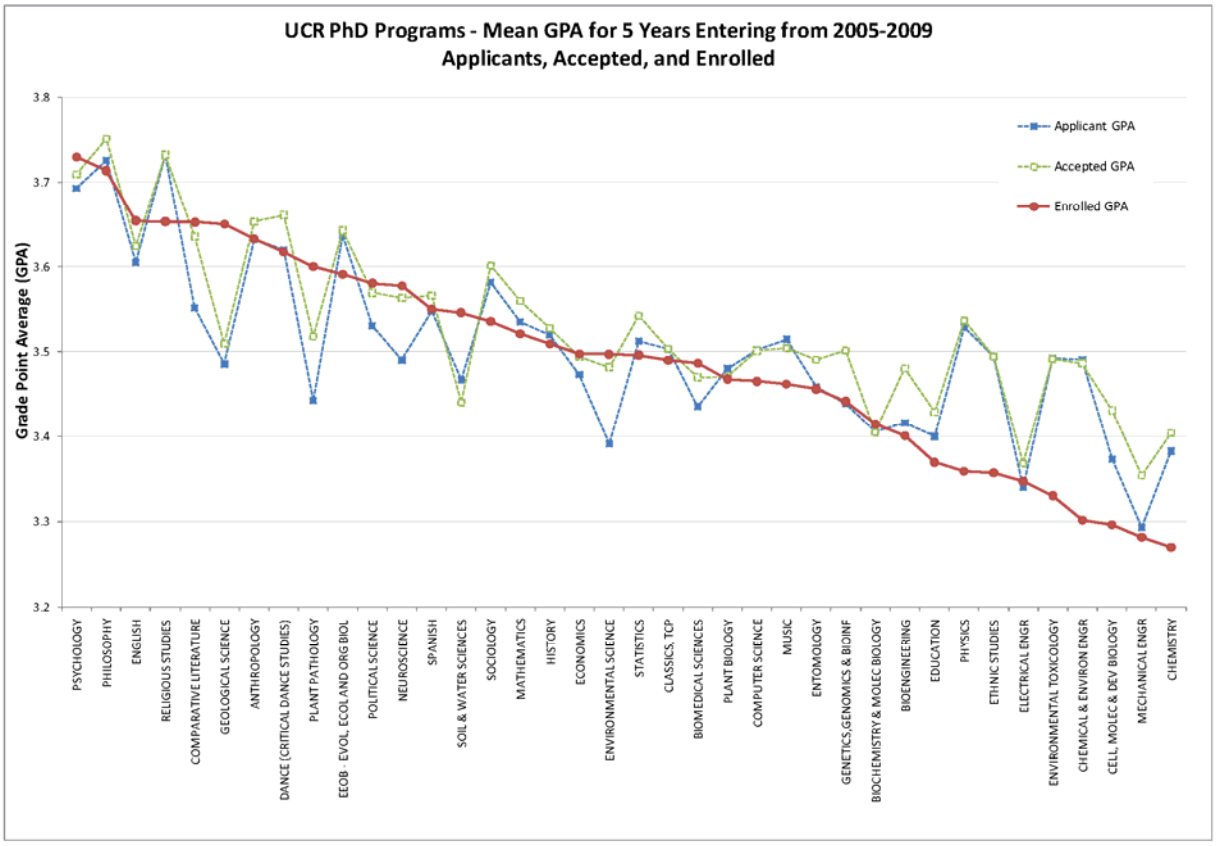
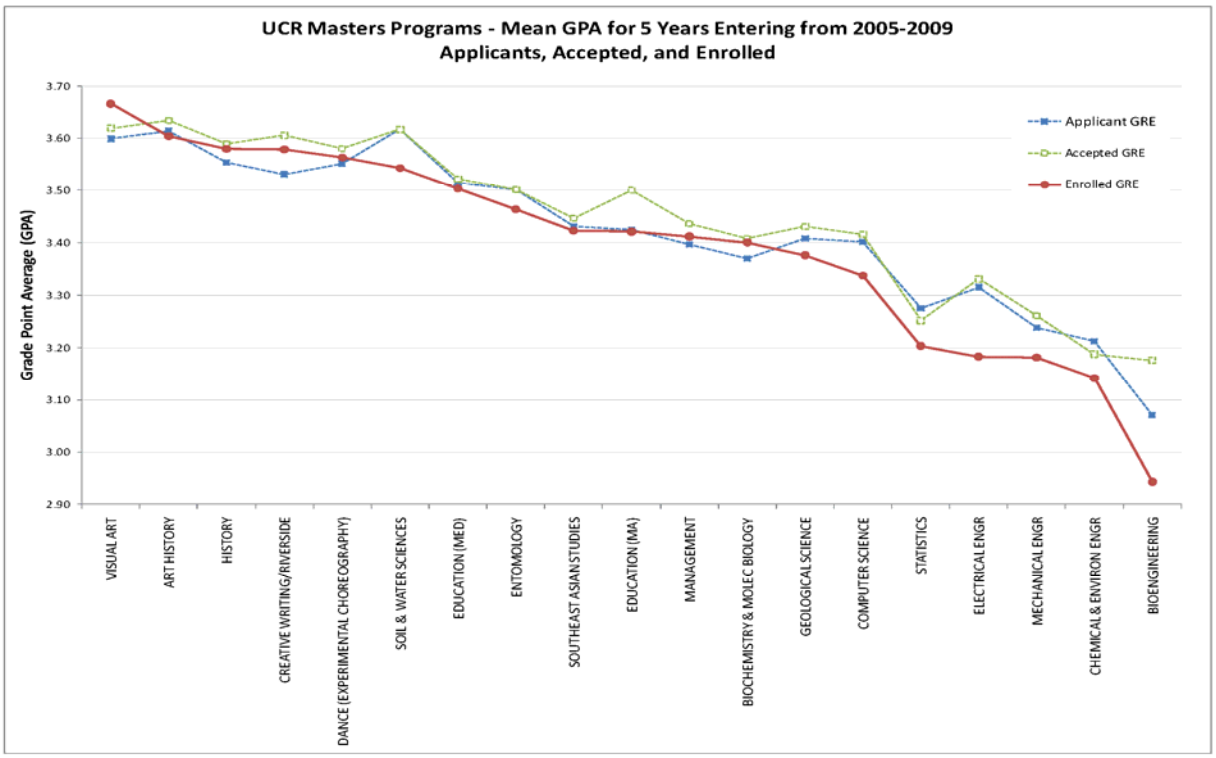


Figure B4.



The GRE and GPA data reveal a very large range for both metrics across both our Ph.D. and Master's programs. The committee also noted that the mean GPA and GRE scores were uncorrelated across programs, for both Ph.D. and Master's candidates, for applicants, admits, and enrollees.

A different metric of the quality of students entering a graduate program is the selectivity of its admissions – what percentage of the applicants is admitted to the program? Programs that are sought after will have large numbers of applicants and have the ability to be highly selective in their admissions process. The percent of applicants admitted (selectivity) was averaged over two 5-year periods (00-04 and 05-09), permitting us to examine recent changes in selectivity for the programs. Tables B2 and B3 contain this data for Ph.D. and Master's programs, *sorted from the most to the least selective for the most recent 5-year period*. The final column, Difference in Selectivity, will be positive if the programs have become more selective in the past 5 years, and negative if they have become less selective. (The committee also considered a slightly different metric – the percentage of applicants who ultimately enroll in the program. The ranking of departments on this metric was quite similar to the selectivity index, so it is not included here.)

TABLE B2. SELECTIVITY IN PH.D. ADMISSIONS 2000-2009
(TOTAL ADMITS DIVIDED BY TOTAL APPLICANTS)

Program	Total Apps (00-04)	Selectivity (00-04)	Total Apps (05-09)	Selectivity (05-09)	Difference in Selectivity
ENVIRONMENTAL SCIENCE	119	26.1%	182	**17.6%**	+8.5%
PHILOSOPHY	328	29.3%	579	**17.6%**	+11.7%
BIOCHEMISTRY & MOLEC BIOLOGY	545	22.0%	417	**18.9%**	+3.1%
CELL, MOLEC & DEV BIOLOGY	410	34.9%	492	**19.1%**	+15.8%
PSYCHOLOGY	537	27.9%	848	**19.8%**	+8.1%
ELECTRICAL ENGINEERING	664	20.9%	1130	**22.9%**	-2.0%
GENETICS,GENOMICS & BIOINF	134	30.6%	310	**23.2%**	+7.4%
CHEMISTRY	849	30.3%	1270	**25.3%**	+5.0%
NEUROSCIENCE	166	29.5%	214	**25.7%**	+3.8%
BIOMEDICAL SCIENCES	288	20.1%	218	**26.1%**	-6.0%
COMPUTER SCIENCE	963	21.3%	1065	**26.9%**	-5.6%
ENGLISH	247	53.8%	426	**27.0%**	+26.9%
STATISTICS	207	36.7%	358	**29.9%**	+6.8%
PHYSICS	449	46.5%	1028	**30.5%**	+16.0%
PLANT BIOLOGY	191	30.4%	350	**30.9%**	-0.5%
MECHANICAL ENGINEERING	161	27.3%	281	**33.8%**	-6.5%
SOCIOLOGY	315	48.6%	384	**34.1%**	+14.5%
ECONOMICS	744	27.4%	665	**35.6%**	-8.2%
RELIGIOUS STUDIES	0	na	56	**35.7%**	na
GEOLOGICAL SCIENCE	48	47.9%	84	**35.7%**	+12.2%
PLANT PATHOLOGY	80	38.8%	91	**39.6%**	-0.8%
BIOENGINEERING	0	na	101	**39.6%**	na
EDUCATION	399	40.9%	358	**39.9%**	+0.9%
ANTHROPOLOGY	210	46.2%	203	**41.9%**	+4.3%
CHEMICAL & ENVIRON ENGINEER	282	39.7%	438	**43.4%**	-3.7%
MATHEMATICS	199	51.3%	306	**44.1%**	+7.1%
COMPARATIVE LITERATURE	138	37.7%	127	**44.9%**	-7.2%
ENVIRONMENTAL TOXICOLOGY	118	45.8%	99	**46.5%**	-0.7%
POLITICAL SCIENCE	144	52.8%	185	**49.7%**	+3.0%

Program	Total Apps (00-04)	Selectivity (00-04)	Total Apps (05-09)	Selectivity (05-09)	Difference in Selectivity
SPANISH	48	50.0%	83	**50.6%**	-0.6%
ENTOMOLOGY	91	48.4%	110	**50.9%**	-2.6%
SOIL & WATER SCIENCES	30	43.3%	37	**56.8%**	-13.4%
HISTORY	97	56.7%	224	**58.5%**	-1.8%
EEOB - EVOL, ECOL AND ORG BIOL	137	61.3%	141	**59.6%**	+1.7%
MUSIC	0	na	38	**60.5%**	na
DANCE (CRITICAL DANCE STUDIES)	63	77.8%	75	**61.3%**	+16.4%
CLASSICS, TRI-CAMPUS	3	66.7%	5	**80.0%**	-13.3%
MICROBIOLOGY	194	19.1%	0	**na**	na

TABLE B3. SELECTIVITY IN MASTER'S ADMISSIONS 2000-2009
(TOTAL ADMITS DIVIDED BY TOTAL APPLICANTS)

Program	Total Apps (00-04)	Selectivity (00-04)	Total Apps (05-09)	Selectivity (05-09)	Difference in Selectivity
VISUAL ART	32	18.8%	180	**16.7%**	+2.1%
BIOENGINEERING	0	na	70	**22.9%**	na
STATISTICS	103	32.0%	182	**23.1%**	+9.0%
COMPUTER SCIENCE	744	13.7%	715	**24.8%**	-11.0%
CHEMICAL & ENVIRON ENGINEERING	111	38.7%	93	**26.9%**	+11.9%
DANCE (EXPER CHOREOGRAPHY)	26	34.6%	61	**29.5%**	+5.1%
CREATIVE WRITING AND WPA	96	44.8%	417	**30.2%**	+14.6%
ELECTRICAL ENGINEERING	365	27.9%	551	**31.2%**	-3.3%
HISTORY	223	62.8%	179	**32.4%**	+30.4%
SOUTHEAST ASIAN STUDIES	0	na	12	**33.3%**	na
MECHANICAL ENGINEERING	72	29.2%	161	**34.2%**	-5.0%
BIOCHEMISTRY & MOLEC BIOLOGY	167	64.1%	297	**41.8%**	+22.3%
MANAGEMENT	1311	48.8%	1585	**43.8%**	+5.0%
ENTOMOLOGY	56	64.3%	38	**47.4%**	+16.9%
ART HISTORY	102	65.7%	132	**53.8%**	+11.9%
SOIL & WATER SCIENCES	37	64.9%	17	**58.8%**	+6.0%
EDUCATION	605	60.2%	732	**59.8%**	+0.3%
GEOLOGICAL SCIENCE	42	50.0%	77	**61.0%**	-11.0%

Perusal of the selectivity tables above indicates a very large range in the current selectivity of both our Ph.D. and Master's programs. Although new programs may need to be less selective while they are becoming established, there is still a much broader range of selectivity for established programs on our campus than may be optimal. Many programs have become more selective over the past 5 years, and several stand out as having achieved very large (>20%) improvements – English Ph.D. (+26.9%), History Master's (+30.4%), Biochemistry & Molecular Biology Master's (+22.3%).

Finally we can consider the yield or take-rate across programs - the proportion of admitted students that accept our offer and enroll (e.g., # new enrolled divided by # of admits). The interpretation of these rates can be tricky when viewed in isolation. On the one hand, if a program has a very low take rate this could indicate that students prefer other programs over ours; or it could mean that the program is aiming very high - accepting only the best students (who will have multiple strong offers), so a low yield would be expected. The same holds in reverse for programs with very high take rates - either the program is very desirable, or it tends to admit students with few other options. Hence, these data should be

compared to the student quality metrics described for each program above. Some information can be gleaned by comparing selectivity indices to the take rate of the program. If a program is very selective, and has a relatively high take rate, this could indicate that the program is aiming very high in its admissions, and is succeeding in attracting the best students. Programs that are very selective, but have relatively low take rates are also aiming high, but cannot yet attract large numbers of the very best students. Programs that are less selective, but have relatively high take rates, are either aiming too low in admissions or perhaps are focusing in niche areas that have few competitors. Programs that are less selective, and also have low take rates cannot be viewed as desirable in any way.

Tables B4 and B5 present the take rate for each graduate program (percentage of admitted students that enroll) across two 5-year spans, separately for Ph.D. and Master's students. *The data are sorted by the yield for the most recent 5-year span.* The final column shows the difference in percent yield across the two 5-year periods. Positive differences indicate that the yield has increased across these two periods.

TABLE B4. PHD TAKE RATE (YIELD) 2000-2009

PROGRAM	Total Admits (00-04)	Yield (00-04)	Total Admits (05-09)	Yield (05-09)	Difference in Yield
CLASSICS, TRICAMPUS	2	50.0%	4	**25.0%**	-25.0%
BIOMEDICAL SCIENCES	58	25.9%	57	**31.6%**	+5.7%
ECONOMICS	204	28.4%	237	**33.3%**	+4.9%
BIOCHEMISTRY & MOLEC BIOLOGY	120	31.7%	79	**35.4%**	+3.8%
PHYSICS	209	31.1%	314	**37.3%**	+6.2%
PLANT PATHOLOGY	31	45.2%	36	**38.9%**	-6.3%
PHILOSOPHY	96	41.7%	102	**39.2%**	-2.5%
CELL, MOLEC & DEV BIOLOGY	143	34.3%	94	**39.4%**	+5.1%
ENVIRONMENTAL SCIENCE	31	48.4%	32	**40.6%**	-7.8%
CHEMISTRY	257	36.6%	321	**41.1%**	+4.5%
CHEMICAL & ENVIRON ENGR	112	43.8%	190	**42.1%**	-1.6%
GENETICS,GENOMICS & BIOINF	41	48.8%	72	**44.4%**	-4.3%
GEOLOGICAL SCIENCE	23	52.2%	30	**46.7%**	-5.5%
STATISTICS	76	32.9%	107	**46.7%**	+13.8%
COMPUTER SCIENCE	205	50.7%	286	**47.2%**	-3.5%
NEUROSCIENCE	49	36.7%	55	**47.3%**	+10.5%
MECHANICAL ENGR	44	68.2%	95	**48.4%**	-19.8%
ELECTRICAL ENGR	139	52.5%	259	**49.4%**	-3.1%
DANCE (CRITICAL DANCE STUDIES)	49	59.2%	46	**50.0%**	-9.2%
SOCIOLOGY	153	44.4%	131	**50.4%**	+5.9%
PSYCHOLOGY	150	47.3%	168	**50.6%**	+3.3%
PLANT BIOLOGY	58	50.0%	108	**50.9%**	+0.9%
SOIL & WATER SCIENCES	13	38.5%	21	**52.4%**	+13.9%
POLITICAL SCIENCE	76	42.1%	92	**53.3%**	+11.2%
MATHEMATICS	102	45.1%	135	**53.3%**	+8.2%
EEOB - EVOL, ECOL AND ORG BIOL	84	41.7%	84	**54.8%**	+13.1%
BIOENGINEERING	0	na	40	**55.0%**	na
ANTHROPOLOGY	97	45.4%	85	**56.5%**	+11.1%
ENVIRONMENTAL TOXICOLOGY	54	64.8%	46	**56.5%**	-8.3%
ENTOMOLOGY	44	54.5%	56	**57.1%**	+2.6%
ENGLISH	133	47.4%	115	**58.3%**	+10.9%

PROGRAM	Total Admits (00-04)	Yield (00-04)	Total Admits (05-09)	Yield (05-09)	Difference in Yield
COMPARATIVE LITERATURE	52	30.8%	57	**59.6%**	+28.9%
SPANISH	24	58.3%	42	**61.9%**	+3.6%
HISTORY	55	47.3%	131	**65.6%**	+18.4%
EDUCATION	163	70.6%	143	**65.7%**	-4.8%
RELIGIOUS STUDIES	0	na	20	**70.0%**	na
MUSIC	0	na	23	**73.9%**	na
ETHNIC STUDIES	13	0.0%	0	**na**	na
MICROBIOLOGY	37	37.8%	0	**na**	na

TABLE B5. MASTERS TAKE RATE (YIELD) 2000-2009

Program	Total Admits (00-04)	Yield (00-04)	Total Admits (05-09)	Yield (05-09)	Difference in Yield
BIOENGINEERING	0	na	16	**25.0%**	na
COMPUTER SCIENCE	102	57.8%	177	**26.0%**	-31.9%
ELECTRICAL ENGINEERING	102	33.3%	172	**29.7%**	-3.7%
STATISTICS	33	42.4%	42	**35.7%**	-6.7%
MECHANICAL ENGINEERING	21	57.1%	55	**40.0%**	-17.1%
MANAGEMENT	640	37.2%	695	**42.3%**	+5.1%
CHEMICAL & ENVIRON ENGINEER	43	48.8%	25	**48.0%**	-0.8%
HISTORY	140	65.7%	58	**50.0%**	-15.7%
ENTOMOLOGY	36	69.4%	18	**55.6%**	-13.9%
ART HISTORY	67	61.2%	71	**59.2%**	-2.0%
VISUAL ART	6	66.7%	30	**60.0%**	-6.7%
CREATIVE WRITING & WPA	43	76.7%	126	**65.1%**	-11.7%
GEOLOGICAL SCIENCE	21	57.1%	47	**68.1%**	+10.9%
DANCE (EXPER CHOREOGRAPHY)	9	66.7%	18	**72.2%**	+5.6%
SOUTHEAST ASIAN STUDIES	0	na	4	**75.0%**	na
SOIL & WATER SCIENCES	24	62.5%	10	**80.0%**	+17.5%
BIOCHEMISTRY & MOLEC BIOLOGY	107	67.3%	124	**80.6%**	+13.4%
EDUCATION	364	85.4%	438	**85.2%**	-0.3%

3. Program attracts students nationally and internationally, not just from local area.

A strong graduate program will attract students nationally (and internationally), and not just from the local area. Tables B6 and B7 below indicate the locations of the Bachelor's institutions for all graduate students (Masters and Ph.D.) who enrolled at UCR from 2005-2009. *Table B6 is sorted, in descending order, by the percentage of students coming from U.S. institutions outside of California, as a means of estimating nationwide visibility of programs.* The final column shows the change in this percentage since the prior 5-year period of 2000-2004. Programs that have increased their percentages of domestic non-California students will have % changes that are positive. Note that programs with very low numbers of students are indicated with an asterisk.

