

Mathematics Department Standards for Advancement

Ladder Rank Faculty

For normal merit advancement at the assistant professor, associate professor, full professor, and above scale professor levels, the department expects continuous and effective engagement in research and high-quality teaching. The department expects a light record of departmental and professional service at the assistant professor level, and an increasingly strong record of such service at the associate, full, and above scale professor levels.

For a 50% increase at the above scale professor level, the department expects continued excellence in all areas of review. For a 100% increase, the department expects exemplary performance in all areas of review. The department's expectations for promotion from Full Professor Step IX to Above Scale Professor are similar to the expectations for a 100% increase at the above scale professor level.

Research: Productivity in mathematics is best measured in terms of the length and impact of each published article rather than the overall number of publications. In addition, a typical level of research productivity depends on the particular area, and even sub-area, of specialization. In some cases, software development and research-level expository publications are also evidence of research productivity. Notwithstanding these comments, in most research areas, the department expects something on the order of one or two peer-reviewed articles published in reputable journals or conference proceedings over a two-year review period at the assistant and associate professor levels, two or three such articles over a three-year review period at the associate professor level, and three or four such articles over a four-year review period at the above scale level.

Refereed journals remain the central focus for publishing results in most areas of mathematics. However, in some applied mathematics research areas that are adjacent to fields such as computer science, the most competitive and highly regarded publication venues are sometimes refereed conference proceedings.

Mathematics publications are typically authored by single researchers or by small teams of collaborators (typically 2-4), with names appearing on the publication in alphabetical order, representing approximately equal contributions of all co-authors. However, in some areas of applied mathematics it is common for publications to involve larger teams of researchers from other fields (science, engineering, etc), and for these articles it is common to use an author-ordership convention from those fields. A typical convention might be graduate students or postdoctoral researchers listed as first author(s), followed by senior researchers in some order, with last author reserved for the senior scientist (a mathematician or an external collaborator) who would typically be the PI of the award funding the project. In cases where the author-ordership is not alphabetical, our department letter will explain the convention used for that specific article.

Teaching: The department expects a significant level of dedication and commitment to teaching from its faculty regardless of rank and step. Teaching effectiveness is measured partly using responses on Student Evaluation of Teaching (SET) forms. The interpretation of these responses is based on various factors, including class level, class size, and evidence of teaching effectiveness in previous reviews. In large graduate classes with a mixture of Masters and Ph.D. students, the variation in preparation of the students would also need to be considered. While student ratings on the SET forms are an important consideration, the department takes a holistic approach to the evaluation of teaching. The department also considers the teaching portfolio and expects to see evidence that faculty are thinking carefully about their pedagogical choices, and that students are engaged and working hard.

In addition, the department expects its associate professors to be actively involved in some level of student advising. Full professors and above scale professors are expected to be actively involved in advising doctoral students.

Service: The department tries to avoid burdening its assistant professors with a heavy service load. Expected department service for assistant professors would involve membership in one of the less time-consuming department committees. For associate professors, expected department service would involve membership in one or two of the less time-consuming department committees, while full professors and above scale professors would be expected to serve on one or two of the moderately time-consuming department committees. Expected service for above scale professors and full professors at higher ranks also includes some participation in service outside the department, at the school, college, or campus level.

At the professional level, for faculty at all levels, the department likes to see evidence of participation in the community such as the organizing of conferences, the refereeing of papers, or active outreach in the training of younger mathematicians. Above scale professors would be expected to show a greater level of leadership in some of these areas.