Graduate Student Success Task Group

CHARGE: The task group will make recommendations for specific policies and practices regarding graduate student success, support and costs/revenues that will bring the university in line with best practices. In comparison to peer institutions, the task group will examine key issues including 1) time to degree, 2) the maximum campus subsidy for students (tuition remission, Graduate School fellowships, Department/faculty support through assistantships, fellowships, etc.) that should be expected for resident and nonresident students, 3) the tuition revenue generated by graduate student tuition that is paid by students, grants and contracts, and other sources (excluding tuition rates), for both full and part time students, and 4) the expectations of teaching and research assistants including duration of employment.

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INTRODUCTION

The University of Maryland, College Park (UM), is one of the nation’s major research universities. Designated as the “flagship” institution of the University System of Maryland in 1988, UM is legislatively mandated to assume a leadership role in graduate instruction for the State of Maryland. Its unique location in the Baltimore-Washington corridor affords students and faculty access to one of the greatest concentrations of research and cultural facilities and intellectual talent in the nation.

According to Office of Institutional Research and Planning (OIRP) data as of Fall 2003, UMCP enrolls 35,329 students of which 25,666 are undergraduates and 9,883 are graduates. The majority of graduate students are enrolled full-time, and there are a total of 4,663 masters and 4,366 doctoral degree candidates with 854 first professional and advanced special students.

Excellence in graduate education depends upon outstanding performance at both the individual and program level. It is not enough simply to have superb teaching and research faculty and well-qualified students. It is no longer enough for a student to simply master research and technical skills in graduate school. A successful graduate program, especially as it pertains to doctoral students, must also include training in the art of teaching and of publishing one’s work, the ethics of practice, the responsibilities of service, and the navigation of professional organizations or relationships. But the key ingredient is an institutional responsibility to provide research opportunities at the forefront of scholarship and science. Only then will graduate programs turn out prepared professionals, with successful job placements, ready to make long-term contributions to their fields of study.

Contribution to the field may include writing of the dissertation as well as other publications, presentations at professional meetings, and peer recognition as evidenced by awards received or citations of the student’s research. The rate of success in placement for new doctoral students and the perceived quality of the placement is significant to the reputation of a graduate program. The definition of successful placement will vary across disciplines and evaluation of placement of master’s students is perhaps even more complex. Although placement quality is harder to measure than placement rate, it represents an important component of the mission of a nationally ranked research university which is likely to increase its ability to attract the best students. Placement quality is also critically dependent on graduate students being trained at the cutting edge of progress in their field.

CHARGE TO THE TASK GROUP

The Task Force will make recommendations for specific policies and practices regarding graduate student success and offer commentary upon support and costs/revenues that will bring the University of Maryland in line with best practices. Through comparison with peer institutions, the task group will examine key issues including: 1) time to degree; 2) the campus
subsidy for students (tuition remission, Graduate School fellowships, department/faculty support through assistantships, fellowships, etc.) that should be expected for resident and nonresident students; 3) the tuition revenue generated by graduate student tuition that is paid by students, grants and contracts, and other sources (excluding tuition rates), for both full and part time students; and 4) the expectations of teaching and research assistants including duration of employment.

**SUMMARY AND RECOMMENDATION**

The University of Maryland has many strong departments in the key disciplines and is now poised to meet the next level of opportunities. It is becoming increasingly clear that the most rapid advancements in scholarship and research are occurring at the intersections of traditional departmental and disciplinary lines. The single most important resource of a successful graduate program is its intellectual rigor and substance and the major recommendation of this report emanates directly from this fact. We must find ways to enhance existing multidisciplinary efforts and identify new multidisciplinary initiatives to remain competitive with our peers and to remain at the forefront in the generation of new knowledge.

**Key Recommendation:** Identify and nurture key emergent areas of study in which UM has a base of excellent faculty across departments and colleges and establish funded research teams and degree-granting doctoral programs that transcend departmental administrative units.