TABLE B6. LOCATION OF BACHELOR'S INSTITUTION (05-09)
AND % CHANGE IN DOMESTIC-OTHER SINCE 00-04, SORTED BY % DOMESTIC - OTHER

	UCR	CA-other	Domestic-other	Internat	% Change Domes-other since 00-04
PHILOSOPHY	5%	19%	**73%**	3%	**+20%**

	UCR	CA-other	**Domestic-other**	Internat	**% Change Domes-other since 00-04**
DANCE	3%	11%	**60%**	26%	**+11%**
ANTHROPOLOGY	8%	27%	**55%**	10%	**+14%**
GEOLOGICAL SCIENCES	13%	23%	**52%**	13%	**+33%**
CLASSICS, TRICAMPUS*	0%	0%	**50%**	50%	**0%**
RELIGIOUS STUDIES	13%	33%	**50%**	3%	**NA**
EEOB (BIOLOGY)	10%	24%	**49%**	18%	**+4%**
CREATIVE WRITING -PALMDLORES	11%	41%	**48%**	0%	**NA**
VISUAL ART	0%	56%	**44%**	0%	**-6%**
ENGLISH	13%	47%	**40%**	0%	**+16%**
ART HISTORY (MASTER'S)	12%	43%	**38%**	7%	**-2%**
PSYCHOLOGY	12%	49%	**38%**	1%	**+7%**
CREATIVE WRITING & WPA	23%	37%	**36%**	5%	**+21%**
SOCIOLOGY	20%	40%	**35%**	5%	**+11%**
SOIL & WATER SCIENCES	17%	26%	**35%**	22%	**-25%**
PHYSICS	6%	21%	**33%**	40%	**+24%**
ENVIRON TOXICOLOGY	4%	14%	**32%**	50%	**+10%**
ENTOMOLOGY	16%	30%	**32%**	23%	**-3%**
CREATIVE WRITING -PALMDES	12%	58%	**29%**	2%	**NA**
CHEMISTRY	10%	22%	**28%**	40%	**+19%**
MUSIC	18%	46%	**28%**	8%	**+13%**
HISTORY	19%	52%	**28%**	1%	**+5%**
NEUROSCIENCE	8%	42%	**27%**	23%	**+5%**
POLITICAL SCIENCE	7%	61%	**27%**	5%	**+13%**
ENVIRONMENTAL SCIENCES	15%	15%	**25%**	45%	**+4%**
ETHNIC STUDIES*	25%	50%	**25%**	0%	**NA**
PLANT BIOLOGY	3%	22%	**24%**	51%	**0%**
PLANT PATHOLOGY	7%	7%	**21%**	64%	**+10%**
MANAGEMENT - EXEC MBA	10%	60%	**20%**	10%	**NA**
MATHEMATICS	26%	48%	**18%**	8%	**+4%**
MANAGEMENT - PALMDESERT	11%	57%	**18%**	14%	**NA**
COMPARATIVE LIT	8%	27%	**16%**	49%	**-1%**
BIOENGINEERING	18%	25%	**14%**	43%	**NA**
GENETICS, GENOMICS, &BIOINF	11%	26%	**14%**	49%	**-5%**
ECONOMICS	6%	9%	**14%**	71%	**+3%**
SPANISH	25%	47%	**14%**	14%	**-4%**
MECHANICAL ENGINEERING	16%	11%	**11%**	62%	**-2%**
BIOMEDICAL SCIENCES	11%	37%	**11%**	42%	**+5%**
COMPUTERSCI	23%	7%	**9%**	61%	**+6%**
CHEMICAL & ENVIRON ENGIN	9%	12%	**8%**	71%	**0%**
MANAGEMENT	19%	12%	**8%**	61%	**+1%**
EDUCATION	66%	23%	**8%**	3%	**-5%**
CELL, MOLEC & DEV BIOLOGY	17%	44%	**7%**	32%	**-2%**
BIOCHEM&MOLECBIOL	68%	19%	**7%**	6%	**-2%**
STATISTICS	9%	23%	**6%**	62%	**-6%**
ELECTRICAL ENGINEERING	17%	7%	**4%**	71%	**+1%**
SOUTHEAST ASIAN STUDIES*	67%	0%	**0%**	33%	**NA**

	UCR	CA-other	**Domestic-other**	Internat	**% Change Domes-other since 00-04**
MICROBIOLOGY					**NA**

* % based on <5 students

Table B7 displays the same data sorted, in ascending order, by the percentage of enrolled students entering with undergraduate degrees from UCR. Programs with nationwide visibility would not be expected to enroll large numbers of students from our campus. However, there are three possible exceptions to this conclusion. First, it is important to note that, given the diversity of UCR undergraduates, enrolling excellent students from UCR can be an effective way of increasing the diversity of our graduate student population. Second, very new graduate programs cannot be expected to have achieved nationwide visibility yet, and enrolling excellent undergraduates from UCR can help launch such programs. Third, some professional programs such as Education will necessarily draw students locally to provide professionals for local institutions. Programs that have decreased their percentages of UCR students across the past 10 years will have % changes that are negative. Note that programs with very low numbers of students are indicated with an asterisk.

TABLE B7. LOCATION OF BACHELOR'S INSTITUTION (05-09) AND % CHANGE IN UCR ENROLLMENT SINCE 00-04, SORTED BY % UCR

	UCR	CA-other	Domestic-other	Internat	**% change UCR since 00-04**
CLASSICS,TRICAMPUS*	**0%**	0%	50%	50%	**0%**
VISUAL ART	**0%**	56%	44%	0%	**0%**
DANCE	**3%**	11%	60%	26%	**-2%**
PLANT BIOLOGY	**3%**	22%	24%	51%	**-7%**
ENVIRON TOXICOLOGY	**4%**	14%	32%	50%	**-7%**
PHILOSOPHY	**5%**	19%	73%	3%	**+2%**
PHYSICS	**6%**	21%	33%	40%	**-12%**
ECONOMICS	**6%**	9%	14%	71%	**-1%**
PLANT PATHOLOGY	**7%**	7%	21%	64%	**+2%**
POLITICAL SCIENCE	**7%**	61%	27%	5%	**-11%**
NEUROSCIENCE	**8%**	42%	27%	23%	**+2%**
COMPARATIVE LIT	**8%**	27%	16%	49%	**-9%**
ANTHROPOLOGY	**8%**	27%	55%	10%	**-13%**
STATISTICS	**9%**	23%	6%	62%	**-10%**
CHEMICAL & ENVIR ENGIN	**9%**	12%	8%	71%	**-5%**
CHEMISTRY	**10%**	22%	28%	40%	**-6%**
EEOB (BIOLOGY)	**10%**	24%	49%	18%	**+5%**
MANAGEMENT – EXEC MBA	**10%**	60%	20%	10%	**NA**
BIOMEDICAL SCIENCES	**11%**	37%	11%	42%	**-1%**
MANAGEMENT - PALMDES	**11%**	57%	18%	14%	**NA**
CREATIVE WRITING - PALMDLORES	**11%**	41%	48%	0%	**NA**
GENETICS, GENOMICS, &BIOINF	**11%**	26%	14%	49%	**+6%**
CREATIVE WRITING -PALMDES	**12%**	58%	29%	2%	**NA**
ART HISTORY	**12%**	43%	38%	7%	**0%**
PSYCHOLOGY	**12%**	49%	38%	1%	**-1%**
GEOLOGICAL SCIENCES	**13%**	23%	52%	13%	**-10%**
ENGLISH	**13%**	47%	40%	0%	**-2%**

	UCR	CA-other	Domestic-other	Internat	% change UCR since 00-04
RELIGIOUS STUDIES	**13%**	33%	50%	3%	**NA**
ENVIRONMENTAL SCIENCES	**15%**	15%	25%	45%	**-10%**
ENTOMOLOGY	**16%**	30%	32%	23%	**-8%**
MECHANICAL ENGINEERING	**16%**	11%	11%	62%	**+10%**
ELECTRICAL ENGINEERING	**17%**	7%	4%	71%	**+5%**
CELL,MOLEC&DEVBIOLOGY	**17%**	44%	7%	32%	**-6%**
SOIL & WATER SCIENCES	**17%**	26%	35%	22%	**-8%**
BIOENGINEERING	**18%**	25%	14%	43%	**NA**
MUSIC	**18%**	46%	28%	8%	**-20%**
MANAGEMENT	**19%**	12%	8%	61%	**0%**
HISTORY	**19%**	52%	28%	1%	**-5%**
SOCIOLOGY	**20%**	40%	35%	5%	**-4%**
CREATIVE WRITING & WPA	**23%**	37%	36%	5%	**-29%**
COMPUTER SCIENCE	**23%**	7%	9%	61%	**+3%**
ETHNIC STUDIES*	**25%**	50%	25%	0%	**NA**
SPANISH	**25%**	47%	14%	14%	**+4%**
MATHEMATICS	**26%**	48%	18%	8%	**-8%**
EDUCATION	**66%**	23%	8%	3%	**+10%**
SOUTHEAST ASIAN STUDIES*	**67%**	0%	0%	33%	**NA**
BIOCHEM &MOLEC BIOLOGY	**68%**	19%	7%	6%	**+17%**
MICROBIOLOGY					**NA**

* % based on <5 students

There are several points to be made about the data presented above. First, it appears that the majority of our graduate programs have made gains in nationwide visibility as evidenced by increasing numbers of non-California domestic, and decreasing numbers of UCR, students. For example, approximately 62% of the programs have increased non-California enrollments by an average of 10.8%; the 31% that decreased non-California domestic enrollments had average decreases of only 5.3%. Second, not surprisingly, fields such as Engineering that attract mainly international students, do not have high percentages of non-California domestic students. Third, the three programs that have majority enrollments from UCR undergraduates are either training professionals for local needs (Education), are very new (Southeast Asian Studies), or have the bulk of their enrollment from a Master's program that attracts UCR undergraduates who stay for additional study before applying to a professional school **(**Biochemistry & Molecular Biology, which is attractive to students who later apply to programs such as Pharmacy). However, aside from these caveats, note should be taken of programs that have relative low percentages of UCR students, and relatively high percentages of non-California, as this may indicate strong national visibility.

A visible, high quality graduate program should ideally enroll a mix of domestic and international students. The UC fee structure for international students presents a major challenge for achieving this objective, due to the high cost of nonresident tuition (NRT). The following two tables exemplify the outcome of this fee policy on our graduate enrollments. These tables show the percent of enrollment in each program that is due to domestic students, over two 5-year periods, and the change in domestic enrollments over these two periods. This percentage difference is positive for programs that increased the proportion of domestic students, and negative for programs that increased the proportion of international enrollees. *The data are sorted by percent domestic enrollment for the most recent 5-years.*

TABLE B8. % DOMESTIC PHD STUDENTS 2000-2009

Program	Total Domest (00-04)	% Domest (00-04)	Total Domest (05-09)	% Domest (05-09)	Difference
ETHNIC STUDIES	0	na	4	**100.0%**	na
HISTORY	215	95.6%	331	**97.6%**	+2.1%
RELIGIOUS STUDIES	0	na	31	**96.9%**	na
ENGLISH	337	94.4%	375	**96.2%**	+1.8%
EDUCATION	522	99.2%	520	**95.9%**	-3.3%
MUSIC	0	na	44	**95.7%**	na
PHILOSOPHY	171	93.4%	168	**95.5%**	+2.0%
PSYCHOLOGY	247	92.5%	330	**95.1%**	+2.6%
SOCIOLOGY	279	91.5%	323	**95.0%**	+3.5%
POLITICAL SCIENCE	140	96.6%	186	**94.9%**	-1.7%
ANTHROPOLOGY	193	90.2%	271	**90.0%**	-0.2%
SPANISH	42	71.2%	85	**89.5%**	+18.3%
MATHEMATICS	135	78.9%	234	**87.3%**	+8.4%
GEOLOGICAL SCIENCE	55	71.4%	74	**86.0%**	+14.6%
CLASSICS, TRICAMPUS	11	100.0%	5	**83.3%**	-16.7%
EEOB - EVOL, ECOL AND ORG BIOL	147	88.0%	201	**82.4%**	+5.6%
ENTOMOLOGY	97	70.8%	123	**75.9%**	+5.1%
NEUROSCIENCE	31	64.6%	77	**74.0%**	+9.5%
DANCE (CRITICAL DANCE STUDIES)	96	72.2%	95	**72.0%**	-0.2%
SOIL & WATER SCIENCES	17	56.7%	40	**69.0%**	+12.3%
GENETICS, GENOMICS & BIOINF	43	62.3%	92	**68.1%**	+5.8%
CELL, MOLEC & DEV BIOLOGY	77	62.6%	175	**67.3%**	+4.7%
BIOCHEMISTRY & MOLEC BIOLOGY	100	56.5%	108	**66.7%**	+10.2%
ENVIRONMENTAL TOXICOLOGY	101	58.7%	82	**59.4%**	+0.7%
PLANT BIOLOGY	108	50.0%	124	**57.9%**	+7.9%
CHEMISTRY	209	55.6%	308	**57.7%**	+2.1%
PHYSICS	105	44.1%	255	**55.9%**	+11.8%
BIOMEDICAL SCIENCES	21	32.8%	38	**53.5%**	+20.7%
ENVIRONMENTAL SCIENCE	27	57.4%	26	**53.1%**	-4.4%
COMPARATIVE LITERATURE	43	63.2%	59	**51.8%**	+11.5%
BIOENGINEERING	0	na	25	**48.1%**	na
STATISTICS	49	49.5%	90	**43.5%**	+6.0%
MICROBIOLOGY	38	58.5%	11	**40.7%**	+17.7%
PLANT PATHOLOGY	28	33.7%	24	**37.5%**	+3.8%
COMPUTER SCIENCE	102	26.0%	187	**35.4%**	+9.5%
ECONOMICS	89	34.8%	81	**30.8%**	-4.0%
CHEMICAL & ENVIRON ENGINEERI	26	18.4%	87	**29.2%**	+10.8%
MECHANICAL ENGINEERING	6	9.2%	47	**24.5%**	+15.2%
ELECTRICAL ENGINEERING	10	4.6%	84	**20.3%**	+15.8%

TABLE B9. % DOMESTIC MASTERS STUDENTS 2000-2009

Program	Total Domest (00-04)	% Domestic (00-04)	Total Domest (05-09)	% Domestic (05-09)	Difference
DANCE (EXPER CHOREOGRAPHY)	15	100.0%	27	**100.0%**	0.0%
HISTORY	182	97.3%	77	**100.0%**	+2.7%

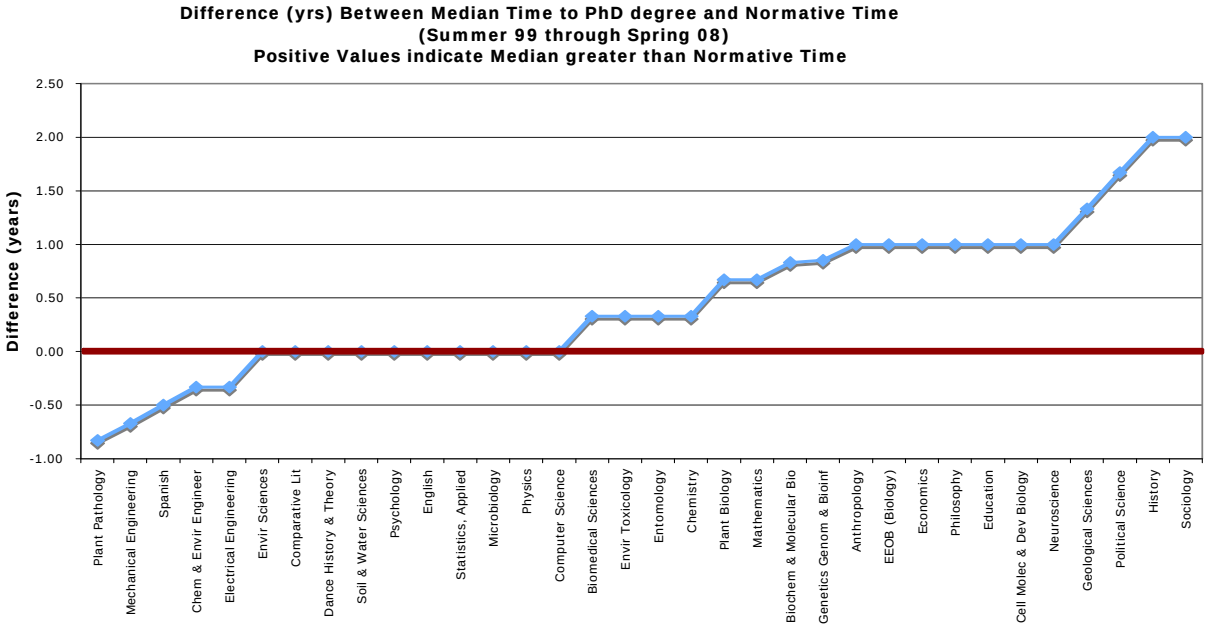
Program	Total Domest (00-04)	% Domestic (00-04)	Total Domest (05-09)	% Domestic (05-09)	Difference
SOUTHEAST ASIAN STUDIES	0	na	5	**100.0%**	na
VISUAL ART	4	100.0%	50	**100.0%**	0.0%
ENTOMOLOGY	65	90.3%	44	**100.0%**	+9.7%
BIOENGINEERING	0	na	8	**100.0%**	na
CREATIVE WRITING AND WPA	52	98.1%	173	**99.4%**	+1.3%
EDUCATION	397	99.3%	452	**99.1%**	-0.1%
GEOLOGICAL SCIENCE	35	100.0%	67	**97.1%**	-2.9%
ART HISTORY	72	97.3%	88	**94.6%**	-2.7%
BIOCHEM & MOLEC BIOLOGY	76	82.6%	119	**93.7%**	+11.1%
SOIL & WATER SCIENCES	52	100.0%	21	**87.5%**	-12.5%
MECHANICAL ENGR	11	52.4%	32	**71.1%**	+18.7%
COMPUTER SCIENCE	64	42.7%	73	**67.6%**	+24.9%
CHEMICAL & ENVIRON ENGINEER	32	80.0%	15	**62.5%**	-17.5%
ELECTRICAL ENGINEERING	39	52.7%	44	**45.8%**	+6.9%
MANAGEMENT	313	47.9%	241	**40.0%**	+7.8%
STATISTICS	13	50.0%	10	38.5%	+11.5%

Tables B8 and B9 indicate a polarization across programs in the percentage of international enrollees. Disciplines that are currently less attractive to American students have majority international enrollments (e.g., Engineering, Economics, Statistics), while programs that do attract many domestic applicants have extremely small international enrollments (e.g., History, English, Psychology). In neither case is there an optimal mix of domestic and international students. In fields that do not attract many American students, admitting primarily international students may be necessary to maintain program quality. Another trend is quite evident. A very large majority (82%) of our Ph.D. programs campus-wide has increased the proportion of domestic students in the past 5 years, by an average increase of 8.6%. This increasing "Americanization" of our campus is likely an outcome of recent increases in NRT, and it sets us on a course that is at odds with the increasing globalization of scholarship and science. Furthermore, it detracts from our ability to achieve the profile of an AAU institution – non-UC AAU schools do not have the same kinds of structural impediments to the enrollment of international students, and UC campuses that are already in AAU have achieved membership before the dramatic increases in NRT occurred.

