

Department of Chemistry

The College of New Jersey

Disciplinary Standards for Reappointment, Tenure, and Promotion

The attached disciplinary standards have been reviewed and approved by the Committee on Faculty Affairs, the Council of Deans, and the Provost.

To avoid creating a moving target for candidates for reappointment, the disciplinary standards in effect during a faculty member's first year of employment will be used for reappointment and tenure applications. Candidates for promotion will use the disciplinary standards in effect in the year in which they apply for promotion



Department Chair

10/23/14
Date



Dean

10-23-2014
Date



Provost

10-23-2014
Date

The Department of Chemistry will next review its disciplinary standards in Academic Year 2017-2018.

Chemistry Department Discipline-based Standards for Faculty Scholarship September 2014

This document establishes the standards for scholarship within the TCNJ Department of Chemistry, in the context of the mission of The College and as supplement to the *TCNJ Promotion and Reappointment Document*. TCNJ is committed to the teacher-scholar model, to free inquiry and open exchange, and to excellence in teaching and advising, scholarship/creative/professional activity, and service. In the teacher-scholar model, students are integrated into this process, in order to best prepare students to excel in their chosen fields. The teacher-scholar model is further defined in the School of Science Mission Statement, as follows:

Students will interact with outstanding teacher-scholars as instructors, advisors, and mentors” because “faculty actively integrate undergraduate research experiences into their scholarship, helping prepare students to meet their future career or graduate school goals.

TCNJ Chemistry faculty engage in scholarship/creative/professional activity by conducting research, authoring scientific publications, writing grant proposals, and presenting their findings at professional meetings and through invited talks. We do so in the context of the mission of the College, serving as mentors and advisors to students. Faculty are expected to be excellent mentors and to develop high visibility research programs that involve undergraduate students.

We acknowledge that the challenge to faculty of becoming outstanding in their scientific endeavors is something that cannot be accomplished alone, but is a shared responsibility with the Department, the School of Science, and the College. Several disciplinary-specific roles and responsibilities of the institution, in addition to those described in the *TCNJ Promotion and Reappointment Document*, are listed below.

Scientists who join the TCNJ Chemistry Department Faculty are expected to develop viable, high visibility research programs that involve undergraduate students. The minimum eligibility for faculty, including those not yet tenured, is described in the *TCNJ Promotion and Reappointment Document*. However, it should be added that faculty members who join the TCNJ Chemistry Department Faculty typically come from a background where scholarship is done collaboratively in departments that are equipped with extensive instrumentation facilities and are supported by full time support professionals.

1. Evidence of Scholarly/Creative/Professional Activity

Departmental faculty members engage in the first four modes of scholarship described in the *TCNJ Promotion and Reappointment Document* (the scholarship of discovery, integration, application, and pedagogy; p. 5), recognizing that scientific research, including pedagogical research, is the primary means to perform these modes.

1.1 Establishing a viable and sustainable research program/area

Chemical research can take several avenues and may involve the scholarship of discovery, integration and application, as described in the *TCNJ Promotion and Reappointment Document*.

Success in research at TCNJ is a shared responsibility, since the Department and the College should not hire a scientist whom it cannot provide with sufficient tools to perform research in his area of expertise.

Furthermore, it is understood that one may need to explore several avenues to find a research area/project that will be productive and appropriate given the environment at TCNJ, which differs significantly from the training ground of PhD chemists and the high-risk/high-impact often associated with the scholarship of chemical discovery. For this reason, dedicated efforts in a single field and the pursuit of a breadth of interests in Science are both valued. It is understood that faculty members may diversify or change their areas of study over the course of their career. Such changes may be coupled with a sabbatical leave, professional development activities, or the opportunity stemming from a new collaboration.

The Chemistry Department recognizes that student-centered research is the cornerstone of a scientific research program at TCNJ. Faculty should plan to develop and sustain projects suitable for undergraduate research participants and should serve as scientific mentors and developmental advisors to students under their project umbrella. The Chemistry Department also recognizes that faculty-centered research may be necessary to drive the advancement of these projects and to provide a stimulating environment for the scientist. Furthermore, there are certain projects that may not lend themselves to student involvement. Projects that are developmental, “high risk,” or highly sophisticated may be more suitable for faculty enrichment. The Chemistry Department realizes that faculty may engage in off campus collaborations as well. When possible, student participation in such efforts may be beneficial. In all cases, when students are engaged in research, the candidate must clearly identify the role played by and value of student engagement in their scholarly/professional/creative work.