**Action Item:** The Vice President for Research and Dean of the Graduate School will convene monthly meetings of dean’s representatives to initiate, enhance, and respond to multidisciplinary research opportunities that require broad participation across the Campus.

**Action Item:** The Vice President for Research and Dean of the Graduate School will continue to develop Memoranda of Understanding with federal laboratories, other federal agencies, cultural institutions, and regional consortia (e.g. SURA).

**ELEMENTS OF A SUCCESSFUL GRADUATE EXPERIENCE**

The key recommendation in this report is intimately tied to a number of supporting recommendations which are aimed at ensuring that the departments and disciplines that form the basis of the proposed multidisciplinary efforts will remain strong and continue to excel. These supporting recommendations are necessary for attracting the best possible students who will perform research at the cutting edge of the field, allowing these students to complete their degrees in a reasonable time frame, and enabling these students to be successfully placed into positions from which they can contribute new knowledge to their fields.

The elements identified by the committee that are critical to meeting the goals of attracting excellent students who will perform cutting edge research, complete their degrees in a timely manner, and find successful placement from which they can contribute new knowledge to their fields are described below:
**Availability of Intellectual Resources and Multidisciplinary Research**

The single most important resource of a successful graduate program is its intellectual rigor and substance. Highly talented faculty and challenging curricula are major keys to the recruitment of excellent students. Additionally, a successful graduate program must provide its students with cutting edge technology for computing and research, excellent library services, and appropriate and sufficient office or laboratory space to enable progress toward the degree. Access to research facilities, on- and off-campus, and a vibrant intellectual life (seminar series, brown bag lunches, reading groups, etc.) greatly enhance the educational experience and engage students in research and professional exploration. Last but not least, timely access to faculty mentors is essential to developing and maintaining a vigorous intellectual environment.

It is becoming increasingly clear that the most rapid advancements in scholarship and research are occurring at the intersections of traditional departmental and disciplinary lines. Universities are organized administratively into departments and the disciplines represented by these departments form the backbone of great universities. The University of Maryland has many strong departments in the key disciplines and is now poised to meet the next level of opportunities. To remain competitive with our peers, be secure at the forefront of the generation of new knowledge, and to excel in training of the next generation of scholars and scientists, we must find ways to enhance existing multidisciplinary efforts and identify new multidisciplinary initiatives.

Successful multidisciplinary programs typically arise through one of three mechanisms, and all three are represented on this Campus. One mechanism is the gradual participation of an increasing number of faculty with common intellectual interest in an area of investigation that is inherently broad and diverse. The evolution of the Neuroscience and Cognitive Sciences (NACS) program on this Campus, now numbering 80+ faculty, is one example. Neuroscience is inherently interdisciplinary and this program offers a wide range of research and training opportunities for students who are interested in pursuing doctoral-level research in a variety of areas within neuroscience, computational neuroscience, and cognitive science. Faculty research interests extend from molecular neurobiology, neural and behavioral systems, all the way to studies of language, and cognition. Research and training activities of NACS take place within the participating departments, which include (but are not limited to) Animal and Avian Sciences, Biology, Computer Science, Center for Automation Research, Electrical Engineering, English, Hearing and Speech Sciences, Human Development, Human Nutrition and Food Science, Kinesiology, Linguistics, Mathematics, Philosophy, and Psychology. While the NACS Program offers degrees, the student must also be enrolled in a “Home” department. The vibrant intellectual exchange among NACS faculty with diverse interests is now spawning the development of smaller interdisciplinary research teams that are highly competitive and successful in securing external support from NIH and NSF and other federal agencies.

A different mechanism can be found in the establishment of the Center for the Study of Advanced Language (CASL). In response to an opportunity for external funding, and based on strengths of exiting faculty on Campus, we developed a multidisciplinary research center. In this case, we competed for funding for a University Affiliated Research Center to meet a national
need that is also intended to establish a long-term commitment to research in language and linguistics. CASL brings together the disciplines of psychology, computer science, linguistics, and language acquisition to study a broad range of research areas including foreign languages and dialects, theoretical and descriptive linguistics, second language acquisition, information retrieval and use, machine translation, language and analysis, and deception.