4. Completion of program within normative time.

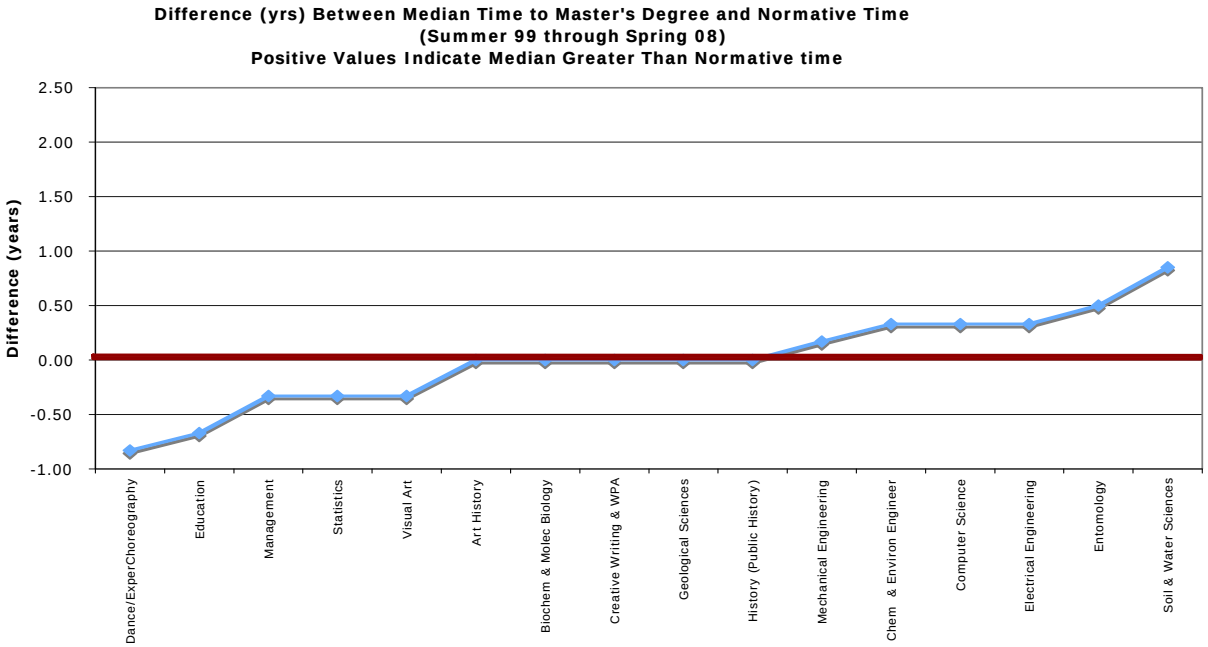
One criterion for excellence in the delivery of graduate education is the extent to which students complete their degrees in a timely fashion. There are differences across disciplines in the time needed to complete a course of study, hence programs differ in what is considered to be "normative" time to degree. However, if many students exceed normative time this suggests a mismatch between the program's stated goals and the actual completion time. We examined the difference between the median completion time for Ph.D. and Masters degrees granted between Summer 00 and Spring 08, and each program's normative time as reported by the Graduate Division (difference expressed in years) – see Figures B5 and B6 for Ph.D. and Master's degrees. Please note that if the program expresses normative time as a range (Anthropology Ph.D.: 5-7 years; Physics Ph.D.: 5-6.7 years) we used the upper bound as our estimate of normative time. All other Ph.D. programs have normative times between 5 and 6 years. The red line in the figures indicates equality of normative time and median time to degree. Positive differences indicate median time to degree that exceeds normative time.

Figure B5.



For the Master's program data shown below, normative time was 5-6 quarters for most programs. Normative time is 7 quarters for Management MBA and Geological Sciences, and 9 quarters for Experimental Choreography.

Figure B6.

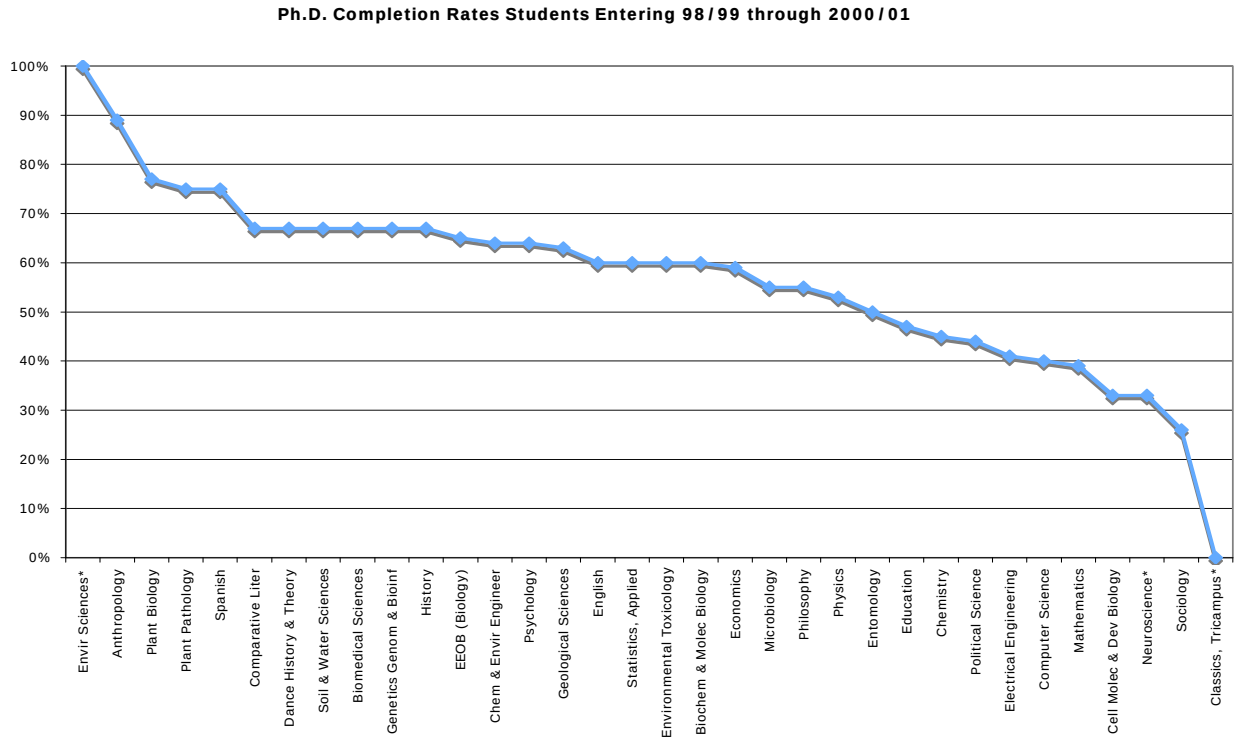


For many programs median time to degree is less than or equal to normative time. The committee expressed concern about Ph.D. programs whose time to Ph.D. degree exceeded normative time by more than one year, or whose time to Master's degree exceeded normative time by more than .5 years. Such programs should examine the conditions that may be preventing students from timely completion of their degree programs.

5. Completion/Attrition rates

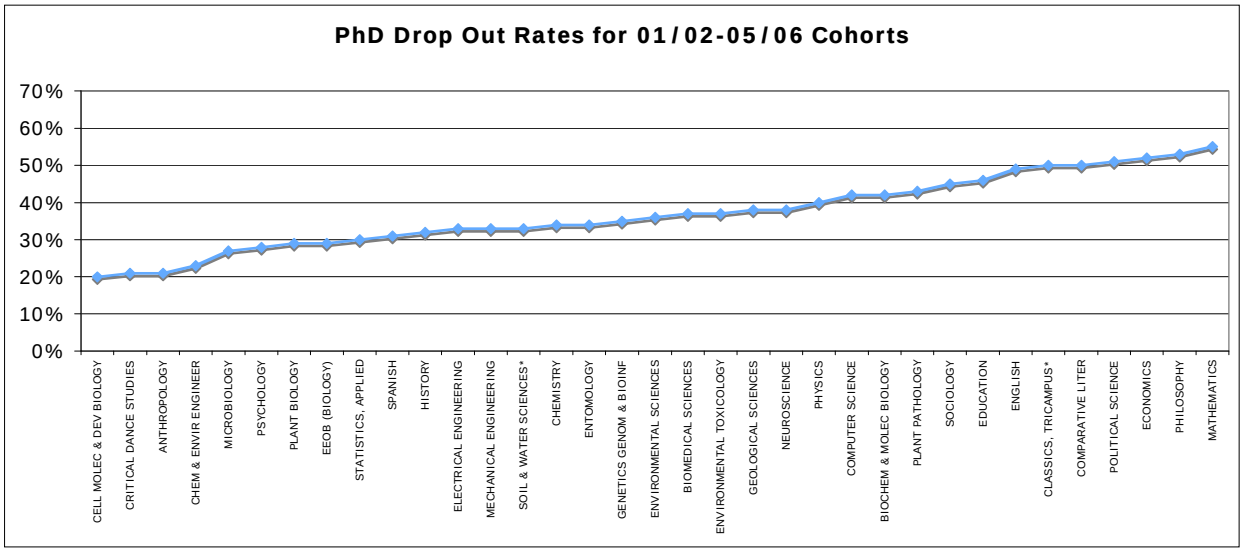
To arrive at an index of completion rates, the committee examined the proportion of students who entered UCR Ph.D. programs between 98/99 and 00/01, and completed their Ph.D. These years were selected because it was assumed that students enrolling in these years should have had sufficient time to complete their degrees. However, fairly recent changes in programs might not be revealed by examining these cohorts. For that reason, a second metric was examined: the proportion of Ph.D. students who entered from 01/02 through 05/06 and who dropped out of the program without completing the Ph.D. Not all students in these cohorts would be expected to have completed their degrees to date, but the percent of those who have dropped out provides an attrition metric that should reflect more current trends in each program. The drop out rate was calculated as the percent of students in a given cohort who had left the program to date without completing the Ph.D. degree. Students who left a program in order to transfer to a different program on our campus would contribute to the drop out rate for the original program.

Figure B7.



* Program admitted < 10 students in 98/99 through 00/01.

Figure B8.



* Program admitted < 10 students in 01/02 through 05/06.

Figures B7 and B8 contain the relevant data. Considering both metrics should provide a reasonable estimate of attrition rates across programs. Our excellence criteria state that while a very high attrition rate is undesirable (and a poor use of resources), a near zero attrition rate can also be problematic if programs fail to "weed out" students who are underperforming. Optimally, there should be some balance between an acceptable degree of attrition (due to factors such as student health/family problems, and exit of underperforming candidates) and quality mentoring of students through completion.

Figure B7 documents an extremely large range of completion percentages across various Ph.D. programs. The committee noted a moderate negative correlation (r = -.31) between the completion rate and the difference between median and normative time to degree: a lower completion rate was associated with time to degree that exceeded normative time.

In general, the drop out rates appear to be rather high (Figure B8). The committee did not have access to information about why students had left various programs, and this is precisely the information needed to properly interpret drop out rates. For example, students may have left for personal/health reasons, due to underperformance in the program or poor mentoring, because they received a better offer from a competitor institution or had insufficient financial support from UCR, etc. In addition, the Graduate Division reports that in several Humanities programs students often drop out and then return later to file their dissertations. Students who have opted for this path, but who have not yet returned to file dissertations, would be counted currently as having dropped out.

It is critical to have more detailed data on attrition rates. The committee recommends that programs, in conjunction with the Graduate Division, identify and report, for each cohort, the reasons why each student has left a program as well as the percentage of students who drop out only to return later to file dissertations. The ambiguity in the attrition data reported here may partially account for programs whose completion and drop out rates appear to be discrepant. However, programs for which very low completion rates co-occur with very high drop out rates deserve further scrutiny.

6. Number of terminal degree students produced by program.

Programs that produce larger numbers of terminal degree students (of acknowledged quality) can have more impact on the reputation of the program and the campus, and can help bring us closer to

achieving an AAU profile. However, we note that quality should never be sacrificed for quantity, and that, for some fields, employment trends cannot support large numbers of Ph.D. students. Tables B10 and B11 report the number of yearly degrees awarded, averaged over two 5-year periods, separately for Ph.D. and Master's degrees. *The data are sorted by the average number of degrees granted for the most recent 5-year span.* The difference in average number of degrees across the two time spans is also provided; positive differences indicate an increase in the number of degrees in the past 5 years.

TABLE B10. AVERAGE NUMBER OF YEARLY PHD DEGREES AWARDED 2000-2009

Program	Average # of Degrees (00-04)	Average # of Degrees (05-09)	Difference
COMPUTER SCIENCE	2.3	**15.6**	+13.4
CHEMISTRY	9.6	**12.8**	+3.2
EDUCATION	9.8	**11.8**	+2.0
ENGLISH	10.0	**11.0**	+1.0
ELECTRICAL ENGINEERING	2.3	**10.4**	+8.1
PLANT BIOLOGY	6.0	**8.0**	+2.0
HISTORY	5.6	**7.8**	+2.2
CHEMICAL & ENVIR ENGINEER	1.0	**7.6**	+6.6
PSYCHOLOGY	8.4	**7.2**	-1.2
ECONOMICS	5.4	**6.6**	+1.2
CELL MOLEC & DEV BIOLOGY	3.0	**5.6**	+2.6
BIOCHEM & MOLEC BIOLOGY	3.2	**5.4**	+2.2
PHYSICS	5.4	**5.0**	-0.4
STATISTICS	2.5	**5.0**	+2.5
ENVIRONMENTAL TOXICOLOGY	5.2	**4.8**	-0.4
ENTOMOLOGY	3.6	**4.8**	+1.2
PHILOSOPHY	3.0	**4.8**	+1.8
SOCIOLOGY	5.2	**4.4**	-0.8
EEOB (BIOLOGY)	3.6	**4.4**	+0.8
ANTHROPOLOGY	3.4	**4.4**	+1.0
MATHEMATICS	2.0	**4.4**	+2.4
DANCE (CRITICAL DANCE STUDIES)	3.0	**4.2**	+1.2
MECHANICAL ENGINEERING	N/A	**4.0**	N/A
POLITICAL SCIENCE	2.6	**3.3**	+0.7
SPANISH	1.8	**3.0**	+1.2
GENETICS, GENOMICS & BIOINFO	1.4	**3.0**	+1.6
BIOMEDICAL SCIENCES	2.8	**2.6**	-0.2
GEOLOGICAL SCIENCES	2.3	**2.5**	+0.3
PLANT PATHOLOGY	3.6	**2.4**	-1.2
MICROBIOLOGY	2.0	**2.4**	+0.4
NEUROSCIENCE	1.3	**2.3**	+1.0
SOIL & WATER SCIENCES	2.6	**2.0**	-0.6
COMPARATIVE LITERATURE	1.3	**2.0**	+0.8
ENVIRONMENTAL SCIENCES	1.0	**1.8**	+0.8
BIOENGINEERING	N/A	**1.0**	N/A

TABLE B11. AVERAGE NUMBER OF MASTERS DEGREES AWARDED 2000-2009

Program	Average # of Degrees (00-04)	Average # of Degrees (05-09)	Difference
EDUCATION	43.8	**88.2**	+44.4
MANAGEMENT - RIVERSIDE	68.6	**53.0**	-15.6
ELECTRICAL ENGINEERING	11.5	**19.6**	+8.1
COMPUTER SCIENCE	14.6	**19.2**	+4.6
BIOCHEM & MOLEC BIOLOGY	13.0	**16.4**	+3.4
HISTORY	12.8	**14.6**	+1.8
CREATIVE WRITING & WPA	4.0	**13.6**	+9.6
STATISTICS	3.8	**10.0**	+6.2
ART HISTORY	6.4	**7.2**	+0.8
MANAGEMENT - PALM DESERT	N/A	**6.0**	N/A
MECHANICAL ENGINEERING	4.0	**5.6**	+1.6
CREATIVE WRITING - PALM DESERT	N/A	**5.5**	N/A
VISUAL ART	N/A	**5.0**	N/A
ENTOMOLOGY	4.8	**4.8**	0.0
SOIL & WATER SCIENCES	5.0	**3.4**	-1.6
CHEMICAL & ENVIRON ENGINEER	3.8	**3.2**	-0.6
GEOLOGICAL SCIENCES	2.0	**3.0**	+1.0
BIOENGINEERING	N/A	**2.0**	N/A
ENVIRONMENTAL TOXICOLOGY	2.0	**1.4**	-0.6
CREATIVE WRIT – PLMDES LORES	N/A	**1.0**	N/A

Not surprisingly, the largest number of degrees was awarded to students from professional Master's programs (Education, Management) or Master's programs with strong employment potential (e.g., Electrical Engineering, Computer Science). With respect to Ph.D.s, Computer Science, Electrical Engineering and Education again produced large numbers of graduates (> 10/year), along with Chemistry and English. Also notable is the growth campus-wide over the past 5 years in the number of both Ph.D. and Master's degrees awarded. Twenty-six of the Ph.D. programs experienced growth, while only 7 programs produced smaller number of graduates, usually only very small decreases. Similar trends were observed for Master's degree graduates. These findings indicate that the recent greater emphasis at UCR on graduate education has culminated in significantly more students receiving graduate degrees. We infer that if additional resources are invested in graduate education, programs will respond by successfully training larger numbers of doctoral and master's students.