In situations where candidates are engaged in interdisciplinary research, it may be appropriate to use elements of *Disciplinary Standards* from more than one department. This decision should be discussed early on between candidate and the PRC and in consultation with the Dean of the School of Science. Final decision to allow elements of another department’s *Disciplinary Standards* will be determined by the PRC and faculty candidate.

1.2. Grant proposal writing

Proposal development, writing, and submission are integral parts of research and involve both the scholarship of integration and the scholarship of application. For grants that involve the development of new infrastructure, training, or programming, faculty also

engage in the scholarship of pedagogy. Unlike other activities, grant writing allows the faculty member 1) to thoroughly plan and develop a project before embarking on it, 2) to obtain feedback on the feasibility and importance of the work (through reviews) and 3) to obtain funding for their research activities. The Department recognizes and strongly encourages the preparation and submission of proposals to support scholarly activities.

Faculty members are encouraged to write grant proposals to support their research interests. Funded competitive grants represent a high standard of productivity by virtue of intense peer-review; however, submission of grants is a very important process as well. The scientist engaged in grant writing must also provide clear substantiation of the viability of a project that usually includes preliminary results.

2. Measurement of Scholarship

2.1. Dissemination of research project results

As stated in the TCNJ Promotion and Reappointment Document:

Although scholarly/creative/professional activities take many forms, the expectation is that finished work be submitted by a jury of peers for rigorous evaluation. The quality of work is defined by its significance in one's field(s) of inquiry..."

The Chemistry Department concurs with this method of measurement and in the context of its discipline, necessitates that research project results be disseminated and evaluated by the general scientific community. This can be done in the following ways:

2.1.a. Publication of research in peer-reviewed journals

The Chemistry Department acknowledges that publication of primary research results represents bringing a project to a recognized level of completion. As such, candidates for tenure and promotion must have papers accepted in peer-reviewed journals from a professional society (including, but not limited to, the American Chemical Society, the International Union of Pure and Applied Chemistry (IUPAC), American Crystallographic Association (ACA), the Royal Society of Chemistry) or other highly regarded organizations in the scientific community within the candidates area of expertise in chemistry. Appropriate areas of publication include the development of new knowledge and the application of knowledge in new ways in the Chemical sciences and/or related fields.

Research publications include papers, letters, reviews and communications. All are acceptable to the Chemistry Department as venues for publication and serve as appropriate measures of scholarly achievement.

The Chemistry Department recognizes and is sensitive to the nature of collaborative work and that candidates for tenure and promotion are supposed to play a major role in the published work. In the sciences, co-authorship is very common and regarded as usually essential for the implementation of high impact work. The primary investigator on a

scientific publication often places his or her name last in the list of authors. Thus, the number of authors and the order in which authors appears on a publication is not a basis for measurement in the discipline. Candidates for reappointment and promotion should clarify their contributions to the papers in their publication list by annotation.

The Chemistry Department recognizes pedagogy as scholarship, particularly if it introduces new knowledge or technology into the classroom. New faculty are encouraged to publish in their field of research and to establish themselves in the scientific community before they pursue publications in the field of pedagogy.

2.1.b. Presentation of Scholarly Work

Dissemination of the faculty's research through either faculty presentations or co-authored student presentations at local, national, and international meetings serves many purposes, from establishing a scientific reputation to formulating upcoming publications. Invitation to present and peer review submitted presentation papers are considered forms of measurements of the quality of faculty research. As these are valued activities, faculty should be financially assisted in travel to allow them to establish themselves as experts in their field and to continue as such.

While the above two forms of research dissemination are considered important, other forms may include:

2.1.c. Monographs, Books and Book Chapters

Recognition of the expertise of a scientist is often manifested in the publication of a monograph, a book, or a book chapter. As with journal publications, these forms of authorship undergoes rigorous peer review. As a researcher is often invited to contribute a monograph or a book chapter based on their attainment of a level of expertise and recognition in their specialty this form of publication is also a measurement of the candidate's overall recognition within the field. Textbook authorship should likewise be recognized as a form of scholarship (providing a measurement of the candidate's scholarship of pedagogy).