Yet a third mechanism entails the Campus proactively identifying emergent areas of study and related faculty strengths and requesting funding to support the particular research area. The University of Maryland Institute for Advanced Computer Studies (UMIACS) is an example of this proactive mechanism. UMIACS’ mission is to foster interdisciplinary research and education in computing. Its research programs are led by distinguished faculty with joint appointments in units across the Campus including Computer Science, Engineering, Education, Philosophy, Business, Life Sciences, and Information Sciences. The Campus brought together the resources necessary to develop and support the Institute with the aim of encouraging a rapid maturation so that UMIACS became a self-sustaining interdisciplinary intellectual hub within a short time. In this model, faculty and graduate student multidisciplinary research occurs and is supported within the Institute, but the degrees are offered by the disciplinary departments.

These three models have all led to vibrant, successful, and competitive multidisciplinary research programs on this Campus. To be sure, there exist a variety of other multidisciplinary research efforts on Campus, both in the sciences and non sciences as, for example, the Committee for Philosophy, Politics, and Public Policy. The great opportunities to develop and enhance these multidisciplinary research teams, and to encourage departments or groups of departments to make adjustments to their existing programs in such a way as to facilitate and encourage interdisciplinary research lead to the major recommendation of this report.

The Vice President for Research will convene a monthly meeting of dean’s representatives to identify, enhance, and initiate multidisciplinary research efforts through the following actions.

- The VP for Research will report on new, large-scale federal and non-federal funding opportunities that require a broad, multidisciplinary response.
- The dean’s representatives will report on research efforts and opportunities in individual colleges that can benefit from multidisciplinary collaborations in order to be successful.
- The committee will identify faculty, staff, ORAA, and Graduate School personnel to function as a multidisciplinary proposal writing team to meet the identified funding opportunities.
- The committee will also assist the VP for Research in developing Memoranda of Understanding with federal laboratories, other federal agencies, cultural institutions (e.g. The National Gallery of Art, the Smithsonian Institution), and regional consortia (e.g. SURA), which will allow greater ease of access to the best and most appropriate facilities for graduate student research. These will lead to greater research support, both financial and intellectual, which in turn should lead to higher completion rate in a shorter time frame and better post-doctoral job placement.

1) **Recruitment of Excellent Students**
2) Whether a traditional, disciplinary program or an emergent, interdisciplinary program, it is
important that doctoral programs are able to attract the best and brightest students as measured over time by such things as GREs, undergraduate GPAs, and the perceived quality of undergraduate institutions attended, as well as by non-quantitative measure of a student’s potential to excel such as strong letters of recommendation, writing samples, and previous research success. One way to determine if UM is getting the best students is to compare the academic characteristics of the enrolled graduate students to those at our peer institutions. At the request of the task force, a query is in progress to the AAU Data Exchange (AAUDE) in order to place UM graduate student characteristics within a national context. While the data are not yet sufficient to make any definitive statements about the quality of UM graduate students compared to those of other AAU institutions, preliminary data on GRE scores and undergraduate GPAs suggest the following is true. UM graduate students have GRE scores and undergraduate GPAs that are slightly lower than one of its peers, UCLA, while they are generally higher than other AAU public four year institutions that responded to the survey. A higher response rate will be required in order to make confident statements about the characteristics of our new doctoral student quality and this effort is underway. However, we note that UM’s newly enrolled doctoral student combined average GREs have continued to climb over the last three years, increasing from 1919 in Fall 2001 to 1965 in Fall 2003. Undergraduate GPAs have remained stable at approximately 3.48.

The Graduate School will continue to expand its assistance to departments in recruiting and retaining a graduate student cohort that is diverse in race, gender, social class and nationality. All departments should actively market their graduate programs in a manner that best supports a “good fit” between the student and the program, or else retention will become an issue. To ensure the best fit, departments must provide prospective students clear information with respect to program requirements, faculty research foci, progress assessment, typical time-to-degree, financial support, completion and attrition rates, job placement, and the amount of time that students can expect with their advisor.