7. Training of underrepresented minority students (URM).

Successful training of underrepresented minority students is one important metric of excellence in graduate education given the multi-cultural nature of the population, and the importance of multiculturalism and bilingualism in an increasingly global community. The committee was unable to obtain data of sufficient granularity to assess the ultimate success of the training of our URM students (e.g., completion rates and placements for URM students). However, we were able to assess success in attracting URM students to enroll in our Ph.D. and Master's programs. Tables B12 and B13 indicate the percent of URM students enrolled, relative to total domestic students enrolled, over two 5-year spans (00-04, 05-09). *The data are sorted by decreasing URM percentages for the most recent 5-year period.*

TABLE B12. % URM PHD STUDENTS 2000-2009

Program	Total Domestic (00-04)	%URM (00-04)	Total Domestic (00-04)	%URM (05-09)	Difference
ETHNIC STUDIES	0	na	4	**75.0%**	na
SPANISH	42	19.0%	85	**64.7%**	+45.7%
SOIL & WATER SCIENCES	17	17.6%	40	**32.5%**	+14.9%
ELECTRICAL ENGINEERING	10	10.0%	84	**28.6%**	+18.6%
BIOENGINEERING	0	na	25	**24.0%**	na
SOCIOLOGY	279	20.4%	323	**21.4%**	+0.9%
MUSIC	0	na	44	**20.5%**	na
ANTHROPOLOGY	193	23.3%	271	**19.2%**	-4.1%
MECHANICAL ENGINEERING	6	0.0%	47	**19.1%**	+19.1%
EDUCATION	522	15.3%	520	**18.1%**	+2.8%
ECONOMICS	89	6.7%	81	**17.3%**	+10.5%
CHEMISTRY	209	4.3%	308	**17.2%**	+12.9%
MATHEMATICS	135	14.8%	234	**15.0%**	+0.1%
PHYSICS	105	19.0%	255	**14.5%**	-4.5%
COMPUTER SCIENCE	102	10.8%	187	**13.9%**	+3.1%
BIOCHEM & MOLEC BIOLOGY	100	9.0%	108	**13.9%**	+4.9%
BIOMEDICAL SCIENCES	21	33.3%	38	**13.2%**	-20.2%
CELL, MOLEC & DEV BIOLOGY	77	13.0%	175	**13.1%**	+0.2%
RELIGIOUS STUDIES	0	na	31	**12.9%**	na
PLANT BIOLOGY	108	12.0%	124	**12.9%**	+0.9%
DANCE (CRITICAL DANCE STUDIES)	96	24.0%	95	**12.6%**	-11.3%
PLANT PATHOLOGY	28	3.6%	24	**12.5%**	+8.9%
ENGLISH	337	14.8%	375	**12.0%**	-2.8%
HISTORY	215	15.3%	331	**11.8%**	+3.6%
CHEMICAL & ENVIRON ENGINEER	26	0.0%	87	**11.5%**	+11.5%
STATISTICS	49	4.1%	90	**11.1%**	+7.0%
POLITICAL SCIENCE	140	5.7%	186	**10.8%**	+5.0%
PSYCHOLOGY	247	15.4%	330	**9.7%**	-5.7%
NEUROSCIENCE	31	0.0%	77	**7.8%**	+7.8%
ENVIRONMENTAL SCIENCE	27	0.0%	26	**7.7%**	+7.7%
ENVIRONMENTAL TOXICOLOGY	101	2.0%	82	**7.3%**	+5.3%
EEOB (BIOLOGY)	147	3.4%	201	**7.0%**	+3.6%
GENETICS,GENOMICS & BIOINF	43	11.6%	92	**5.4%**	-6.2%
GEOLOGICAL SCIENCE	55	1.8%	74	**5.4%**	+3.6%
ENTOMOLOGY	97	5.2%	123	**4.9%**	-0.3%
PHILOSOPHY	171	3.5%	168	**4.8%**	+1.3%
COMPARATIVE LITERATURE	43	0.0%	59	**1.7%**	+1.7%
CLASSICS, TCP	11	0.0%	5	**0.0%**	0.0%
MICROBIOLOGY	38	10.5%	11	**0.0%**	-10.5%

TABLE B13. % URM MASTERS STUDENTS 2000-2009

Program	Total Domestic (00-04)	%URM (00-04)	Total Domestic (05-09)	%URM (05-09)	Difference
EDUCATION	397	25.7%	452	**27.7%**	+2.0%
ELECTRICAL ENGINEERING	39	12.8%	44	**27.3%**	+14.5%
CHEMICAL & ENVIRON ENGINEER	32	34.4%	15	**26.7%**	-7.7%
ENTOMOLOGY	65	1.5%	44	**25.0%**	+23.5%
MECHANICAL ENGINEERING	11	9.1%	32	**21.9%**	+12.8%
CREATIVE WRITING AND WPA	52	13.5%	173	**19.1%**	+5.6%
HISTORY	182	18.7%	77	**15.6%**	-3.1%
COMPUTER SCIENCE	64	1.6%	73	**15.1%**	+13.5%
MANAGEMENT	313	11.5%	241	**10.0%**	-1.5%
SOIL & WATER SCIENCES	52	9.6%	21	**9.5%**	-0.1%
ART HISTORY	72	8.3%	88	**9.1%**	+0.8%
GEOLOGICAL SCIENCE	35	8.6%	67	**9.0%**	+0.4%
BIOCHEM & MOLEC BIOLOGY	76	7.9%	119	**7.6%**	-0.3%
DANCE (EXPER CHOREOGRAPHY)	15	26.7%	27	**7.4%**	-19.3%
VISUAL ART	4	0.0%	50	**6.0%**	+6.0%
SOUTHEAST ASIAN STUDIES	0	na	5	**0.0%**	na
STATISTICS	13	7.7%	10	**0.0%**	+7.7%
BIOENGINEERING	0	na	8	**0.0%**	na

URM students predominate in two Ph.D. programs that would be expected to be of special interest to such students, Ethnic Studies and Spanish. Percentages for the remaining programs vary widely between nearly 1/3 and zero. Several programs stand out for their success in attracting URM students: for Ph.D. programs: Soil and Water Sciences, Sociology, Music, Anthropology, and several Engineering programs (Electrical, Bioengineering, Mechanical); for Master's programs: Education, Entomology, Creative Writing, and several Engineering programs (Electrical, Chemical & Environmental, Mechanical). It is interesting that the Engineering programs that tend to enroll large numbers of international students have been successful in attracting URM domestic students. If this trend differs from that of the discipline as a whole, then this should be a point of pride for our campus and something to highlight in media relations. It would be worth investigating further the means by which the above-mentioned programs have achieved good URM representation, so that this information could be shared campus-wide.

We also discern a trend toward increasing rates of URM enrollments across campus – 71% of the Ph.D. programs have increased URM representation in the past 5 years for an average increase of 8%; 26% had decreased URM enrollment by 7%. For the Master's degree data, 62.5% had increase averaging 8.7%; 37.5% decreased averaging 5.3%.

8. Placement of graduates in high quality positions.

One of the most important metrics for evaluating graduate programs is the quality of the placements graduates receive after completing their programs. It is important for programs to record, update, and monitor this data in order to evaluate, and hopefully continue to improve, the success of their training efforts. One important way to augment an institution's prestige is to invest effort in placing graduates in high-profile positions. In addition, successful graduates can be cultivated later as potential donors, if they feel that their UCR education contributed to their career success.

The Graduate Division acquired placement data from individual programs for all students receiving Ph.D.s from Winter 2004 through Winter 2009. The data reflect the best available information about the current placements for these students. After examining the raw data, the data were organized into the following categories:

- Adjunct faculty – non-tenure track faculty positions, primarily lectureships
- Tenure track position at a 2-year community or vocational college
- Tenure track position at a 4-year college or university
- Post-doctoral fellows
- Research and Development – public and private sector non-academic research positions, including engineers, research scientists, analysts, consultants, archivists, and other specialists
- Administrative – public and private sector administrators in either research or non-research oriented occupations (e.g., coordinators, program managers, curators, executive directors)
- K-12 – teachers, counselors, or psychologists employed in primary or secondary educational institutions
- Other – graduates engaged in further study at medical or law schools; homemakers; self-employed
- Not Known – no known employment data

NOTE: Table B14 shows the percentage of graduates with placements in these categories, grouped according to where the majority of graduates are placed, either Research/Academic (sum of tenure track 4-yr and postdoc), Research & Development, or K-12 Education. *Within each group the programs are sorted in descending order; the number of graduates for which data were reported is indicated in the final column.*

TABLE B14. Placement of PhD Students (W04-W09)

	Tenure at 2yr	Tenure at 4yr	Post-Doc	Adjunct Faculty	R&D	Admin	K-12	Other	Not Known	N*
Research/Academic										
Spanish	12.5%	**75.0%**	**0.0%**	12.5%	0.0%	0.0%	0.0%	0.0%	0.0%	16
Neuroscience	0.0%	**0.0%**	**75.0%**	0.0%	0.0%	0.0%	0.0%	12.5%	12.5%	8
Soil and Water Sciences	25.0%	**50.0%**	**25.0%**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4
Sociology	0.0%	**64.3%**	**0.0%**	10.7%	14.3%	0.0%	3.6%	7.1%	0.0%	28
Economics	0.0%	**58.8%**	**2.9%**	8.8%	23.5%	2.9%	0.0%	2.9%	0.0%	34
Dance History and Theory	0.0%	**45.0%**	**15.0%**	30.0%	0.0%	0.0%	0.0%	10.0%	0.0%	20
Biomedical Sciences	0.0%	**0.0%**	**60.0%**	6.7%	20.0%	13.3%	0.0%	0.0%	0.0%	15
Geological Sciences	10.0%	**40.0%**	**20.0%**	0.0%	20.0%	10.0%	0.0%	0.0%	0.0%	10
Biochem & Molec Biology	3.7%	**3.7%**	**55.6%**	7.4%	18.5%	7.4%	0.0%	0.0%	3.7%	27
EEOB (Biology)	9.1%	**9.1%**	**50.0%**	9.1%	18.2%	0.0%	0.0%	0.0%	4.5%	22
Physics	0.0%	**0.0%**	**58.3%**	4.2%	20.8%	8.3%	0.0%	0.0%	8.3%	24
Microbiology	0.0%	**16.7%**	**41.7%**	16.7%	16.7%	8.3%	0.0%	0.0%	0.0%	12
Plant Pathology	0.0%	**8.3%**	**50.0%**	0.0%	16.7%	16.7%	0.0%	8.3%	0.0%	12
Cell, Molec & Dev Biology	0.0%	**3.8%**	**53.8%**	0.0%	23.1%	3.8%	0.0%	11.5%	3.8%	26
Mathematics	14.3%	**42.9%**	**14.3%**	14.3%	9.5%	0.0%	0.0%	0.0%	4.8%	21
Entomology	0.0%	**17.4%**	**39.1%**	0.0%	26.1%	13.0%	0.0%	4.3%	0.0%	23
Political Science	18.2%	**54.5%**	**0.0%**	27.3%	0.0%	0.0%	0.0%	0.0%	0.0%	11
Chemistry	4.7%	**7.8%**	**43.8%**	3.1%	34.4%	3.1%	0.0%	3.1%	0.0%	64
Philosophy	28.6%	**47.6%**	**0.0%**	9.5%	4.8%	4.8%	0.0%	4.8%	0.0%	21
Plant Biology	4.9%	**9.8%**	**36.6%**	4.9%	36.6%	4.9%	0.0%	2.4%	0.0%	41
Anthropology	5.6%	**27.8%**	**16.7%**	22.2%	16.7%	5.6%	0.0%	5.6%	0.0%	18
Psychology	14.3%	**28.6%**	**14.3%**	22.9%	11.4%	5.7%	0.0%	0.0%	2.9%	35

	Tenure at 2yr	Tenure at 4yr	Post-Doc	Adjunct Faculty	R&D	Admin	K-12	Other	Not Known	N*
English	17.9%	**35.7%**	**0.0%**	35.7%	0.0%	5.4%	3.6%	1.8%	0.0%	56
Comparative Literature	0.0%	**0.0%**	**35.7%**	0.0%	14.3%	0.0%	0.0%	0.0%	50.0%	
History	13.2%	**31.6%**	**2.6%**	21.1%	10.5%	13.2%	2.6%	2.6%	2.6%	38
Research & Development										
Chem & Envir Engineeri	0.0%	11.1%	13.9%	0.0%	**69.4%**	2.8%	0.0%	2.8%	0.0%	36
Computer Science	0.0%	15.0%	12.5%	1.3%	**67.5%**	2.5%	0.0%	1.3%	0.0%	80
Electrical Engineering	0.0%	14.0%	6.0%	2.0%	**66.0%**	4.0%	0.0%	4.0%	4.0%	50
Mechanical Engineering	0.0%	10.0%	10.0%	5.0%	**60.0%**	5.0%	0.0%	5.0%	5.0%	20
Genetics Genom & Bioinf	11.1%	0.0%	33.3%	0.0%	**55.6%**	0.0%	0.0%	0.0%	0.0%	9
Applied Statistics	4.2%	12.5%	8.3%	0.0%	**54.2%**	20.8%	0.0%	0.0%	0.0%	24
Bioengineering	0.0%	0.0%	0.0%	50.0%	**50.0%**	0.0%	0.0%	0.0%	0.0%	2
Envir Toxicology	4.2%	0.0%	37.5%	4.2%	**41.7%**	12.5%	0.0%	0.0%	0.0%	24
Environmental Sciences	0.0%	10.0%	20.0%	0.0%	**40.0%**	30.0%	0.0%	0.0%	0.0%	10
Education										
Education	0.0%	25.8%	0.0%	6.5%	11.3%	14.5%	**35.5%**	4.8%	1.6%	62

* N = number of graduates for which data was reported.

It appears that Ph.D. programs that primarily prepare graduates for Academic/Research positions do place the largest proportion of their students in such positions. However, there is large variation in the success rates across these programs, ranging between 34% and 75% graduates placed in these higher level Academic/Research jobs. Fields for which there are many employment opportunities outside of academia (e.g., Engineering) have the largest number of placements in Research & Development. As technology grows increasingly complex, industries are seeking larger numbers of employees with Ph.D.s, and such jobs often provide higher salaries and faster career paths than academia. This appears to be reflected in the placements for our Ph.D. programs that provide highly technical training.

9. Proportion of faculty actively involved in mentoring graduate students.

A vibrant graduate program will be characterized by the full investment of the faculty in training and mentoring students. Although we were charged with examining graduate programs, data provided to us about faculty effort was coded by faculty member, and in some cases is categorized by the faculty's home department, rather than the graduate program. Some faculty participate in numerous graduate programs, especially in the life sciences. Furthermore, faculty in departments that do not offer Ph.D.s can and do sometimes chair dissertations or mentor graduate students in other programs, and we wished to take note of this. The text accompanying charts and tables in such cases will make it clear how the data were categorized. We examined two relevant metrics. First, the number of dissertation committees chaired by each faculty was determined, by department, for Ph.D. students who advanced to candidacy after 10/1/04. To illustrate the variability of faculty involvement within departments the mean and standard deviation for Ph.D. committee chairships is shown in Figure B9. We also counted the number of committee memberships for each faculty, and noted the number of faculty who had neither chaired nor served on any Ph.D. committees during that period ("NEITHER"). These data are presented in the following Table B14, *which is sorted by the mean committee chairships.* Because these data are organized by the faculty member's home department we also included departments that do not offer Ph.D.s (Creative Writing, History of Art, Media & Cultural Studies, Nematology, Theater, Women's Studies), or that have very recently established Ph.D. programs (Music, Management, Bioengineering, Religious Studies). Note that some of the faculty in these departments have contributed to the mentoring of Ph.D. students in other programs.

Figure B9.

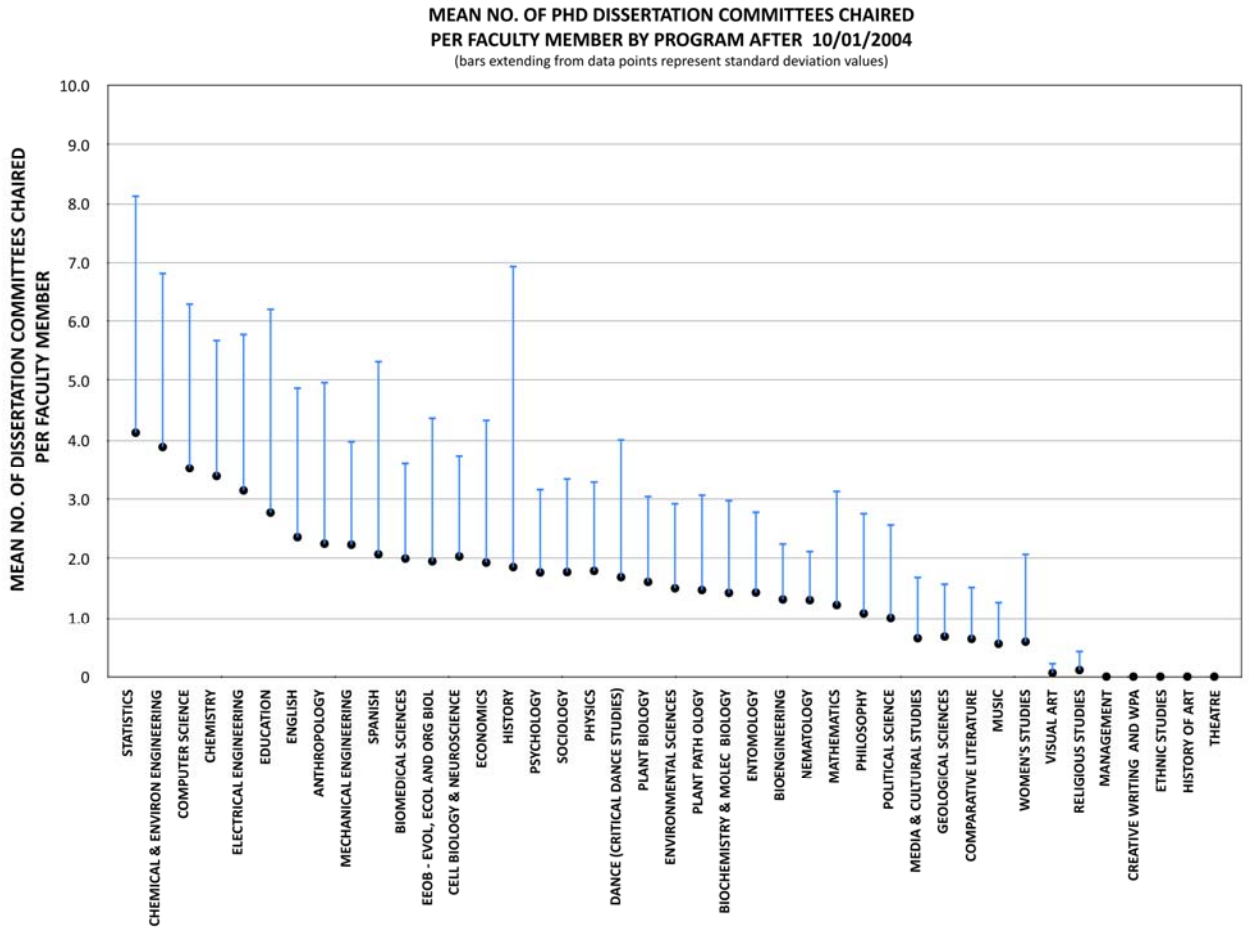


TABLE B14. MEAN NUMBER OF PHD DISSERTATION COMMITTEES CHAIRED OR SERVED ON PER DEPARTMENT FACULTY MEMBER AFTER 10/01/04

DEPARTMENT	CHAIRED		MEMBER		NEITHER
	TOTAL	**MEAN/FACULTY**	TOTAL	MEAN/FACULTY	TOTAL
STATISTICS	33	**4.1**	41	5.1	1
CHEM & ENVIR ENGINEERING	51	**3.9**	80	6.2	1
COMPUTER SCIENCE	81	**3.5**	143	6.2	2
CHEMISTRY	92	**3.4**	187	6.9	1
ELECTRICAL ENGINEERING	76	**3.1**	129	5.4	1
EDUCATION	61	**2.8**	98	4.5	2
ENGLISH	59	**2.4**	129	5.2	3
ANTHROPOLOGY	36	**2.3**	77	4.8	3
MECHANICAL ENGINEERING	34	**2.2**	73	4.9	1
SPANISH	15	**2.1**	17	2.4	1
BIOMEDICAL SCIENCES	26	**2.0**	63	4.8	0
EEOB (BIOLOGY)	43	**2.0**	70	3.2	5
CELL BIO & NEUROSCIENCE	29	**2.0**	41	2.9	1
ECONOMICS	43	**1.9**	91	4.1	0
HISTORY	52	**1.9**	67	2.4	10

DEPARTMENT	CHAIRED		MEMBER		NEITHER
PSYCHOLOGY	53	**1.8**	97	3.2	0
SOCIOLOGY	39	**1.8**	75	3.4	3
PHYSICS	52	**1.8**	113	3.9	2
DANCE (CRITICAL DANCE STUDIES)	14	**1.7**	15	1.9	1
BOTANY & PLANT SCIENCES	45	**1.6**	95	3.4	2
ENVIRONMENTAL SCIENCES	32	**1.5**	60	2.9	2
PLANT PATHOLOGY	25	**1.5**	43	2.5	4
BIOCHEM & MOLEC BIOLOGY	19	**1.4**	35	2.7	3
ENTOMOLOGY	40	**1.4**	56	2.0	4
BIOENGINEERING*	11	**1.3**	13	1.6	0
NEMATOLOGY*	7	**1.3**	3	0.6	1
MATHEMATICS	28	**1.2**	50	2.2	7
PHILOSOPHY	22	**1.1**	45	2.3	5
POLITICAL SCIENCE	20	**1.0**	35	1.8	6
MEDIA & CULTURAL STUDIES*	7	**0.7**	14	1.4	6
GEOLOGICAL SCIENCES	10	**0.7**	15	1.1	4
COMPARATIVE LITERATURE	12	**0.6**	19	1.1	6
MUSIC*	5	**0.6**	13	1.4	0
WOMEN'S STUDIES*	7	**0.6**	17	1.5	3
(VISUAL) ART	1	**0.1**	1	0.1	7
RELIGIOUS STUDIES*	1	**0.1**	0	0	8
MANAGEMENT*	0	**0.0**	5	0.2	24
CREATIVE WRIT & WPA*	0	**0.0**	2	0.2	11
ETHNIC STUDIES*	0	**0.0**	5	0.5	9
HISTORY OF ART*	0	**0.0**	1	0.1	10
THEATER*	0	**0.0**	0	0.0	9

* Department does not offer Ph.D. degree, or has very recently instituted a Ph.D. program.

