

### Assessing Student Preparation for the Professoriate

Each STEM graduate program should collect and maintain quantitative and qualitative data for students focusing on activities related to preparation for the professoriate, leading to demonstrated competence in:

- Writing papers for peer-reviewed journals and preparing patent applications, including understanding how journal articles and patent applications are reviewed.
- Grant writing and management.
- Teaching and learning, including: understanding research on teaching and learning; how to develop curriculum and student assessments; use of student-centered teaching strategies; use of technology for classroom management and teaching; and issues of adult learning and cognition.
- STEM student career counseling and advising, including advising and mentoring across cultural and sex lines and mentoring students with disabilities.
- Managing a research laboratory and teams, including understanding research ethics.
- University citizenship, including: understanding types of universities; requirements for promotion and tenure; navigating departmental politics; and time management skills for balancing time for teaching, research, service—and life.

To the extent possible, preparation for future academic careers should be documented in faculty and/or student journals. As related to competencies for preparation for the professoriate, some attention should be given to determining criteria that demonstrate that students are proficient.

### Assessing Institutions

Evidence that an institution or a department is providing systematic and programmatic efforts to enhance preparation for the professoriate through, for example, programs, written guidelines, curriculum or resources is essential. Such evidence includes:

- Establishment of a teaching requirement for all doctoral students.
- Participation and preparation of graduate students in assisting with undergraduate teaching and lab preparation and undergraduate research programs.
- Mentoring about the value and selection of postdoctoral opportunities and academic careers.
- Preparation for the academic job search; including finding and applying for employment opportunities, interviewing for academic positions, and negotiating the first faculty contract and start-up package.
- Establishment of competencies and assessments related to preparation for the professoriate.
- Networking by faculty for placement of graduate students in postdoctoral or academic positions.

Examples of evaluation questions to use to examine preparation for the professoriate include the extent to which:

- Students are given teaching assignments, including different types of assignments and the preparation for such assignments.
- Students are mentored on the need for postdoctoral experiences through seminars and workshops, especially if they are seeking career paths in research universities.
- Faculty mentors introduce graduate students to networking opportunities related to academic careers, including seminars, workshops, and professional meetings.
- Students are prepared for job searches in the academic sector.

Also, evaluation studies to assess institutional or departmental efforts in regard to preparation for the professoriate should include collection of follow-up data from doctoral recipients, including data on employment sectors. If any of these individuals are employed in academe, data also should be collected on faculty rank.

Any studies about preparation for the professoriate should include comparison groups with URM graduate students or doctoral recipients, and non-URM graduate students or doctoral recipients. Finally, for an institutional study, data can be disaggregated by departments.