**Recommendation:**

The Division of Research and Graduate Studies will raise a $2M endowment fund to enable programs to invite prospective students to campus to meet faculty as well as enrolled graduate students.

**Stable and Sufficient Financial Aid**

Financial support is an important factor in recruiting and retaining students, time-to-degree, and the completion of a degree in graduate programs. Lovitts (2001) investigated the relationship of attrition rates to types of support. She found the lowest attrition rates among those with research assistantships (17%) and teaching assistantships (24%), followed by university-sponsored fellowships (31%), privately sponsored fellowships (39%) and those with no outside support (80%). Clearly teaching and research assistantships enhance completion because they involve departmental investment in the student’s success and enable high levels of routine student interaction with departmental faculty and with other graduate students. Just as clearly, research assistantships allow students to focus on research and generally do not detract from the student’s
dissertation. While fellowships allow students to focus on research, a concerted effort must be made to integrate fellowship students into all facets of department life rather than allowing fellows to participate selectively or not at all. Therefore, it is critical that financial aid not only be sufficient to support a student through degree completion, but that it also be the right type of aid and be competitive with the amount and types of aid offered by other institutions so that we may attract and retain the best students. Data on peer institutions’ support levels should be made readily available to college deans and graduate programs directors to allow them to assess their positions relative to other institutions.

In examining the campus subsidy that should be expected for resident and non-resident students, we reviewed a summary of the AAUDE Stipend Survey data for UM and four of its peer institutions (UNC did not submit data) for AY 2002-2003. The data indicated that the cost to the institution for resident and non-resident graduate teaching assistants at UM is at the lower end of that of its peer institutions and for non-resident graduate research assistants is considerably lower than three of the four peers. This is to be expected since all teaching and research assistants at UM, whether resident or non-resident, automatically have tuition remitted at the resident rate. UM is the only institution among its peers to consider non-resident graduate students as resident for tuition purposes. This policy results in an understatement of the net cost to the institution (stipend plus tuition). With respect to health insurance, however, UM’s subsidy is much higher than its peers because UM allows teaching and research assistants access to employee health insurance plans. A summary of this data is included in Appendix A.

Recommendations:

1. The Division of Research and Graduate Studies, in concert with the Office of Institutional Research and Planning, and will undertake a study of the recruitment, retention, and time-to-degree of graduate students with different types of funding packages. This study should consider the students’ disciplines, demographic characteristics, and prior preparation. The goal of the study should be to provide empirical evidence about how best to use different types and combinations of support, to recruit and retain the best students possible, to keep completion rates high and time-to-degree as short as possible, and to ensure that students are able to produce the best academic product possible.

2. In concert with the Senate and Graduate Council, the Division of Research and Graduate Studies will examine the financial implications, to both graduate students and the institution, of current policies regarding resident and non-resident tuition remission and health benefits for graduate teaching and research assistants.

3. The Division of Research and Graduate Studies will raise a $10M endowment fund to provide an increased number of dissertation fellowships targeted to those disciplines in which extramural research funds are not readily available.

4. The Division of Research and Graduate Studies will raise a $5M endowment fund to support graduate student travel to laboratories, archives, libraries, museums, and collections to complete their research and funds to support attendance at professional
Competitive Completion Rates and Reasonable Time-to-Degree

Doctoral student attrition is an issue in varying degrees throughout the United States. Although many involved in graduate education acknowledge that doctoral programs cannot be expected to have the completion rates found in the shorter and more clearly defined professional programs of medicine, business or law, an attrition rate nationwide between 40% and 50% is quite problematic. Time and monetary investments toward the doctoral degree are significant both for the institution, the faculty, and the student. If, as research shows, there is very little difference in GRE score and undergraduate GPA of those who complete their degrees and those who drop out, high attrition is a waste of talent and resources. The nature of academic work is such that it is not uncommon for students to “try out” graduate studies and then find that it is not right for them, particularly if they are self-supporting. However, if a student is committed to completing a degree, and the program has provided financial, intellectual, and moral support, completion rates are an important indicator of graduate program success.