Figure B9 and Table B14 and table indicate a range of faculty involvement in chairing Ph.D. committees across departments. Departments listed at the top of the table are characterized quite large faculty investment in chairing and serving on dissertation committees (in general, the committee membership data parallel the rankings by committee chairship). The standard deviations shown in the figure illustrate the distribution of faculty involvement within departments. In general, standard deviations should rise with the mean, and Figure B9 indicates this. However, extreme variability was noted for History. The variation in History was due to a large number of faculty (10) who had neither chaired nor served as member of a dissertation committee in the past 5 years, and a single faculty member who chaired a very large number of dissertations (26) over that same period. Established Ph.D. programs that average less than one committee chairship per faculty over a 5-year period should be carefully evaluated, as they may lead the campus further away from an AAU profile. It is also notable that several of the departments without Ph.D. programs (e.g., Nematology, Media & Cultural Studies, Women's Studies) are actively contributing to the training of graduate students in other programs.

Second, we examined data obtained from our questionnaire[28] to graduate advisors and department chairs/deans. This information indicates the number of <u>current</u> Ph.D. and Master's students mentored by faculty within each graduate program – this number will include students who have not yet formed a

[28] Questionnaires from the following programs were not returned in time for their data to be included here: Bioengineering; Cell, Molecular, & Developmental Biology; Classics-Tri-Campus; Environmental Toxicology; Ethnic Studies; Evolution, Ecology and Organismal Biology (EEOB); Soil and Water Sciences.

dissertation committee, but who are associated with a particular advisor. As programs differ in the extent to which students "attach" to individual faculty members, these data have a less uniform interpretation. However, they provide some information about faculty involvement in interdisciplinary programs, as well as programs fielded by departments. Figure B15 displays the mean number of current Ph.D. students associated with each faculty, based on program self-reports (bars indicate standard deviations[29]).

Figure B15.

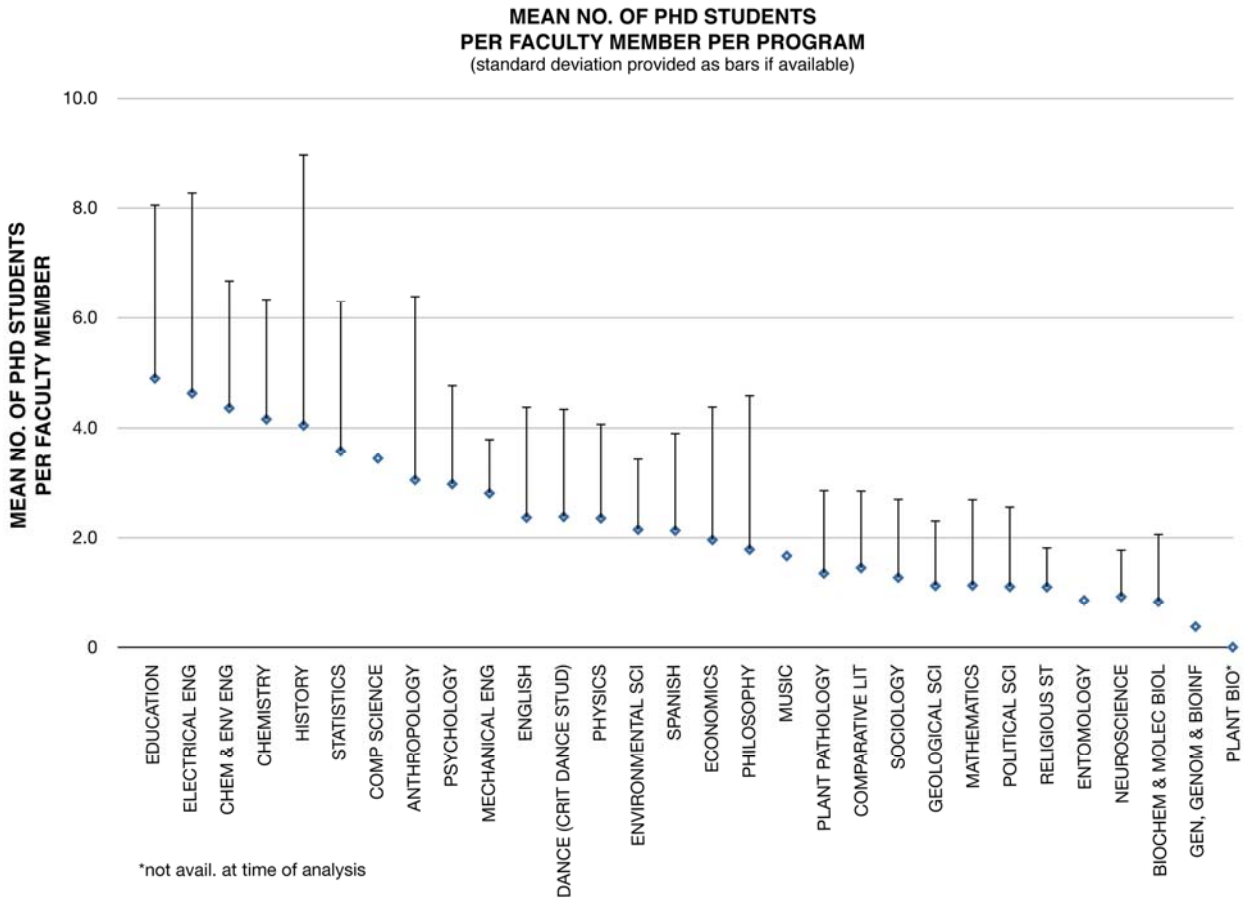


Table B15 displays the number of graduate students (Master's and PhD.) and postdoctoral fellows associated with each faculty member in the programs that responded to our questionnaire. *Data in the table is sorted by mean number of Ph.D. students associated with each faculty member.* We included data on Master's student advising when programs reported such on the questionnaire.

TABLE B15. NUMBER OF CURRENT GRADUATE STUDENTS AND POSTDOCTORAL FELLOWS PER PROGRAM AND FACULTY MEMBER

	PHD STUDENTS		POSTDOC FELLOWS		MASTERS STUDENTS	
	Total	Mean/Faculty	Total	Mean/Faculty	Total	Mean/Faculty
EDUCATION	93.0	**4.9**			37.0	1.9
ELECTRICAL ENGINEER	111.0	**4.6**	9.0	0.4	15.0	0.6
CHEM & ENVIR ENGINEER	61.0	**4.4**	18.0	1.3	6.0	0.4
CHEMISTRY	108.0	**4.2**	42.0	1.6		

[29] Standard deviations are missing when programs did not provide data on a per faculty basis.

	PHD STUDENTS		POSTDOC FELLOWS		MASTERS STUDENTS	
	Total	**Mean/Faculty**	**Total**	**Mean/Faculty**	**Total**	**Mean/Faculty**
HISTORY	97.0	**4.0**			7.0	0.3
STATISTICS	25.0	**3.6**	3.0	0.4		
COMPUTER SCIENCE	79.0	**3.4**	4.0	0.2	15.0	0.7
ANTHROPOLOGY	70.0	**3.0**			1.0	0.0
PSYCHOLOGY	92.0	**3.0**	3.0	0.1		
MECHANICAL ENGINEER	42.0	**2.8**	3.0	0.2	10.0	0.6
ENGLISH	59.0	**2.4**				
DANCE (CRIT DANCE STUD)	19.0	**2.4**			5.0	0.6
PHYSICS	84.5	**2.3**	27.0	0.8		
ENVIR SCIENCES	45.0	**2.1**	7.0	0.3	6.0	0.3
SPANISH	17.0	**2.1**			10.0	1.0
ECONOMICS	45.0	**2.0**				
PHILOSOPHY	41.0	**1.8**				
MUSIC*	15.0	**1.7**			10.0	1.1
PLANT PATHOLOGY	27.0	**1.4**	40.0	2.0	1.0	0.1
COMPARATIVE LIT	29.0	**1.5**			2.0	0.1
SOCIOLOGY	28.0	**1.3**			8.0	0.4
GEOLOGICAL SCIENCES	18.0	**1.1**	7.0	0.4	21.0	1.3
MATHEMATICS	26.0	**1.1**	15.0	0.7	8.0	0.3
POLITICAL SCIENCE	21.0	**1.1**			2	0.1
RELIGIOUS STUDIES*	11.0	**1.1**				
ENTOMOLOGY	30.0	**0.9**	27.0	0.8	4.0	0.1
NEUROSCIENCE	24.0	**0.9**	5.0	0.2		
BIOCHEM & MOLEC BIO	29.0	**0.8**	19.0	1.6		
GENETICS GENOM & BIOINF	28.0	**0.4**	n.d.	n.d.	1.0	0.0
PLANT BIOLOGY	n.d.	**n.d.**	n.d.	n.d.		
MANAGEMENT					80.0	2.8
HISTORY OF ART					25.0	2.3
VISUAL ART					10	1.25

n.d. = data could not be determined based on questionnaire responses

* Program has recently instituted Ph.D. degree.

The self-report data on faculty advising is broadly consistent with the Ph.D. chairship data, although information was not reported for all programs. Again we observe a large range across programs in faculty involvement. If UCR is to attain the profile of an AUU institution, a number of programs/departments will need to increase faculty involvement in graduate education. Recommendations 1.2.3–1.2.4 provide suggestions for ways to improve graduate student mentoring across campus.

Evaluation Summary

The data and metrics provided here can be used for programs to self-evaluate, and contain useful information for identifying excellence in UCR graduate programs. However, an essential component of excellence – faculty research productivity – was not available to be combined with the current data at the time of this report, and a final estimation of programmatic strengths must await this task. As we noted earlier not every metric is equally useful across disciplines, and simplistic formulas for combining across metrics (e.g., averaging ranks across metrics) are not likely to yield an easily interpretable result, nor inform prudent decision-making. Nevertheless, there is much to ponder here both in terms of the current status of our graduate programs and changes across campus that have occurred in the past 10 years. As we progress towards increasing the size and stature of our graduate programs, it is essential to have a clear

understanding of where we stand today. We believe that by making these data available to the entire campus community, our collective decision-making and plans for the future can be undertaken on a solid empirical basis.

The committee noted many instances of excellence in individual programs across campus. We believe that the framework is in place for many of our graduate programs to grow in size and stature if strategic investments in graduate education are made. However, it is apparent that no graduate program excelled across-the-board on all metrics. For example, a program might be highly selective and attract very strong students, but might have students who fail to complete degrees within normative time or who may not be well-placed after graduation. Or a program might have good faculty involvement in dissertation committees, and produce a large number of graduates, but may not be attracting the very strongest students. This indicates that all programs have room for improvement in some areas, and the data provided here should indicate where to invest greater effort. As a whole, however, the data indicate many strengths in our current graduate programs, and evidence of significant improvement campus-wide in the past decade.

Sample Evaluation Frameworks

As noted earlier, the committee recommends that each program develop a set of metrics against which to evaluate their current success and track record in the delivery of graduate education. In the interests of transparency, this information should be communicated to the program faculty and the Graduate and College Deans on a yearly basis *(refer to Section A, recommendations 5.2, 5.3)*. The goal is to promote program self-evaluation and to identify areas in which programs have been successful and areas in need of increased effort. Not all possible metrics are equally applicable to every program. Below we offer two sample evaluation frameworks.

Potential Psychology Evaluation Framework

Statement of the vision and goals of graduate training in the program

Current and prior years:

- Median GPA and GRE scores for applicants/admits/newly enrolled students
- Number of students currently enrolled and proportion that are URM
- Number of students who have left the program without Ph.D., and reason for leaving
- Mean number of students mentored by each faculty member (both Psychology students mentored and those in interdepartmental programs); mean number of Ph.D. committees chaired per faculty
- Number of quarters that graduate stipends were provided from grants or external fellowships
- Number of external grant and fellowship applications submitted that included requests for graduate student funding
- List of graduate student refereed publications accepted during current year
- List of graduate student awards and conference presentations in current year
- Number of Ph.D. degrees awarded, number completing degree within normative time, placement data for each student

Compare selected metrics against a few AAU comparison universities

Update list of placements for current and past Ph.D. students, note percentage in tenure-track university positions or post docs, and note placements for URM students

Potential Engineering Evaluation Framework

Statement of the vision and goals of graduate training in the program

Current and prior years:

- Median GPA and GRE scores for applicants/admits/newly enrolled students
- Number of students currently enrolled and proportion that are URM
- Ratio of international to domestic students
- Number of students who graduate with:
    - MS
    - PHD degrees.
        - distinguish those who obtain MS as a terminal degree—either after failing preliminary exams or for any other reason vs. those who applied as MS students. Likewise, track students who applied to MS and switch to PhD.
- Mean number of students mentored by each faculty member (both within Departmental programs and interdepartmental, e.g., MSE program);
- Mean number of Ph.D. committees chaired per faculty
- Number of quarters that graduate stipends were provided from grants or external fellowships
- Number of external grant and fellowship applications submitted that included requests for graduate student funding
- List of graduate student refereed and non-refereed publications accepted during current year
- List of conference talks and poster presentations in current year
- List of graduate student awards in current year
- Number of MS and Ph.D. degrees awarded, number completing degree within normative time, placement data for each student.

- Compare selected metrics against a few AAU comparison universities

- Update list of placements for current and past MS and Ph.D. students, note percentage in tenure-track university positions/post docs, R&D both private and national labs, and note placements for URM students.

Section C
Graduate Student Funding Data

If UCR is to increase the size, quality and diversity of its graduate student population, graduate student financial support must be improved, particularly for our **academic doctoral students**. The University will be unable to make satisfactory progress in **both** closing the competitive gap with other institutions and achieving our graduate enrollment goals without additional concerted efforts to improve graduate student financial support. It is imperative to recognize that a level of graduate student financial support that causes programs to admit fewer students in order to maintain the competitiveness of their awards is not acceptable. Similarly, a funding level that enables graduate programs to meet their enrollment targets only by offering less competitive awards (and hence enrolling less qualified students) is detrimental to the University's long-term well being.

System-wide funding data were examined in the following areas:

- Graduate student financial support: 2007-08
- Graduate student recruitment funding
- Graduate student retention funding
- Fundraising and additional revenue sources.

Graduate Student Financial Support: 2007-08

The committee examined the latest available data for the 2007-08 fiscal year. A more detailed accounting of graduate student financial support for 2007-08 can be found in the Academic Planning and Budget Office's report "Graduate Student Financial Support 2007-08 – Annual Review of Expenditures." Selected data from that report together with data from UCOP and other sources are presented here to provide an **overview picture** of graduate student financial support at UCR.

The major sources of funds for graduate student financial support are:

- General and core funds and other appropriations (part of the University's budgeted annual operating funds)
- Student financial aid funds (specific State Appropriations, Federal Grants, and Other Funds)
- Gifts and endowments
- Contracts and grants
- Sales and service
- Outside agency funds (including fellowships, but almost entirely Federal student loans)
- Professional school fees
- Student fees (Summer Session Fees and University Extension Fees – excludes the Educational Fee portion of student fee payments)

Table C1 shows that for the 2007-08 fiscal year, graduate student financial support totaled $60,589,964, of which 67.2% was from intramural sources, *i.e.* funds held centrally or in the Colleges/Schools and departments, and 32.8% was from extramural sources, primarily contracts & grants and student loans.

Table C1: Graduate Student Financial Support and Sources of Intramural and Extramural Funds, 2007-08		
	Amount	**Percentage**
Intramural	**$40,715,065**	**67.2%**
1. General and Core Funds	$33,746,838	55.70%
2. Student Financial Aid	$5,658,600	9.34%
3. Sales and Service	$325,211	0.53%
4. Professional School Fees	$713,555	1.18%
5. Student Fees	$270,862	0.45%
Extramural	**$19,874,899**	**32.8%**
1. Contracts and Grants	$11,075,506	18.28%
2. Gifts and Endowments	$1,195,857	1.97%
3. Outside Agency Funds	$7,603,536	12.55%
Total	**$60,589,964**	**100.00%**

- Campus general/core funds accounted for more than half (55.7%) of graduate student financial support. General/core funds are used to support teaching assistantships, centrally funded fellowships, and graduate student research assistantships.
- Extramural grants (18.28%), outside agency funds (*i.e.* student loans; 12.55%) and student financial aid (*i.e.* UCOP return-to-aid funds; 9.34%) are the other major sources of graduate student financial support.
- At 1.97%, gifts and endowments contribute a miniscule amount to the financial support of graduate students at UCR.

Financial support is provided to graduate students in several forms:

- Award aid (*i.e.* fellowships, which include stipends, fee remission, graduate student health insurance (GSHIP), and non-resident tuition (NRT) for domestic non-resident and international students)
- Teaching assistantships (TA)
- Graduate student research (GSR) assistantships
- TA and GSR benefits (GSHIP, fee and non-resident tuition remission)
- Other employment (Readers and Tutors, and non-academic jobs on campus)
- Student loans

The total financial support provided to graduate students in 2007-08 in each of these categories is shown in Table C2.

Table C2: Types of Graduate Student Financial Support, 2007-08		
	Amount	**Percentage**
Award Aid	$17,797,603	29.37%
TA Salaries	$13,573,054	22.40%
GSR Salaries	$9,661,310	15.95%
TA/GSR Benefits	$11,273,773	18.61%
Other Campus Employment	$1,369,211	2.26%
Student Loans	$6,915,013	11.41%
Total	$60,589,964	100.00%

- In 2007-08, award aid was the largest source of financial support (29.37%). However, it is important to note that a large fraction of award aid is used for GSHIP, fee and non-resident tuition remission. **GSHIP, fee and non-resident tuition remission are a significant cost to the**

graduate student support budget, but they are not part of the net stipend received by the student. This issue will be considered later.

- TA salaries are the next largest type of graduate student financial support (22.40%). Although teaching assistantships do provide graduate student financial support, they are provided to the Colleges/Schools based on undergraduate workload FTE.
- TA and GSR benefits are a separate category, and accounted for 18.61% of graduate student financial support.
- Student loans are included in Table C2 to provide a complete picture of graduate student financial support at UCR. However, because student loans must be repaid but do not vary across campuses, they are factored out later in this report when examining the comparability of UCR graduate student financial support versus that in competing institutions.

The total number of graduate students at UCR was 2,167 in 2007-08, among whom 2,007 (92.62%) received some form of financial support. The average financial support per graduate student reported in Table C3 includes fee remission, GSHIP and NRT. While fees, GSHIP and NRT represent a large cost to UCR for graduate student financial support, what is critically important to students is their net stipend, *i.e.* the amount available to them after all fees and tuition have been paid. The net stipend should be regarded as the **fundamental** measure of graduate student financial support competitiveness. **A strategic plan for graduate student financial support must consider not only total support per graduate student but also net stipend per graduate student.**

Table C3: Average Financial Support per Graduate Student, 2007-08

	Including Student Loans	Excluding Student Loans
Total Graduate Student Support	$60,589,964	$53,674,881
Average Support per Graduate Student	$27,960	$24,769
Average Support per Aid Recipient	$30,189	$26,744

Comparability with Other UC and Non-UC Campuses. We obtained detailed data on graduate student financial support from UCOP for 2007-08, including the per capita (internal and external) fellowship, TA and GSR support (including salaries, fee remission and benefits), and the average net stipend. Given that our focus is to support **academic** graduate students, those in self-supporting professional programs are not included in this analysis. Table C4 presents this data for all academic **doctoral** students.