2.1.d. Publication and Issuing of Patents

Another venue for dissemination of research, particularly in the chemical and biological science fields, is through the granting of a patent. Patent rights are commonly viewed as a necessary incentive for scientific and technical research and development in the private sector and, over the past two decades have become a vehicle for faculty publication in U.S. and European universities.

In addition to the possible generation of revenues through royalty and licensing agreements with the private sector, patenting can also prove beneficial to the faculty member, the Department, and the institution by fostering external collaborations and funding agreements with the private sector which often result in the purchase of major

equipment and instrumentation which is shared with the local academic community. In addition, after submission of a patent application (either provisional or full), results are often published in the open scientific literature, thereby protecting the rights of the inventor(s) and the sponsoring institution.

2.2. Grant Reviews and Funding

As the quality of faculty work can be defined by peer review, favorable grant reviews/scores and approved external funding will be used as measures of the significance and quality of faculty scholarship. The Department distinguishes between “major” and “minor” competitive grants. The former can be supported by government or larger private agencies and typically provides multi-year funding for equipment, supplies, and/or salary; this type is most significant in the grants category. A non-inclusive list of agencies that review and fund major competitive grants follows: the National Institutes of Health (NIH), National Science Foundation (NSF), the Department of Defense (DOD), the American Chemical Society (ACS), the Merck/American Association for the Advancement of Science (Merck/AAAS), and the Research Corporation for Science Advancement. Minor grants are typically internal or granted by private agencies, and are usually non-competitive of much shorter duration, and provide limited funding for supplies or travel. Examples of minor internal grants would include MUSE, SOSA, and mini-grant funding. While the Department holds more weight to major grant submissions, the Chemistry Department also recognizes the importance of the submission of minor grants, contributions as co-investigator, and the receipt and administration of small non-competitive grants, which are often provided by industrial donors. Since level of involvement varies from grant to grant, faculty should define their intellectual contributions the proposal and project.

2.3. Recognition in the Field

In addition to traditional peer review, the quality of faculty scholarship can be measured by his/her contributions to their field, through recognition by scientific societies, institutions, and scientific peers. This measurement is typically associated with a larger body of scholarship and is particularly useful in providing “evidence for the pattern of continuing scholarship in support of promotion” (p. 5, the *TCNJ Promotion and Reappointment Document*). There are many forms of scholarly recognition. Some examples include:

2.3.a. Scholarly Awards and Prizes

Organizational, societal, and industrial recognition of research in the form of invited lectures and/or prizes are an important form of recognition for any practicing scientist and should be appropriately weighted and recognized by both the Department and the college during discussions for tenure and promotion.

2.3.b. Citations of Published Work

The impact of published work may be accessed by a review of its citation history and the publication's impact factor. This information is typically obtained through the ISI Web of Knowledge, although it should be emphasized that many high-quality and highly cited publications do not show up with a simple search. It should also be understood that citations in the sciences are often accrued over many years after publication of the cited article.

2.3.c. Review of Scholarly Work

Another form of recognition as an expert in a field is the invitation to act as a peer reviewer for a granting agency/foundation, scholarly journal, monograph, or textbook. Again, as previously indicated, this is a form of recognition for the individual, the Department, and the college, and as such should be appropriately weighted and recognized during discussions for tenure and promotion.

2.3.d. Consulting

In scientific fields, one of the highest accolades that can be bestowed upon a researcher is the recognition that he/she is a top expert in their field. One such form of recognition is the call to serve as a consultant. Academicians are often sought as consultants in the private sector and bring recognition not only to the individual scientist, but also to the Department and the college/university in which the scientist works. As such and should the opportunity arise, consulting should be encouraged and recognized by both the Department and the college.

2.3.e. Invitations to Disseminate Scholarly Work

In scientific fields, one's scholarly work can be recognized by receiving invitations to disseminate the scientist's research and/or expertise. Examples include: invitation to write or edit books, book chapters, or monographs, invitation by a professional organization to present or organize conferences and workshops, invitation to present or organize seminars/colloquium series.