According to a recent article in the Chronicle for Higher Education, trends in attrition show that women drop out at a higher rate than men, minorities at a higher rate than white students and American students at a higher rate than international students. In a UMCP Graduate Student Survey conducted in 2000, graduate students were asked to indicate which factors they thought contributed to their failure to complete the degree. These factors included full-time job responsibilities or financial difficulties, family obligations, difficulties with thesis/dissertation topics, program structure or requirements, and difficulties with course scheduling. In other studies, factors leading to successful completion of the degree included an early match between advisor and student, stable and sufficient financial support, early involvement in research, and consistent advising and mentoring. One example of an attempt to influence these issues may be seen in Washington University-Saint Louis’s decision ten years ago to establish a policy that cut the size of graduate programs to match the number of assistantships available to the number of students, thereby ensuring every student is supported on an assistantship or fellowship for six years. While this policy change may have affected a number of other factors which in turn influence completion rate, the data show that the completion rate in the humanities went from 34% to 68% over the last ten years and the overall completion rate at the University is now 70%.

Exceedingly long times to degree completion are costly both to students and to the University. In addition, it reduces the productive work-life of holders of advanced degrees to their disciplines, and discourages some undergraduates from considering graduate school. Shorter time to degree is not necessarily synonymous with high quality graduate education but timely progress is indicative of intellectual vigor, competence, and commitment. Each program should develop its own normative time-to-degree and model of timely progress. The model should include identifying the stages and requirements of the degree program, reasonable times for achieving each stage or milestone, and a means to identify students at risk and plans for appropriate intervention with those students. Each student’s progress should be reviewed annually with respect to this model.

Recommendation:
1. Doctoral programs should bring the number of full-time students they admit more into line with the number of students they can adequately support. Students should be supported throughout the period that is realistically considered normative time-to-degree for each program and state-funded support should cease once normative time-to-degree is reached.

**Strong and Consistent Advising and Mentoring**

Regular advising is a key factor in bolstering retention of graduate students, maintaining excellent academic performance, creating top-notch, competitive graduates, and placing students in good jobs. It is hard to overstate the importance of regular, scheduled meetings between student and advisor in which clear expectations and timetables for completion of courses, exams and other milestones in a graduate program are established. It is useful to distinguish between advising and mentoring. Individual mentoring is at the heart of imparting graduate knowledge. By mentoring we mean a closer, more complex relationship between a faculty member and a student. A mentor fills multiple roles—functioning not just as a teacher and advisor, but also as a role model, collaborator, colleague, and friend. It is through experiencing this type of multifaceted relationship that the student assimilates the culture and values of the discipline and learns how to be a professional. If students are afforded regular contact with faculty in the proper environment, then general discussions about issues and challenges in the discipline, professional expectations and responsibilities, and likely career paths can occur naturally. When this happens, it is more likely that students will be retained, that progress through degree requirements will be satisfactory, that degrees will be obtained on time, and that students will obtain good job placements.

Faculty mentors should do more than simply advise. Mentors should select coursework that matches student needs and interests and yet does not extend time to degree; encourage early participation in seminars, laboratory work, reading groups and other activities that engage students in research and assist them in developing their dissertation topic; provide regular and substantive feedback on their dissertation progress; define the scope of the dissertation topic so that it can be completed in a reasonable timeframe; and engage students in the current academic and professional issues in the discipline on a regular basis.

**Recommendations:**

1. Departments should develop and distribute written information that clearly establishes the program’s expectations, its standards for advising, program milestones, and guidelines for chairing dissertation committees.