Table C4: Comparison of Per Capita Fellowship, TA and GSR Support and Net Stipend for Academic Doctoral Students at UC Campuses, 2007-08*

	Fellowship				
Campus	**Internal**	**External**	**TA Support**	**GSR Support**	**Net Stipend**
Berkeley	$10,851	$3,459	$6,788	$10,468	$18,641
Davis	$4,007	$2,122	$8,410	$13,199	$15,255
Irvine	$7,967	$1,540	$10,259	$10,091	$15,500
Los Angeles	$9,738	$3,000	$7,757	$9,225	$17,716
Merced	$8,584	$768	$12,604	$10,470	$17,187
Riverside	**$8,648**	**$500**	**$11,558**	**$8,037**	**$15,296**
San Diego	$4,347	$5,425	$7,837	$13,156	$18,021
Santa Barbara	$6,284	$2,384	$10,628	$9,635	$15,976
Santa Cruz	$6,003	$1,788	$10,607	$9,831	$15,275
UC Average	$8,341	$2,747	$8,282	$10,577	$17,112

* Does not include student loans and other on-campus employment.

- UCR ranked **third from the top** among UC campuses in the per capita internal fellowship support ($307 above the systemwide average) for academic doctoral students.

- UCR ranked **last** in the per capita external fellowship support ($2,247 below the systemwide average).
- UCR ranked **second from the top** in the per capita TA support ($3,276 above the systemwide average)
- UCR ranked **last** in the per capita GSR support ($2,540 below the systemwide average).
- UCR ranked **third from the bottom** in the per capita net stipend ($1,816 below the systemwide average).

Financial support for all academic **Master's** students is reported in Table C5 for the nine general UC campuses.

Table C5: Comparison of Per Capita Fellowship, TA and GSR Support and Net Stipend for Academic Master's Students at UC Campuses, 2007-08*

	Fellowship				
Campus	**Internal**	**External**	**TA Support**	**GSR Support**	**Net Stipend**
Berkeley	$6,254	$1,425	$5,351	$5,218	$2,517
Davis	$2,583	$933	$7,871	$8,576	$7,567
Irvine	$3,303	$344	$6,523	$1,666	- $4,263**
Los Angeles	$4,207	$1,711	$4,229	$4,638	$1,548
Merced	$5,616	$0	$11,605	$10,146	$15,140
Riverside	**$4,902**	**$128**	**$8,487**	**$3,551**	**$4,670**
San Diego	$4,609	$1,314	$7,627	$2,791	$3,031
Santa Barbara	$2,542	$1,028	$6,237	$1,226	- $4,397**
Santa Cruz	$1,954	$433	$14,373	$4,589	$8,090
UC Average	$4,052	$1,083	$6,699	$4,285	$2,210

* Does not include student loans and other on-campus employment.

** A negative net stipend represents the amount of tuition and/or fees that a student will have to provide from personal resources.

- UCR ranked **third from the top** among UC campuses in the per capita internal fellowship support ($850 above the systemwide average) for academic Master's students.
- UCR ranked **second from the bottom** in the per capita external fellowship support ($955 below the systemwide average).
- UCR ranked **third from the top** in the per capita TA support ($1,788 above the systemwide average)
- UCR ranked **fourth from the bottom** in the per capita GSR support ($734 below the systemwide average).
- UCR ranked **fourth from the top** in the per capita net stipend ($2,460 above the systemwide average).

Financial support of graduate students at UCR is even less competitive when compared to non-UC universities. For example, the University of Southern California (USC) has often offered at least twice the amount of per capita net stipend as UCR did for graduate students[30]. In addition, their graduate students do not need to pay fees or tuition, and they are provided with free health care. Because we often are competing with USC for graduate students, this vast difference in net stipend puts UCR at a definite disadvantage in recruiting the top graduate students.

Further evidence that graduate student financial support at UCR is not competitive is provided by a 2007 report from UCOP "Findings from the Graduate Student Support Survey". The report states that

[30] As reported in the 2004 GSSRR report, pages 26-27.

> "UC offers of financial support to graduate students increased relative to those from students' top-choice non-UC institutions between 2004 and 2007. … Gains in the competitiveness of UC offers were more than offset by a large increase in the cost of living [COL] differential between UC campuses and students' top-choice non-UC institutions".
>
> "…the UC per capita net stipend offer is still $1,000 lower than that of competing institutions ($17,356 vs. $18,356). … the net stipend and COL disparities between UC and competing institutions result in a total UC disadvantage of $3,259 compared to offers from competing institutions".

In addition, this same report noted that UC awards were less competitive in terms of the availability of multi-year offers, and their composition, *i.e.* the mix of fellowship, TA and GSR support. The UCOP's 2007 Graduate Student Support Survey also provides evidence that, although financial support was not the only consideration important to students as they made their enrollment decisions, the differences in support offers put UC at a disadvantage in attracting students to its **doctoral** programs. Given the even lower net stipend for academic doctoral students at UCR, as compared to the other UC campuses (Table C4), we are at an even greater disadvantage when trying to recruit the top graduate students.

It is apparent that we depart significantly from the general UC student-funding profile in extramural support, both GSR and fellowships (Tables C4, C5). GSR per capita funding of doctoral students at UCR is 24% below the system-wide average. Further, the committee noted, with some alarm, that external fellowship support (from federal agencies and private foundations, both student-initiated and training grant awards) at UCR is very far below UC standards. For example, *for doctoral students the amount of per capita funding provided by external fellowships is 88% below the system-wide average*. In addition to increasing PI funding of graduate students, the campus will need to undertake some major initiatives to encourage much larger numbers of training grant, and student-initiated external fellowship, applications. *Refer to recommendations 1.3, 4.6, and 4.9 in Section A.*

Comparability with "Comparison UCs". Among the nine general UC campuses, UCD, UCI, UCSB and UCSD are often our major competition for graduate students. Therefore, for the purpose of developing a strategic plan for funding graduate students at UCR, we use the average financial support provided by UCD, UCI, UCSB and UCSD as our target. The goal is to fund our graduate students (particularly **doctoral** students) at a level that is **at least** equal to the average at these four "Comparison UCs". Table C6 presents UCR's per capita total financial support and net stipend, for all academic **doctoral** and **Master's** students, compared to the corresponding averages at our Comparison UCs in 2007-08.

Table C6: Graduate Student Financial Support at UCR and at our Comparison UCs (UCD, UCI, UCSB and UCSD), 2007-08*

	UCR	Comparison UCs	Difference (UCR – Comparison UCs)
All Academic Doctoral Students			
Average Total Support	$28,743	$29,292	- $549
Average Net Stipend	$15,296	$16,191	- $895
All Academic Master's Students			
Average Total Support	$17,068	$15,444	$1,624
Average Net Stipend	$4,670	$1,394	$3,276

* Does not include student loans and other on-campus employment.

- For **academic doctoral students**, the per capita total financial support at UCR was $549 below the Comparison UCs average, and the UCR per capita net stipend was $895 below the Comparison UCs' average.

- For **academic Master's students**, the per capita total financial support at UCR was $1,624 above the Comparison UCs average, and the UCR per capita net stipend was $3,276 above the Comparison UCs' average.

Therefore, to be more competitive for the best and brightest **doctoral** students, we must increase their average net stipend be at least equal to the per capita net stipend at our Comparison UCs.

Graduate Student Recruitment Funding

Starting with the 2005-06 cohort, the graduate recruitment budget has been divided into three broad categories: (i) base central fellowship funds (CFF), (ii) non-resident tuition (NRT), (iii) augmented budget that includes Chancellor's Distinguished Fellowships (CDF), Graduate Diversity Awards (GDA) and additional stipend for domestic non-resident students (discontinued after 2007-08). The approved (maximal) budgets for the 2005-06 through 2009-10 cohorts, with detailed figures for these categories, are listed in Table C1A (see Appendix C). The maximum amount of approved recruitment budget for each graduate student has grown by 15.2% over the last five years – it was $26,578 for the 2005-06 cohort, and increased to $30,610 for the 2009-10 cohort.

Under the cohort funding model (CFM), the base central fellowship budget is a function of the number of graduate students recruited. The Graduate Dean submits a budget request each year to the EVC/P based on a targeted number of students for the next year's cohort and a requested amount of base central fellowship funding per student. The base central fellowship budget approved by the EVC/P is simply the approved target number of entering graduate students multiplied by the approved budget allocation per student recruited. The Graduate Dean bases his/her budget request on a survey of graduate programs, or on a meeting with the department/program chair/director and the graduate advisor, regarding their recruitment targets. *Refer to recommendation 4.4 in Section A.*

Table C7 shows that the approved central fellowship allocation per student recruited has been growing steadily, with a 24.9% increase over the last five years. However, the fees for each non-resident graduate student have increased by 27.1% during the same period – fees were $9,033 per student for the 2005-06 cohort and increased to $11,485 for the 2009-10 cohort (not including the recent mid-year 32% fee hike).[31]

Table C7: Per-Student CFF Allocation, (Non-Resident) Fees, and Net Stipend

Cohort (academic year)	Allocation ($/student)	(Non-Resident) Fees ($/year)	Net Stipend ($/student)***
2005-06	$15,000	$9,033	$5,967
2006-07	$16,000	$9,201	$6,799
2007-08	$17,024**	$10,107	$6,917
2008-09	$17,943	$10,675	$7,268
2009-10*	$18,739	$11,485	$7,254
Percentage Change 05-06 to 09-10	$24.9%	$27.1%	$21.6%

*$/student allocation and (non-resident) fees both included a 9.3% fee increase

** This 2007-2008 CFF allocation is a weighted average of BCOE (which was not included in the cohort funding model and did not negotiate fee increase adjustments) and other Colleges/Schools (BioMed, CHASS, CNAS and GSOE)

*** $/student Allocations- Fees = Net Stipend.

[31] The fees for a CA-resident graduate student are slightly lower than that of a non-resident student.

The resulting net stipend – the money that enrolled fellowship graduate students have to live on after entering UCR – has thus grown at a slower rate of 21.6%. More specifically, the per capita net stipend has increased by a substantial amount for the 2006-07 cohort, but by only a modest amount for the 2007-08 and the 2008-09 cohorts, and then **decreased** by $14 for the 2009-10 cohort. Of course $7,000 is not much to live on, especially considering the fact that the Riverside cost of living, particularly rent, has been rising rather rapidly in recent years. Since prospective graduate students are often most influenced by the stipend provided in the **first** year, our current net stipend offers (and therefore the amount of per-student CFF) is not competitive with those offered by institutions competing for the same pool of high-quality graduate students.

For the last five years, non-resident tuition (NRT) has been unchanged at $14,694 per year. Domestic NRT awards cover a single year (since domestic students can become California residents after one year); international awards cover two years (they are now reduced to four quarters for the 2010-11 cohort and have been made fungible as they are rolled into each program's per student allocation). NRT is waived for nine quarters following an international student advance to candidacy. As shown in Table C8, the allocation of NRT awards was substantially increased, especially for international students, in the budget for the 2007-08 cohort (after a reduction in the 2006-07 budget). Table C8 also indicates that the constraint on the number of domestic NRT awards was not binding, since the number of awards has consistently fallen short of the number of allocations. The constraint on the number of international NRT awards was not binding as well for the 2005-06, 2008-09 and 2009-10 cohorts; but became binding for the 2006-07 and 2007-08 cohorts (the number of international NRT awards exceeded the allocation for the 2007-08 cohort as the result of a decision by then-EVC/P Wartella late in the recruitment year to open up the opportunities for additional international students).

Table C8: Non-Resident Tuition (NRT) Awards

Cohort (academic year)	Domestic NRT (number of awards)		International NRT (number of awards)		Total NRT (number of awards)	
	Allocation	Awarded	Allocation	Awarded	Allocation	Awarded
2005-06	111	87	114	89	225	176
2006-07	111	90	92	92	203	182
2007-08	125	90	145	161	270	251
2008-09	120	77	152	124	272	201
2009-10	120	108	152	122	272	230

Three additional items augment the graduate recruitment budget. The Chancellor's Distinguished Fellowships (CDF), which augment each central fellowship award by up to $10,000, are designed to attract more outstanding applicants who will likely receive fellowship offers from competing institutions. The Graduate Diversity Awards (GDA), which offer a $4,000 augmentation for each central fellowship award, are aimed at promoting diversity of our graduate student body. The additional stipend for domestic non-resident students (discontinued after 2007-08), offering a $2000 augmentation for each recipient, was designed to help ameliorate the relative paucity of such graduate students at UCR. The approved and actual budgets for these three augmentation items over the last five years are shown in Table C9. We note that the "accept" rate for CDF (mostly below 40%) has been consistently lower than that for GDA (always above 50%). This suggests that our fellowship offers to top applicants are not sufficient to attract the very best graduate students to UCR. *Refer to recommendations 4.1 and 4.2 in Section A.*

While no single funding model fits all graduate programs equally well, the current cohort funding model forms a viable and effective framework for graduate student recruitment. Direct per-student-recruited allocations used in the CFM facilitate budget control while allowing programs the flexibility to allocate central fellowship funds to a specific student across different time periods of his/her doctoral

study, although not all programs appear to be aware of this. The campus-wide centralized distribution of graduate recruitment funds via the Graduate Division spreads and mitigates recruitment risks. By contrast, devolution of graduate recruitment funds to the smaller entities, such as Colleges/Schools and departments/programs, is less efficient in addressing over-spending or under-spending problems. The committee believes that fellowship support for graduate students should continue to be funded by a cohort funding model and continue to be administered by the Graduate Division.

Table C9: Chancellor's Distinguished Fellowships, Graduate Diversity Awards, and Additional Stipend for Domestic Non-Resident Students, 2005-06 through 2009-10

Cohort (academic year)	Amount Allocated [Number Allocated]]	Amount Offered [Number Offered]	Amount Accepted [Number Accepted]
Chancellor's Distinguished Fellowships (CDF)*			
2005-06	$320,000 [40]	$666,000 [119]	$275,878 [35]
2006-07	$400,000 [40]	$1,089,000 [216]	$371,333 [79]
2007-08	$400,000 [40]	$1,064,000 [245]	$419,556 [89]
2008-09	$400,000 [40]	$958,000 [259]	$333,111 [98]
2009-10	$500,000 [50]	$1,277,500 [258]	$485,786 [108]
Graduate Diversity Awards (GDA)**			
2005-06	$160,000 [40]	$288,000 [72]	$149,500 [38]
2006-07	$160,000 [40]	$288,000 [72]	$139,000 [36]
2007-08	$160,000 [40]	$278,000 [70]	$176,000 [44]
2008-09	$160,000 [40]	$408,000 [102]	$231,000 [59]
2009-10	$240,000 [40]	$497,000 [133]	$253,000 [67]
Additional Stipend for Domestic Non-Resident Students***			
2005-06	$212,000 [106]	$402,000 [201]	$162,000 [81]
2006-07	$212,000 [106]	$433,000 [217]	$173,000 [87]
2007-08	$230,000 [115]	$500,000 [251]	$175,000 [88]

*Allocation was budgeted at $10,000 per CDF. Amounts offered ranged from $2K to $10K based on merit.

** Allocation was budgeted at $4,000 per GDA.

*** Allocation was budgeted at $2,000 per award. Discontinued after 2007-08.

Graduate Student Retention Funding

Graduate Retention Funding: 2007-08. Based on the Academic Planning and Budget Office's report "Graduate Student Financial Support 2007-08 – Annual Review of Expenditures", TA/GSR salaries and benefits combined accounted for 56.96% of graduate student financial support in 2007-08 at UCR (see Table C2). The variety of award packages, organized by type of aid and year of enrollment, that are typical as students progress their graduate student experience at UCR is shown in Table C10.

Table C10: Types of Financial Support (Amount and Percentage) and Enrollment Year, 2007-08							
Type/Year	**1**	**2nd**	**3**	**4th**	**5th**	**6th**	**7th (plus)**
Award Aid	11,762,339 (61.7%)	3,175,784 (22.6%)	906,341 (9.9%)	673,881 (8.6%)	759,300 (13.7%)	326,788 (11.6%)	193,169 (9.5%)
TA Salaries	2,006,497 (10.5%)	4,041,274 (28.6%)	2,755,347 (30.0%)	2,163,319 (27.5%)	1,461,018 (26.3%)	682,458 (24.2%)	463,141 (22.8%)
GSR Salaries	746,727 (3.9%)	2,036,043 (14.5%)	2,163,440 (23.5%)	2,127,531 (27.0%)	1,419,726 (25.5%)	662,213 (23.4%)	505,629 (24.9%)
TA/GSR Benefits	1,940,966 (10.2%)	3,070,888 (21.9%)	2,264,131 (24.6%)	1,851,078 (23.5%)	1,214,606 (21.8%)	548,692 (19.4%)	383,412 (18.9%)
Other Campus Employment	446,144 (2.3%)	134,806 (1.05)	149,205 (1.6%)	178,272 (2.3%)	100,208 (1.8%)	223,263 (7.9%)	137,315 (6.7%)
Student Loans	2,173,333 (11.4%)	1,568,699 (11.2%)	960,875 (10.4%)	872,241 (11.1%)	607,294 (10.9%)	381,934 (13.5%)	350,637 (17.2%)
Total	19,076,006 (31.48%)	14,027,495 (23.15%)	9,199,339 (15.18%)	7,866,322 (12.98%)	5,562,152 (9.18%)	2,825,348 (4.67%)	2,033,303 (3.36%)

- The data show a preponderance of Award Aid in the early years, followed by a much greater percentage of TA/GSR salaries and benefits in later years.
- Award aid (including fellowships, GSHIP, fee and non-resident tuition remission) accounted for 61.7% of first-year graduate students' financial support in 2007-08.
- TA/GSR salaries and benefits accounted for 65.0% (Year 2), 78.1% (Year 3), 78.0% (Year 4), 73.6% (Year 5), 67.0% (Year 6) and 66.6% (Year 7 and plus) of graduate student financial support in 2007-08.
- Year-1 accounted for the highest percentage (31.48%), followed by Year-2 (23.15%), of total graduate student financial support in 2007-08.

The breakdown of total graduate student financial support in 2007-08, according to types of aid, for each college or school is presented in Table C11.

Table C11: Types of Aid (Amount and Percentage) for Each College or School, 2007-08						
Type/Unit	**BioMed**	**CHASS**	**CNAS**	**BCOE**	**GSOE**	**AGSM**
Award Aid	197,831 (38.0%)	5,660,860 (28.1%)	6,313,102 (26.4%)	4,017,733 (38.0%)	818,294 (23.8%)	789,783 (39.1%)
TA Salaries	40,977 (7.9%)	6,477,694 (32.2%)	5,380,116 (22.5%)	1,061,180 (10.0%)	108,042 (3.1%)	505,045 (25.0%)
GSR Salaries	156,798 (30.1%)	765,094 (3.8%)	5,612,500 (23.5%)	2,648,165 (25.1%)	477,825 (13.9%)	928 (0.1%)
TA/GSR Benefits	105,742 (20.3%)	3,411,305 (17.0%)	5,030,303 (21.0%)	2,207,899 (20.9%)	223,810 (6.5%)	294,724 (14.6%)
Other Campus Employment	10,590 (2.1%)	417,938 (2.1%)	243,758 (1.0%)	254,222 (2.4%)	383,150 (11.1%)	59,554 (3.0%)
Student Loans	8,500 (1.6%)	3,378,729 (16.8%)	1,341,741 (5.6%)	383,753 (3.6%)	1,434,693 (41.6%)	367,597 (18.2%)
Total	520,438	20,111,620	23,921,520	10,572,942	3,445,814	2,017,631

- Award aid was a larger fraction of the total graduate student financial support in BCOE (38.0%) than in CHASS (28.1%) and CNAS (26.4%), due primarily to the larger percentage of international graduate students in BCOE who receive NRT from central fellowship funds.

