Charge

Graduate students and postdoctoral associates are essential to the College’s research mission. Although graduate programs in Science are generally quite strong, a number of issues merit attention. Some programs have difficulty attracting sufficient numbers of well-qualified students. Increasing numbers of graduate students are gravitating toward interdisciplinary research programs, or entering graduate programs in disciplines different from what they studied as undergraduates. Also, granting agencies, potential future employers (especially non-academic employers), and the students themselves are asking that universities more forcefully address issues related to mentoring and professional preparation of graduate students and postdoctoral associates. Finally, in some disciplines, the MS is an increasingly attractive degree option.

The working group members recommend the following College-level initiatives and actions to enhance the graduate student and postdoc experience.

Support and organize graduate and postdoctoral education activities benefitting from college oversight.

- Coordinate professional development activities for postdocs and graduate students, including resume preparation, career opportunities, academic and industrial mock job interviews, and proposal preparation. Leverage college alumni coming to campus to advise postdocs and grad students about career opportunities in industry and academia.
- Ensure that departments implement best practices for postdoctoral mentoring to prepare them for a highly competitive workplace. Work with the Office of Postdoctoral Affairs to create a university-wide template for a postdoctoral Individual Career Development Plan and ensure that these plans conform to granting agencies’ requirements.
● Ensure that departments carry out an annual progress review of all graduate students. This should include a self-assessment plan for students, ensure that students are meeting milestones, and provide annual written feedback to the student and the advisor.

● Encourage departments to consider establishing an advisor/mentor evaluation tool allowing students and postdocs to give anonymous feedback about their research advisor and mentoring experiences.

● Facilitate and support short courses, workshops, and training certificates to address emerging and potentially interdisciplinary research areas for both graduate and postdoctoral students. Possible topics include programming and statistics training to analyze large data sets, or introduction to high-throughput chemical drug screening strategies to non-chemists. Partner with Discovery Park, ITaP, Libraries, and other units on campus to increase effectiveness and participation.

● Improving and supporting interdisciplinary graduate education programs, such as PULSE.
  ● Strengthen the support and increase the recognition of interdisciplinary programs that build on the excellence represented by the College and the University. This includes support for students, coordinating course approvals, funding for new activities, and communicating the need to recognize interdisciplinary teaching efforts within departmental units.

  ● Establish guidelines for departments to ensure and increase the success of interdisciplinary graduate programs. Guidelines should encompass streamlining course development and course approval; oversight and evaluation of students in these programs; effective communication with departments through a designated point of contact.

  ● Ensure that CoS faculty are recognized for their participation in teaching interdisciplinary courses and that their teaching efforts receive appropriate teaching credit in their home department. Provide resources to encourage the creation of team-taught interdisciplinary courses that involve faculty from multiple departments or colleges.

  ● Explore an expanded recognition of knowledge of students in interdisciplinary programs through a broader name of the program. In particular, recognize the multiple areas in a way consistent with university and program guidelines; e.g., Ph.D. in Chemistry and Biology or Ph.D. in Chemistry and Chemical Engineering.

  ● Promote the newly developed Independent Interdisciplinary Graduate Program (I-IGP) for interdisciplinary areas as appropriate.

College level involvement in recruiting and retaining graduate students and post-doctoral associates, especially women and underrepresented groups.
• Actively support departments in the implementation of successful recruiting and retention strategies targeted at underrepresented minorities (URMs). This includes supporting, through staff time or financial support, departmental efforts on recruiting underrepresented groups through the activities of professional organizations.
• Combine efforts with other Colleges and the Graduate School to support recruitment of URM students into interdisciplinary programs. For example, offer travel support to individuals engaged in recruiting activities focused on URMs.
• Assist and coordinate the development of best practices for departments and interdisciplinary programs.
• Support and coordinate the implementation of diversity and inclusion training for the departments and interdisciplinary programs.
• Ensure graduate students and post-docs are made aware of the existing mechanisms to deal with complaints.
• Encourage departments to create a postdoc mentoring committee to address common problems and questions and build a community of post-docs.
• Improve communication between the CoS Diversity office and faculty involved in diversity efforts. The goal is an effective and timely exchange of departmental material and diversity material between units.
• Explore the creation of a prestigious CoS Postdoc Fellowship with the goal of attracting members of underrepresented groups. Actively assist research groups in identifying URMs and encourage them to apply.
• Explore the possibility of creating bridge funding for URM post-docs to increase the ability to attract and retain the best scientists from underrepresented groups.
• Recognize successful recruiting and retention efforts in the College of Science through a special award. The College Diversity officer should have the responsibility for nominating faculty, instructors, post-docs, and grad students for exceptional efforts.

Assess the role of Master’s degree programs, including professional Master’s degree programs, in enhancing the reputations and mission of the College’s departments.

• Assess fields and specialization within the College for which an MS degree or a Certificate has potential to be a valuable part of effective professional development.
• Provide departments with an experienced professional unit to develop reliable information and comparisons on demand, tuition pricing, and main competitors.
• Provide assistance and guidance to departments and interdisciplinary programs in the implementation and approval of professional degrees.

The role of online instruction in graduate education.
- Support the university in developing a centralized, cutting-edge, effective infrastructure for online delivery of courses. This should address need of the College including certain lab environments and scalable ways of interaction. Ensure training for faculty guided by best practices for effective online course delivery, guidance on format of course material, and interaction with online students.

- Advise departments in evaluating and assessing the role of online offerings of graduate courses. Have a contact person in the College who can assist with assessing the potential demand, implementation details, and effective execution.