2. Where appropriate to students’ occupational desires, departments should be responsible for training students in the art of teaching as well as providing opportunities to acquire research skills and methods. This training should grant students access to the foundations of pedagogy and supply information on classroom skills, grading principles, effective assignments, and sensitivity to race, gender and ethnicity differences in the classroom.
3. Departments should sponsor at least one formal mentoring event per year attended by both graduate students and faculty. This would provide an opportunity to introduce faculty research areas to students and for students to share potential research topics with each other.

**Sufficient and Supportive Placement Services**

Providing students with good sources for job searches, assisting them in crafting CVs, and teaching interview techniques (especially for academic positions) will increase the likelihood of appropriate job placement, which is the ultimate goal of a strong graduate program.

**Recommendation:**

1. Departments should keep accurate initial placement data on degree recipients and track them for five years.

**Responsibilities of Teaching and Research Assistants**

In the 2000 UMCP Graduate Survey, two out of five students with half-time and full-time assistantships reported being expected to work “more” or “much more” than their official workloads of 10 or 20 hours per week. These respondents were disproportionately teaching rather than research assistants. With a higher ratio of teaching assistants to research assistants than our peers, it is especially important to ensure that graduate students are not overextended with duties associated with their teaching assistantships thus prolonging time to degree and reducing degree completion rates.

In January 2004, a survey on teaching and research assistant responsibilities was sent to graduate directors at UM. Twenty-three graduate programs responded and they showed a wide range of TA responsibilities that varied considerably across disciplines. For example, a humanities program reported that 15 to 20 TAs a year act as “instructors of record,” teaching at least three courses per year. Similarly, in the behavioral and social sciences, one program reported that 10 to 12 TAs are assigned to be instructors of record and teach at least 2 courses per year, each with 25 to 35 students per course. One science program responded that approximately 12 teaching assistants run approximately 54 sections which have on average 20 students per section. [In other words, the average TA teaches 4.5 sections totaling about a 100 students] Although the data, at this point, are limited, it is clear that teaching assistants undertake a heavy teaching load that requires many more hours than the 20 for which they are obligated. It is hard to imagine that this level of teaching duties does not slow a graduate student’s progress towards a degree.

In some disciplines, only a few TAs were assigned as instructor of record to 2 courses per year, and in others, all TAs were assigned sections to lead, some with responsibility for only one section per year with 25 students on average per section. Most TAs who lead discussion sections or labs also assist the instructor with grading.

The responsibilities for research assistants were less variable across programs according to
survey responses. RAs usually work under the direction of the principal investigator and assist the faculty member either in conducting assigned tasks related to the research or parts of the research itself, as outlined in the research grant. Often, the student uses some portion of the research for his or her doctoral dissertation.

To understand the relationship between graduate assistant workload, financial support, time-to-degree or degree completion, it is important to obtain more detailed information. The other side of this complicated issue is the program’s need for instructors. It would be difficult to maintain the undergraduate courses if graduate student teaching loads were cut. Finding the right balance is a challenge.

**Recommendations:**

The Graduate Council will review policies for graduate student teaching that take into account the teaching obligations specific to field of study, the necessity of teaching experience for future job placement, and the relationship between time spent as a teaching assistant and timely degree completion.

The Research Council will develop incentives for faculty to include more research assistantship support in grant applications.

Departments should provide teaching assistant training programs for all new teaching assistants.

**Student Services and Quality of Life**

The quality of life of graduate students is also important for both recruitment and retention. The campus needs to provide adequate affordable graduate housing, office or laboratory space, parking, childcare if needed, and a range of activities for interaction with other students in their own programs and in other programs throughout campus.

**Recommendations:**

1. The Committee on Graduate Housing should make recommendations to enhance access to affordable graduate housing and explore the possibility of future renovation of an existing dormitory for graduate students.

2. Expand child care services to provide more spaces and infant care.

3. Encourage support of departmental graduate student associations. These associations provide a way for graduate students to convey their needs to departmental administrators. They may also create a venue for social and intellectual activities among the graduate students, increasing cohesiveness among the students.

4. Graduate student office space should receive consideration when designing new buildings or renovating older buildings.
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