- TA salaries were a significantly larger fraction of the total graduate student financial support in CHASS (32.2%) than in CNAS (22.5%) and BCOE (10.0%).
- GSR salaries represented a significantly larger fraction of the total graduate student financial support in BioMed (30.1%), BCOE (25.1%) and CNAS (23.5%) than in CHASS (3.8%).
- Student loans were a much larger fraction of the total graduate student financial support in GSOE (41.6%) than other colleges and school.

Teaching Assistantships. Tables C4 and C5 demonstrate that compared to other UC campuses, academic graduate students at UCR must earn a higher proportion of their financial support as TA income, which takes time away from their research, rather than as fellowship stipends or GSR salary that would allow them to work on their research. This is neither attractive to prospective graduate students nor desirable for the overall health of our graduate programs. As an illustration, at UCR, 60% of the per capita financial support was fellowship plus GSR funding, and 40% was TA support for an academic doctoral student in 2007-08; whereas at UCSD (one of our "Comparison UCs"), 74.5% was fellowship plus GSR funding, and only 25.5% was TA support (see Table C4). The funding mix at UCSD allows students to spend more time on their studies and research, which makes the UCSD financial packages much more attractive. Clearly, there are important lessons to be learned from this comparison.

It must also be pointed out that TA support has accounted for a larger percentage of graduate student financial support at UCR because of our proportionally large undergraduate student population. Compared to other campuses which have a smaller percentage of undergraduates, it is unavoidable that a higher fraction of UCR's graduate student population must be working as teaching assistants in order to service undergraduate instruction. *As the number of graduate students increases, TA support is expected to account for a smaller percentage of total financial support at UCR.* This, together with concerted efforts to increase the per capita GSR and external fellowship support, will make our financial support packages for graduate students be more in line with other UC campuses. *(Refer to recommendations 1.3, 4.6, and 4.10 in Section A).* However, it is critically important to note that such a funding-composition adjustment should **not** be achieved by cutting the TA budget. It is worth reemphasizing that TA salaries and benefits are an essential component for graduate student financial support, particularly in CHASS where TA funding is the only major source of support for continuing graduate students (see Table C11).

We have also examined the policies/practices for determining departmental TA allocations in CHASS, CNAS and BCOE, which have employed the vast majority of teaching assistants at UCR. As it turns out, there is no single set of practices followed by these Colleges for the allocation of funding teaching assistantships, as described below.

CHASS: The Dean's Office allocates its TA budget based only on undergraduate enrollments.

CNAS: Before Spring 2009, the Dean's Office kept the largest portion of TA FTE's as part of its unallocated budget. At the end of the year, the Dean's Office analyzed the actual TA usage by departments, and funded the difference between what each department held in its permanent budget and what was actually spent during the previous academic year. In Spring 2009, the departmental budget was pulled back to the Dean's Office, and each department was asked to submit a request for teaching resources in 2009-10. The College's administrative staff and the Divisional Deans jointly analyzed the faculty teaching load, TA utilization, size for discussion/lab sections, need for administrative support for large-lecture courses etc., and then determined what TA resources would be allocated to each department. From a purely financial perspective, departments with a larger teaching load (*i.e.* higher undergraduate instructional workload) are expected to obtain more TA resources. It is up to the Divisional Deans to work with the departments to reach agreement on actual TA assignments.

BCOE: A standard formula for the allocation of TA FTE's is used – it is based on a matrix that includes 75% undergraduate workload FTE and 25% incoming graduate student numbers. The BCOE departments leverage these TA allocations with their own resources, such as contracts and grants, by providing GSR support to their graduate students.

The committee believes that if UCR is to increase its graduate student population with the much needed funding stability, allocations of teaching assistantships should be based on the needs of our graduate programs, in addition to undergraduate enrollments. *Refer to recommendation 4.8 in Section A.*

Graduate Student Research Assistantships. GSR salaries accounted for 15.95% of total graduate student financial support at UCR in 2007-08 (see Table C2), and they represented a significantly larger fraction of graduate student funding in BioMed, BCOE and CNAS (see Table C11). A breakdown of GSR salaries in 2007-08, according to sources of fund, for each college or school is presented in Table C12.

Table C12: GSR Salaries (Amount and Percentage) Breakdown for Each College or School and at UCR, 2007-08

Source/Unit	BioMed	CHASS	CNAS	BCOE	GSOE	AGSM	Campus
General and Core Funds	15,597 (9.95%)	343,519 (44.90%)	1,785,441 (31.81%)	454,801 (17.17%)	76,686 (16.05%)	---	2,676,045 (27.70%)
Sales and Service	---	33,283 (4.35%)	78,713 (1.40%)	64,627 (2.44%)	986 (0.21%)	---	177,609 (1.84%)
Contracts and Grants	125,036 (79.74%)	386,335 (50.50%)	3,481,661 (62.03%)	2,070,803 (78.20%)	392,887 (82.22%)	---	6,456,723 (66.83%)
Gifts and Endowments	16,165 (10.31%)	1,811 (0.23%)	266,685 (4.75%)	57,933 (2.19%)	7,265 (1.52%)	---	349,860 (3.62%)
Student Fees	---	146 (0.02%)	---	---	---	928 (100%)	1,074 (0.01%)

Table C12 shows that extramural funding, *i.e.* Contracts & Grants and Gifts & Endowments, accounted for the vast majority of GSR earnings (70.45%) at UCR in 2007-08. Table C13 reports the percentage contribution of combined Contracts & Grants and Gifts & Endowments to the bulk of graduate student financial support (Award Aid plus GSR salaries and benefits), by each college or school, from 2002-03 to 2007-08.

Table C13: Percentage of Extramural Funds Used for Award Aid and GSR Salaries and Benefits[32] in Each College or School, 2002-03 through 2007-08

	BioMed	CHASS	CNAS	BCOE	GSOE	AGSM
2002-03	43.07%	9.54%	30.22%	40.78%	46.58%	2.76%
2003-04	46.50%	9.03%	32.35%	42.63%	50.05%	2.74%
2004-05	60.44%	8.27%	36.28%	36.44%	52.25%	2.79%
2005-06	49.56%	10.40%	34.79%	37.02%	58.00%	0.98%
2006-07	56.47%	9.71%	29.65%	37.34%	53.05%	3.86%
2007-08	53.22%	7.23%	28.86%	37.29%	49.20%	3.65%

Between 2002-03 and 2007-08, the percentage of these extramural fund expenditures to support graduate students has **declined** in each college or school. Similar to the high cost of NRT, the persisting increases in student fees may act as an unintentional disincentive for providing GSR support for our graduate students. At the same time, for all academic doctoral students, UCR ranked **last** in 2007-08 in the per capita GSR support (including salaries, fees remission and benefits) among the nine general UC

[32] An extremely small amount of external TA support is included here.

campuses, and it was $2,540 below the systemwide average (Table C4). For UCR to offer competitive graduate student funding, our per capita GSR support must increase, particularly in CNAS and BCOE because graduate student research assistantships represent a relatively larger fraction of these two colleges' total graduate student financial support (Table C11). Therefore, we need to provide incentives for PIs to support graduate students with existing extramural funds and to apply for extramural funds and training grants with budgets for graduate student financial support. *Recommendations 1.3 and 4.10 in Section A seek to address these concerns.*

Dissertation Year Fellowships. In the 2007-08 academic year, the Graduate Division significantly augmented campus-wide dissertation year (out-year) fellowship competitions for continuing graduate students. Eligible students may apply for the following fellowships:

- Dissertation-Year Fellowship Awards (DYFA; domestic students only). The DYFA are intended to provide financial support to graduate students who are nearing completion of their dissertation research and expect to complete their dissertation within the academic year in which student receives the award. Recipients normally receive financial support during their final academic year, and must enhance the diversity of the department/graduate program. Applicants should demonstrate high potential and promise and should indicate an interest in an academic career in teaching and research.
- Chancellor's & College Dissertation Fellowships (C&CDF; for both domestic and international students). The C&CDF are intended to financially support students with distinguished academic records who will complete their dissertation within a year after receiving this fellowship.

The following fellowship was added since the 2008-09 academic year:

- Graduate Research Mentorship Programs (GRMP; domestic students only). The GRMP are intended to enhance the mentoring of doctoral students during their second, third or fourth years of graduate study. Recipients enhance the diversity of the department/graduate program, and are eligible for one, two or three quarters of financial support to conduct their research (includes summers).

Appendix C contains the complete set of applications (if available) and awards data on dissertation year fellowships for 2007-08 (Table C2A), 2008-09 (Table C3A) and 2009-10 (Table C4A). Their summary statistics are presented in Table C14 below.

Table C14: Dissertation Year Fellowships, 2007-08 through 2009-10

	Number of Applications	Number of Awards	Awards Amount
2007-08	N.A.	20	$382,487.88
2008-09	116	71	$1,319,989.98
2009-10	175	77	$1,346,320.55

When the funding authority was returned to the Graduate Dean for the recruitment of the 2005-06 cohort, one of the major concerns ascribed to the current cohort funding model is that it does not provide a reliable "safety net" for continuing students. To deal with this issue, the Graduate Division has since then built dissertation year monies into the present funding system. The data of Table C14 indicates that this extra effort has paid off nicely – over the last three years, the number of dissertation year fellowships has increased by 285%, and the total awards amount has increased by 252%! The availability of such graduate student financial support is very encouraging and valuable *vis-à-vis* the ongoing budget crisis and funding uncertainty. Overall, the dissertation year fellowships have helped alleviate the "safety net"

concern, and are expected to continue playing an important role in providing stability for graduate student retention funding at UCR. *Refer to Recommendation 4.5 in Section A.*

Fundraising and Additional Revenue Sources

With continued fiscal uncertainties and undependable State budget prospects for the foreseeable future, an important aspect of UCR's graduate student financial support is the proportion of support provided by intramural and extramural funds. Internally, we need to minimize further cuts at all levels, realizing that all parts of the University will be absorbing punishing reductions. Externally, an increasing reliance on extramural funds for graduate student financial support is inevitable, and improvement and growth in these funding sources are essential.

Table C15 presents the amount and percentage that extramural fund expenditures, *i.e.* Contracts & Grants and Gifts & Endowments, have accounted for in total Award Aid plus GSR salaries and benefits from 2002-03 to 2007-08.

Table C15: Amount and Percentage of Extramural Funds for Award Aid plus GSR Salaries and Benefits[33], 2002-03 through 2007-08

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08
Contracts and Grants	$6,433,966	$7,918,905	$9,315,613	$9,620,314	$10,181,326	$10,655,107
Gifts and Endowments	$754,758	$836,133	$625,750	$841,272	$1,049,583	$1,112,740
Total (Percentage)	$7,188724 (25.41%)	$8,755,038 (26.92%)	$9,941,363 (27.86%)	$10,461,586 (27.68%)	$11,230,909 (25.35%)	$11,767,847 (23.81%)

While the above table for the most part indicate steady overall increase in the dollar amount of Contracts & Grants and Gifts & Endowments, these extramural funds as a percentage of Award Aid plus GSR salaries and benefits reveals that much more (and more accelerated) progress is still needed. Specifically, for the campus as a whole, this percentage has recently **decreased** by 3.87% between 2005-06 and 2007-08. If UCR is to increase the size, quality and diversity of its graduate student population, the financial support of graduate students by Contracts & Grants and Gifts & Endowments must increase.

Recommendation 4.7 urges the appointment of a development officer to the Graduate Division. The Graduate Division development officer should be asked to

- work with College/School Deans and graduate programs to actualize funding goals for graduate students formulated cooperatively by the faculty and administration. The efforts should be large scale, as part of any major campaigns UCR may undertake in the future; and small scale, helping individual faculty and departments/programs target well focused funding opportunities for graduate students.
- coordinate efforts with UCR's Alumni Relations and Communications toward the explicit goal of increasing doctoral student financial support.
- solicit corporate, foundation, federal agencies and individual donor support for doctoral student funding.
- work aggressively with doctoral students across the campus to build the capacity of our graduate students to obtain external fellowships and grants. These external fellowships/grants provide secure funding for the student, they strengthen his/her CV, and they bring increased recognition to UCR.

[33] As in Table C13, an extremely small amount of external TA support is included here.

- develop a Workshop Series as well as a web-based resource clearinghouse that would help graduate students identify up-to-date information about the availability of external funding opportunities. Incentives for the pursuit and attainment of these extramural funds should be provided to students (*e.g.* fees are covered by central funds when they are not paid by the external fellowships/grants) and to the faculty assisting students with such applications.

Section D
Graduate Student Experience

In this section we provide supplementary supporting evidence for recommendations that relate to the graduate student experience and describe additional suggestions for improving graduate student life at UCR.

Housing Plans – Recommendations 8.1, 8.2

For a variety of reasons, many UCR students, faculty and staff do not live near campus and therefore are present on campus only during standard business hours.[34] This discourages others who do live near campus from being more engaged in the campus community, and thus UCR continues to function more like a commuter campus than a residential campus. The inherently weak sense of a campus community often manifests itself as low attendance at sporting and performing arts events, limited patronage of local businesses, low participation in extramural sports activities, infrequent use of campus facilities on evenings and weekends, and thus a concomitantly low availability of these opportunities. Although this is not always the case, it is undeniable that our commuter-campus status continues to have a deleterious effect on the overall graduate student experience. Therefore, we strongly encourage the campus to recognize the critical role of appealing and affordable on-campus housing for graduate students and families in the recruitment process, as well as in providing graduate students with a greater sense of community. In 2003, UCR completed a collaborative process which resulted in the Strategic Plan for Housing which was to be implemented over a thirteen-year time period. Despite the excellent plans for new graduate student housing, including family housing, a new recreation building which could be utilized by students and their families, additional childcare facilities and a greater number and variety of dining options, to-date these initiatives have not been implemented. Creating a more graduate student-centered campus will require such amenities to be provided.

Graduate Student Resource Center (GSRC)- Recommendation 8.3

Currently graduate students in search of information and services face many different potential "points of entry" across campus. These include the Graduate Division, ombudsperson, social worker, Counseling Center, Career Center, Registrar, Student Business Services, Graduate Student Association, Health Center, Student Special Services, and departmental faculty and staff. This arrangement tends to impede communication between the campus and its students, resulting in frustrated students and underutilized services. The Graduate Division staff experience this first hand, often fielding questions outside their areas of expertise from graduate students who do not know where else to turn. The current Graduate Division website does not appear to be very helpful in this regard, either.[35]

We envision *a Graduate Student Resource Center (GSRC)* to provide a single entry point for graduate students. Some campuses (including UCSB, UCI, and UCLA) already have created such centers that provide coordinated services, information, and support. Students benefit from having direct access to knowledgeable, permanent staff who specialize in graduate student issues and can either answer their questions or direct them to the appropriate office. Sample services include: information about relevant campus resources, transitional support for new students, networking and interdisciplinary interaction

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[34] Currently 52% of all faculty and staff live outside of the City of Riverside and 32% live outside of Riverside County (http://www.ucr.edu/about/pdf/facts.pdf).

[35] The Graduate Division has been in the process of redesigning its webpage for several months, but progress has been very slow.

opportunities, writing and professional development workshops, mentoring opportunities and peer advisors, guest speakers, diversity workshops and support services, and drop-in advice and assistance.

The GSRC not only would serve as a clearinghouse for existing services, but also would be charged with advocating for, prioritizing, and expanding new services for graduate students (e.g., graduate writing workshops are offered through the GSRC at UCI, UCSB, and UCLA, and by our AAU comparison schools, but currently UCR does not provide any writing support for graduate students[36]). Such advocacy and support would be particularly beneficial for graduate students who are susceptible to a variety of psychological, physical, and emotional triggers due to the competitive climate, relative isolation, and financial uncertainty of graduate school.[37] However, support and prevention efforts can keep such stressors from negatively impacting students. When campuses are responsive to student needs and provide services that mitigate these stressors, and when students are well-informed about the services available to them, returns are realized in the form of healthy and productive students.[38]

The GSRC also would have a web presence with a virtual "single entry point," similar to R'Space but designed specifically as a homepage for graduate students. By providing easier access to information and services desired by students, both in person and online, we believe the GSRC will directly improve student satisfaction and success.

Professional Development – Recommendation 7.1

Professional development training for graduate students (and postdoctoral researchers) has been receiving increased attention at both campus and national levels. This is due, in part, to a growing awareness by universities that students who neglect the non-research aspects of their portfolios can place themselves at a disadvantage in increasingly competitive job markets with limited numbers of traditional research faculty positions. Meaningful experience in teaching and service as well as demonstrated abilities to communicate well and to navigate ethical and interpersonal issues are increasingly valued by prospective employers. Evidence of this trend can be seen as far back as the 1993 Preparing Future Faculty initiative by the Council of Graduate Schools and its partner institutions.[39]

More recently, attention has been focused on professional development training by new and anticipated policy changes at major funding agencies. The 2007 America COMPETES Act requires that all National Science Foundation (NSF) grant applications that include funding to support postdoctoral researchers, include a description of the mentoring activities that will be provided for such individuals, and shall ensure that this part of the application is evaluated under the Foundation's broader impacts merit review criterion. Mentoring may include a variety of professional development activities, including career counseling, training in preparing grant applications, guidance on ways to improve teaching skills, and training in research ethics. The NSF Director shall require that annual reports and the final report for research grants that include funding to support postdoctoral researchers include a description of the mentoring activities provided to such researchers.

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[36] Writing assistance for graduate students is listed as a Promising Practice by the Council of Graduate School's Ph.D. Completion Project (op. cit.). Graduate student fees at UCR are used to support the campus Writing Center, but currently the Writing Center does not have any staff who are qualified to provide writing support to graduate students. The director is aware of this and is working towards a solution, though progress appears to be slow.

[37] Butler, C.K. "Contents under pressure." US News and World Report, 11 April 2005.

[38] 2004 report by the UCR Task Force on Graduate Student Support, Recruitment, and Retention.

[39] Professional development training also is listed as a Promising Practice by the Council of Graduate School's Ph.D. Completion Project (op. cit.).

Furthermore, for all proposals submitted on or after January 4, 2010, each institution that applies for financial assistance from the NSF for science and engineering research or education describe in its grant proposal a plan to provide appropriate training and oversight in the responsible and ethical conduct of research (RCR) to undergraduate students, graduate students, and postdoctoral researchers participating in the proposed research project. NSF standard award conditions now clearly stipulate that institutions are responsible for verifying that students and postdoctoral researchers supported by NSF to conduct research have received RCR training. While training plans are not required to be included in proposals submitted, institutions are advised that they are subject to review upon request. The National Institutes of Health also have significantly increased the RCR training requirements of all supported trainees.

For all of these reasons, an increasing number of universities with which UCR competes for graduate students and postdoctoral researchers and for subsequent job placements have instituted professional development opportunities for their students. Most offer a suite of online resources, periodic seminars, and for-credit courses from which students can choose. Some require training (e.g., the University of Minnesota) whereas others do not. Because we fully expect these trends to continue, and because we believe most of our own programs continue to lag behind their peers in terms of professional development opportunities, we recommend that ***professional development training should be a requirement of all MA, MS, MFA, and PhD programs at UCR***. Doing so will promote the competitiveness of UCR graduate programs and assist our faculty in obtaining funding from and satisfying the requirements of ever-more demanding federal agencies.

It is important to note that some but not all of our graduate programs already provide this type of training to their students. Physics requires that all Plan I MS students and all PhD students take PHYS 401 that covers scientific writing, illustration, references, formatting of technical articles, patent requirements, and other relevant topics. EEOB requires that all PhD students take BIOL 400 (Introduction to Graduate Study in Biology). Philosophy requires all PhD students to take PHIL 400 (Research and Professional Development Workshop). Psychology encourages graduate students to take PSYC 309 (Professional Development and Research Ethics), and apparently most of them choose to enroll. About half of all programs offer discipline-specific pedagogical training in the form of a 301 course and some of those (e.g., English) also offer advanced pedagogy (i.e., ENGL 303). Other programs (e.g., Environmental Sciences) require professional development training for undergraduate students (i.e., ENSC 191) that might be readily adapted for graduate students.