3. Expectations for Reappointment, Tenure and Promotion

3.1. Reappointment

The Department has a short time in which to evaluate the trajectory of a faculty member's career, as indicated in the TCNJ Tenure and Reappointment Document, which states,

“Throughout the probationary period candidates should show steady progress toward a productive program of scholarship and creativity. By the time of the tenure decision there should be a record of finished work conducted while at TCNJ and clear promise of continued scholarship”

The PRC is therefore responsible for mentoring candidates and providing guidance over the course of the probationary period. It is also the responsibility of the candidate to address any issues identified by the PRC within the probationary period. Finally, it should also be recognized that modifications of the guidelines set forth below can be applied to a faculty member hired as an experienced scholar.

3.2 Minimum Requirements for Tenure

3.2.a. Tenure Requirement of Junior Faculty for Tenure at the Rank of Assistant Professor

Successful candidates for tenure will have demonstrated continued, well-mentored research with undergraduates and will have made regular presentations at local, regional and national meetings. In addition, evidence of scholarly output based on work done at TCNJ (not necessarily from start to finish for experienced scholars) would include a combination of one refereed scientific paper and *at least* one of the following:

- a major grant funded or favorably reviewed as substantiated by the candidate,
- a paper in a refereed journal (published or accepted/in press)
- a presentation of research at a regional, national, or international venue which subsequently appears in a published proceeding (peer reviewed),
- a scientific patent with accepted claims, or
- a textbook, book chapter, or monograph (published or accepted/in press).

3.2.b. Tenure Requirement of Senior Faculty for Tenure at Higher Ranks

In those cases where the candidate has already attained a high enough level of productivity and accomplishment so that he or she is initially appointed at the rank of Associate Professor or Professor, he or she will need to provide evidence of the establishment of a viable research program and continued productivity at the College, as indicated by *at least two* of the following:

- a major grant funded, renewed, or favorably reviewed as substantiated by the candidate,
- a paper in a refereed journal (published or accepted/in press)
- a presentation of research at a regional, national, or international venue which subsequently appears in a published proceedings paper (peer reviewed),
- a scientific patent with accepted claims, or
- a textbook, book chapter, or monograph (published or accepted/in press).

3.3. Promotion to Associate Professor

Promotion to associate professor requires continued and sustained scholarly activities at and therefore beyond the requirements for tenure. This expectation includes publication of one additional refereed paper and *at least* one of the following:

- a major grant funded, renewed, or favorably reviewed as substantiated by the candidate,
- a paper in a refereed journal (published or accepted/in press)
- a presentation of research at a regional, national, or international venue which subsequently appears in a published proceeding (peer reviewed),
- a scientific patent with accepted claims, or
- a textbook, book chapter, or monograph (published or accepted/in press).

In those cases where the candidate has already reached a level of productivity and accomplishment commensurate with promotion to Associate Professor previous to her or his appointment to the College but is initially appointed at the rank of Assistant Professor, she or he will need to provide evidence of the establishment of a viable research program and continued productivity at the College in order to be considered for promotion.

3.4. Promotion to Professor

The candidate for this promotion will have achieved stature and maturity in the scientific community beyond that required for promotion to Associate Professor as evidenced by:

- sustained research/scholarship (creative work) and recognition as an expert in the field of study, as indicated by accomplishments and activities as described in sections 1 and 2, above;
- a leadership role in the Department including the mentoring of junior faculty in their scholarship;
- putting forth significant effort in the direction of obtaining major funds in the form of a competitive grant. The Chemistry Department values such activity in the areas of research, pedagogy and instrumentation acquisition.

In those cases where the candidate has already reached a level of productivity and accomplishment commensurate with promotion to Professor previous to her or his appointment to the College but is initially appointed at the rank of Associate Professor, she or he will need to provide evidence of the establishment of a viable research program and continued productivity at the College in order to be considered for promotion.

These standards may be somewhat relaxed under circumstances when, as stated in the Promotions document: “there may be periods when the level of scholarly activity is somewhat reduced (but not eliminated) due to a significant increase in teaching or service, such as serving as Department Chair.”