We believe that this type of decentralized approach to professional development has many advantages, and urge that it be institutionalized across the campus. Neither the Graduate Division nor any other administrative unit should dictate the specific curriculum that any program should use; rather it is the programs that can most effectively tailor this training to the specific needs of their own students. Not only does this approach better serve our students, but it also promotes campus-wide ownership of professional development training by our faculty. However, we also believe that programs can benefit from some amount of centralized support for professional development efforts. We believe the Graduate Division should provide this in various ways (e.g., suggested structure and content; minimum requirements to satisfy funding agencies; seminars and outside speakers--similar to the SALSA workshops previously offered by the Office of Research). We also believe that it is appropriate for related programs to form partnerships and pool resources to offer training to students in different but similar disciplines (e.g., across the life sciences), particularly in the case of relatively small programs for which this additional requirement could be significantly more burdensome to satisfy without such cooperation.

We recognize that this recommendation, by giving professional development training similar status to examinations and the thesis as the only ubiquitous requirements for our graduate students,

amounts to a significant change to graduate education on our campus. However we believe it is imperative to institutionalize this training now at UCR.

Additional Suggestions

In addition to the priority recommendations made in Section A, we have identified four other key suggestions the campus should undertake to improve the delivery of graduate education. First, we believe the Graduate Division admissions office should be more involved with transitioning new students to campus life, with special emphasis on transitioning URM students. An improved and more comprehensive website would be very beneficial in this regard (see, for example, the University of Missouri: http://gradschool.missouri.edu/admission/). The admissions office also should reassess how information is distributed to matriculating students. For example, students receive "fellowship regulations" with their offers of admission, but that may be the one and only time these are sent. Requirements like completing the Statement of Residency and the FAFSA are then often left undone until the fee deadline, which can create confusion and stress for students and additional work for staff. International students are not required to fill out the FAFSA until their second year in the program, but this information is understandably forgotten or lost by the time it is required. More effective contact with matriculating students--such as an "I've been admitted--now what?" checklist, including things that can be done before arriving--would be beneficial for everyone and create a more welcoming environment for students.

Partnerships with other campus offices also would be helpful. For example:

- Partner with campus tours to provide tours specifically for prospective graduate students. These could be coordinated around "recruiting weekends" when large numbers of prospective students are expected to be on campus.
- Partner with International Education to connect incoming international students with current students from the same country. Some students already seek-out these connections on an informal basis, suggesting they find it to be worthwhile.
- Provide information to new URM students regarding "Get Connected" or other bridge programs that might benefit them.
- Make admissions office staff available to speak to UCR Honors students and bridge programs regarding the admissions and matriculation process (this also would be beneficial for recruitment).

Second, we believe that all programs should assign to each student a faculty adviser before the first quarter of enrollment, even if only on a temporary basis.[40] This does not mean that the Graduate Adviser should assume temporary responsibility for advising all of the incoming students; rather an effort should be made to match students with faculty who might eventually become the thesis adviser. This has several benefits: it provides students with a person within the program whom they can approach with questions and concerns; it engages faculty to a greater extent in the graduate program; it fosters a stronger sense of community; and it distributes the advising workload more equitably.

Third, we believe that compensation for graduate advisers should be performance-based in order to provide an additional incentive for these key faculty members to invest in their programs. The compensation need not be large, but it should be meaningful and tied to performance rather than just execution of responsibilities (e.g., financial compensation or a course release that is conditional on achieving certain goals agreed to by the Graduate Adviser and the Graduate Dean).

[40] This recommendation is listed as a Promising Practice by the Council of Graduate School's Ph.D. Completion Project (op. cit.).

Finally, we also recommend that programs provide financial and administrative support for program-based Graduate Student Associations (GSAs).[41] Currently there are 29 such "mini-GSAs" with varying levels of activity. When supported by strong relationships with their affiliated programs, these groups provide excellent infrastructure for delivery of a variety of mentoring and professional development activities including: student-led seminar series, practice job talks, student participation on program committees and in recruiting and orientation activities, peer mentoring, and social events with faculty and graduate students in one's own program as well as from across the campus.

[41] Support for department-level student organizations is listed as a Promising Practice by the Council of Graduate School's Ph.D. Completion Project (op. cit.).

Appendix A
Workgroup Goals and Membership

Program Evaluation Workgroup:
Goals: Identify best practices for fostering excellence in graduate/professional programs, including graduate recruitment. Determine strengths and weaknesses of current graduate programs. Produce an evaluation framework (most likely more than one model) to be used by graduate programs to track their own progress, and by the campus for future planning. Make recommendations on proper balance between academic and professional programs, and Master's and Ph.D. programs.
Members: C. Chiarello (Workgroup Chair), G. Aguillar, T. Lopez, T. Novak, C. Switzer

Funding and Resources Workgroup:
Goals: Make recommendations about all aspects of graduate student funding. Identify ways to increase graduate student support, internally and externally. For professional programs, identify revenue-generating programs in existence or under development. Evaluate trade-offs involved in greater reliance on non-public funding sources. Identify resource needs for graduate student support services (e.g., housing, child care) and recommend ways to meet these needs. Consider UC structural issues as they impact graduate student support, e.g., NRT for international students, fees for non-professional students that are paid by the campus, and suggest ways to address these issues.
Members: J.-T. Guo (Workgroup Chair), X. Cui, C. Gerry, R. Ream, L. Saavedra

Graduate Student Experience Workgroup:
Goals: Identify strategies for increasing number, quality, and diversity of graduate population. Evaluate all aspects of the graduate student experience, and recommend strategies for improvement. Examine how mentoring is provided across programs on campus and suggest ways to improve and reward quality faculty mentoring of graduate students. Identify best practices for graduate/professional programs that enhance the student experience from recruitment through graduation.
Members: K. Baerenklau (Workgroup Chair), K. Oswood, S. Ryan, P. Springer

Appendix B
Documents Consulted by the EDGE Strategic Planning Committee

I. UCR Internal Reports:

- 2003 UCR housing plan
- 2004 report by the UCR Task Force on Graduate Student Support, Recruitment and Retention
- 2005 UCR long-range development plan
- 2006 report by the UCR Childcare Taskforce
- 2007 report by the Ad Hoc Committee on Graduate Education – "Childers Report"
- 2007 Report of the Graduate Council on Graduate Student Funding Models -"Russell Report"
- 2008 white paper by the UCR Graduate Division on professional development opportunities for graduate students
- 2008 Graduate Division Annual Report
- 2008 AGSM Strategic Plan
- 2009 summary of best practices for graduate programs by the UCR Graduate Division
- 2009 Grad PREP proposal, Graduate Division document draft
- 2009 UCR Graduate Student Financial Support 2007-08, prepared by the Academic Planning and Budget Office
- 2009 UCR admits survey
- 2009 UCR Accountability Profile

II. Documents from UCOP and other UC Campuses

- 2004 Fundraising for Graduate Fellowships – UCLA Lags Behind by William Roy
- 2006 statement of mentoring standards by UC Irvine
- 2006 UCOP Final Committee Report and Recommendations to the Provost by Competitive Graduate Student Financial Support Advisory Committee
- 2007 UCOP Findings from Graduate Student Support Survey: Trends in the Comparability of Graduate Student Stipends 2004 and 2007
- 2007 summary of UCLA conference on graduate student mentoring and retention practices
- Internal UCI documents on graduate education and graduate student experience

II. Documents from other institutions:

- 1998 AAU Report on Graduate Education
- 2004 report by the Council of Graduate Schools on Ph.D. Completion and Attrition
- 2005 report by the University of Maryland at College Park on Graduate Student Life
- 2005 report by the University of Wisconsin on mentoring in the sciences
- 2007 Ohio State University Graduate Student Guidelines, Advising and Mentoring Graduate Students
- 2009 How to Mentor Graduate Students: A Guide for Faculty, University of Michigan
- 2009 Bell, N.E. Graduate Enrollment and Degrees: 1998-2008. Washington, D.C. Council of Graduate Schools
- 2009 report by the Council of Graduate Schools on Graduate Enrollment and Degrees
- 2009 status report on the Ph.D. Completion Project by the Council of Graduate Schools

Appendix C

- Table C1A: Maximum Approved Budgets for the 2005-06 through 2009-10 Cohorts (Based on Targets)
- Table C2A: Dissertation Year Fellowships for AY 2007-08
- Table C3A: Dissertation Year Fellowships for AY 2008-09
- Table C4A: Dissertation Year Fellowships for AY 2009-10

Table C1A: Maximum Approved Budgets for the 2005-06 through 2009-10 Cohorts (Based on Targets)

	2005-06	2006-07	2007-08	2008-09	2009-10
Base Central Fellowship Budget					
$/student	15,000	16,000	16,438	17,422.43	17,943.97
[Number of Students]	[490]	[502]	[561]	[561]	[602]
Total	7,350,000	8,032,000	9,221,718	9,773,983	10,802,270
Fee Increase Adjustments					
$/student			745.00	520.50	795.00
[Number of Students]			[441]	[561]	[602]
Total			328,545	292,000	478,590
Domestic Non-Resident NRT					
NRT/Student	14,694	14,694	14,694	14,694	14,694
[Number]	[106]	[106]	[120]	[120]	[120]
Total	1,557,564	1,557,564	1,763,280	1,763,280	1,763,280
Domestic Non-Resident NRT (IGERT)					
NRT/Student	14,694	14,694	14,694	14,694	14,694
[Number]	[5]	[5]	[5]	[5]	[10]
Total	73,470	73,470	73,470	73,470	146,940
Domestic Non-Resident NRT (T32 Training Grant)					
NRT/Student					14,694
[Number]					[2]
Total					29,388
International NRT (First Year)					
NRT/Student	14,694	14,694	14,694	14,694	14,694
[Number]	[114]	[92]	[145]	[145]	[152]
Total	1,675,116	1,351,848	2,130,630	2,130,630	2,233,488
International NRT (Second Year)					
NRT/Student	14,694	14,694	14,694	14,694	14,694
[Number]	[114]	[92]	[145]	[145]	[152]
Total	1,675,116	1,351,848	2,130,630	2,130,630	2,233,488
Chancellor's Distinguished Fellowships	320,000	400,000	400,000	400,000	500,000
Graduate Diversity Awards ($4,000/Award)					
[Number]	[40]	[40]	[40]	[40]	[60]
Total	160,000	160,000	160,000	160,000	240,000
Additional Stipend for Domestic Non-Resident Students ($2,000/Award)					
[Number]	[106]	[106]	[115]	0	0
Total	212,000	212,000	230,000	0	0
Total for the Cohort	13,023,266	13,138,730	16,438,273	16,723,993	18,427,444
Percentage Change from 05-06 to 09-10					41.5%
Total $/Student	26,578	26,173	29,302	29,811	30,610
Percentage Change from 05-06 to 09-10					**15.2%**

Table C2A: Dissertation Year Fellowships for AY 2007-08

		AWARDS			AWARDED AMOUNTS		
College	Program	C&DF	DYFA	Total	C&DF	DYFA	TOTAL
CHASS	Anthropology	2	1	3	$29,811.52	$24,813.50	$54,625.02
	Dance	1	1	2	$19,874.34	$24,813.50	$44,687.84
	Economics	1	0	1	$20,070.32		$20,070.32
	English	2	1	3	$19,874.34	$24,813.50	$44,687.84
	Philosophy	1	0	1	$20,073.50		$20,073.50
	Political Science	1	0	1	$19,874.34		$19,874.34
CNAS	Biology	1	0	1	$19,874.32		$19,874.32
	Cell, Molecular, and Developmental Biology	1	0	1	$19,874.34		$19,874.34
	Entomology	1	0	1	$19,874.34		$19,874.34
	Mathematics	1	0	1	$19,874.32		$19,874.32
	Microbiology	1	0	1	$20,070.34		$20,070.34
	Plant Biology	1	0	1	$20,070.34		$20,070.34
BCOE	Chemical and Environmental Engineering	1	0	1	$20,070.34		$20,070.34
	Computer Science	2	0	2	$38,760.68		$38,760.68
Total		17	3	20	$308,047.38	$74,440.50	$382,487.88

Note: Applications data for 2007-08 is not available.

Table C3A: Dissertation Year Fellowship Applications and Awards for AY 2008-09

		APPLICATIONS				AWARDS			AWARDED AMOUNTS			
College	Program	C&DF	GRMP	C&DF & GRMP	Total	C&DF	GRMP	Total	C&DF	DYFA	GRMP	Total
CHASS	ANTHRO	3	4	0	7	1	3	4	$20,240.32		$26,870.82	$47,111.14
	COMP LIT	1	0	0	1	1	0	1	$20,240.32			$20,240.32
	CRIT DANCE STUDIES	1	1	0	2	1	1	2	$20,240.32		$15,908.32	$36,148.64
	ECON	1	0	0	1	0	0	0				
	ENGL	5	5	0	10	2	3	5	$40,480.64		$31,087.50	$71,568.14
	HIST	9	5	1	15	4	3	7	$89,895.52		$29,724.96	$119,620.48
	MUSIC	0	2	0	2	0	1	1			$23,862.50	$23,862.50
	PHIL	1	0	0	1	0	0	0				
	POL SCI	3	3	0	6	1	3	4	$20,240.32		$47,725.02	$67,965.34
	PSYCH	6	2	0	8	4	2	6	$81,169.30		$22,816.66	$103,985.96
	SPAN	2	0	0	2	1	0	1	$20,240.34			$20,240.34
TOTAL CHASS		32	22	1	55	15	16	31	$312,747.08		$197,995.78	$510,742.86
CNAS	APP STAT	3	2	0	5	2	1	3	$50,912.84		$16,508.34	$67,421.18
	BIOCHM	0	1	0	1	0	0	0				
	CMDB	1	0	0	1	1	0	1	$20,448.34			$20,448.34
	ENTO	1	0	0	1	1	0	1		$30,360.50		$30,360.50
	ENVI SC	1	0	0	1	1	0	1	$20,240.34			$20,240.34
	ETOX	1	0	0	1	1	0	1	$20,448.34			$20,448.34
	EEOB	5	0	0	5	4	0	4	$111,529.82			$111,529.82
	GGB	1	0	0	1	1	0	1		$30,360.50		$30,360.50
	GLSC	3	0	0	3	3	0	3	$70,841.18			$70,841.18
	MATH	1	1	0	2	0	1	1			$24,262.50	$24,262.50
	MCBL	1	0	0	1	1	0	1	$20,448.34			$20,448.34
	NRSC	4	2	0	6	3	2	5	$30,360.52		$11,408.32	$41,768.84
	PHYSICS	3	3	0	6	2	2	4	$30,672.50	$30,360.50	$40,370.84	$101,403.84
	PLBL	1	1	0	2	1	1	2	$10,224.18		$16,508.32	$26,732.50
TOTAL CNAS		26	10	0	36	21	7	28	$386,126.40	$91,081.50	$109,058.32	$586,266.22
BCOE	BIEN	0	1	0	1	0	0	0				
	CEE	3	0	0	3	2	0	2	$40,896.68			$40,896.68
	CPSC	2	4	0	6	1	0	1	$20,448.32			$20,448.32
	ELEN	2	2	0	4	2	2	4	$27,105.52		$33,016.68	$60,122.20

Table C3A: Dissertation Year Fellowship Applications and Awards for AY 2008-09

		APPLICATIONS				AWARDS			AWARDED AMOUNTS			
College	Program	C&DF	GRMP	C&DF & GRMP	Total	C&DF	GRMP	Total	C&DF	DYFA	GRMP	Total
	MCEN	4	1	1	6	3	0	3	$50,912.86			$50,912.86
TOTAL BCOE		11	8	1	20	8	2	10	$139,363.38		$33,016.68	$172,380.06
GSOE	EDUC	4	1	0	5	2	0	2	$50,600.84			$50,600.84
TOTAL GSOE		4	1	0	5	2	0	2	$50,600.84			$50,600.84
	GRAND TOTAL	73	41	2	116	46	25	71	$888,837.70	$91,081.50	$340,070.78	$1,319,989.98

Table C4A: Dissertation Year Fellowship Applications and Awards for AY 2009-10

		APPLICATIONS				AWARDS			AWARDED AMOUNTS			
College	Program	C&DF	GRMP	C&DF & GRMP	Total	C&DF	GRMP	Total	C&DF	DYFA	GRMP	TOTAL
CHASS	ANTH	1	5	0	6	0	2	2			$24,456.66	$24,456.66
	CPLT	3	0	0	3	1	0	1	$20,988.34			$20,988.34
	CRIT DANCE STUDIES	8	3	2	13	3	2	5	$62,414.18		$11,928.34	$74,342.52
	ECON	0	2	0	2	0	1	1			$16,428.34	$16,428.34
	ENGL	11	6	0	17	5	3	8	$103,801.66	$31,140.50	$7428.34*	$142,370.50
	HIST	6	17	0	23	3	4	7	$46,720.49	$27,426.34	$46,927.52	$121,074.35
	MUS	0	1	0	1	0	1	1**				
	PHIL	1	0	0	1	1	0	1	$31,140.50			$31,140.50
	POSC	4	4	1	9	3	1	4	$81,232.34		$16,428.34	$97,660.68
	PSYC	3	3	0	6	3	1	4	$62,623.02		$16,428.34	$79,051.36
	SOC	3	1	0	4	2	0	2	$31,368.52			$31,368.52
	SPAN	1	0	0	1	0	0	0				
TOTAL CHASS		41	42	3	86	21	15	36	$440,289.05	$58,566.84	$140,025.88	$638,881.77
CNAS	BCMB	3	2	0	5	1	2	3	$10,380.18		$20,142.52	$30,522.70
	CHEM	3	1	0	4	2	0	2	$52,128.84			$52,128.84
	CMDB	7	4	0	11	3	2	5	$69,175.02		$44,128.34	$113,303.36
	EEOB	3	3	0	6	1	1	2	$17,778.50		$7,428.34	$25,206.84
	ENTM	1	1	0	2	1	0	1	$20,760.34			$20,760.34
	ETOX	4	0	0	4	2	0	2	$41,520.68			$41,520.68
	GLSC	1	1	0	2	0	1	1			$17,028.34	$17,028.34
	MATH	1	1	1	3	0	1	1			$9,998.34	$9,998.34
	NRSC	4	2	0	6	3	0	3	$53,646.68			$53,646.68
	PHYS	5	0	0	5	2	0	2	$41,976.68			$41,976.68
	PLBL	4	2	0	6	2	2	4	$31,140.52		$41,670.84	$72,811.36
	STAP	6	0	0	6	3	0	3	$44,814.52			$44,814.52
	SWSC	0	1	0	1	0	1	1			$15,222.34	$15,222.34
TOTAL CNAS		42	18	1	61	20	10	30	$383,321.96		$155,619.06	$538,941.02
BCOE	BIEN	0	1	0	1	0	0	0				$0.00
	CEE	6	3	0	9	3	0	3	$37,920.52			$37,920.52
	CPSC	3	0	0	3	1	0	1	$10,380.18			$10,380.18
	ELEN	5	3	0	8	4	0	4	$41,862.70	$31,140.50		$73,003.20

Table C4A: Dissertation Year Fellowship Applications and Awards for AY 2009-10

		APPLICATIONS				AWARDS			AWARDED AMOUNTS			
College	Program	C&DF	GRMP	C&DF & GRMP	Total	C&DF	GRMP	Total	C&DF	DYFA	GRMP	TOTAL
	MCEN	1	1	0	2	1	1	2	$20,988.34		$16,428.34	$37,416.68
TOTAL BCOE		15	8	0	23	9	1	10	$111,151.74	$31,140.50	$16,428.34	$158,720.58
BIOMED	BIOMED	0	1	0	1	0	0	0				
GSOE	EDUC	2	2	0	4	1	0	1	$9,777.18			$9,777.18
	GRAND TOTAL	100	71	4	175	51	26	77	$944,539.93	$89,707.34	$312,073.28	$1,346,320.55

* One GRMP declined. ** Student declined award.