

Department of Biology

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

28 June 2021

Date

Dean

5/20/21

Date

Provost

June 28, 2021

Date

The Department of Biology will next review its disciplinary standards in Academic Year 2025/2026.

# **Disciplinary Standards for Faculty Scholarship in the Biological Sciences**

## **Department of Biology**

### April 2021

#### **A. Introduction**

This document has been drafted in response to the recommendation from the Committee on Faculty Affairs for departments to establish standards for scholarship within their disciplines, as outlined in the *TCNJ Reappointment and Promotions Document*. As teacher-scholars in the biological sciences, we embrace the opportunity to outline the standards in our fields that are appropriate for assessing the productivity of the faculty. We place our scholarly standards within the context of the Mission Statements of the College (<https://tcnj.edu/about/mission/>) and the School of Science (<https://science.tcnj.edu/school-information/mission-2/>), both of which affirm the teacher-scholar model for the faculty. Similarly, the mission of TCNJ's Department of Biology is to promote a culture of intellectual engagement centered on the life sciences, shared by a community of undergraduate students, faculty, staff, and alumni. The faculty members are teacher-scholars who are dedicated to excellence in teaching and are deeply engaged in the production of new knowledge. Utilizing modern pedagogy in the classroom and collaboration between students and faculty in research, our goal is to instill in all students a sense of scientific inquiry that employs a systematic and empirical approach to answering questions about the natural world, from molecules to organisms to ecosystems. We strive to challenge students and to foster critical thinking. By developing intellectual ability, technical knowledge, communication skills, and ethical standards for practicing modern science, we prepare students to excel in a diverse array of careers and to become informed and engaged citizens. Thus, faculty scholarship in the Department of Biology is closely aligned with our educational mission.

#### **B. Standards for Scholarly Productivity in the Biological Sciences at TCNJ**

The faculty members of the Department of Biology embrace the model of a teacher-scholar who is a scientist engaged in creating new knowledge, defining new directions for biological inquiry, and communicating this knowledge to the broader scientific community. Therefore, TCNJ biologists conduct research, author scientific papers and textbooks, write grant proposals, and present their findings at professional meetings. We engage in this scholarly activity while also meeting the mission of the College to serve as mentors to students as they become apprentices in this process. This latter role by definition engages the faculty member as a teacher who also guides the research efforts of students in the laboratory and the field.

In support of the mission of the College, we also recognize scholarship that creates new knowledge in the area of the teaching of the biological sciences. While our role as scholars in the biological sciences is to advance our disciplines, TCNJ provides its faculty with the opportunity to advance knowledge in pedagogy as well, and therefore, the productivity of a faculty member in discipline-related research may be complemented by productivity in pedagogical scholarship.

## **B-1. Collaborative and Interdisciplinary Scholarship**

The generation of new scientific knowledge is generally not accomplished by single individuals, but is most often collaborative in nature. Scientific publications almost always have multiple authors, and their individual contributions to the final product may vary considerably. Scientific collaborators may be other faculty members, post-doctoral fellows, graduate students, undergraduate students, and/or technicians affiliated with TCNJ or with other institutions. Scholarly collaboration of biologists with colleagues in other disciplines is also welcomed and will be evaluated equally and using the same standards as scholarship conducted solely within the discipline of biology.

## **B-2. Standards for Productivity**

Based on combining the two goals of producing new knowledge in the sciences and educating undergraduates in the process of creating new knowledge, we support a model whereby the record of a teacher-scholar in the biological sciences will be reflected by productivity as outlined in the categories below and by mentoring undergraduates in laboratory and/or field research. Moreover, the range of sub-disciplinary fields in the biological sciences in which our faculty members engage each presents unique challenges and opportunities. For example, some research may require long-term, multi-season/multi-year investigation. Other research may require comparative multi-organism, multi-gene analyses, or may require a repetitive series of diverse, long-term experiments using technically challenging methodologies. This range of scholarly approaches, along with the natural integration of research with teaching, outreach, and service is valued by the Department. We acknowledge that the challenge to faculty of becoming outstanding scholars in their scientific endeavors is something that cannot be accomplished alone, but is a shared responsibility among the Department, School of Science, the College. Therefore the Department is committed to supporting and mentoring its faculty throughout their academic careers.

It is expected that the faculty member will have a record of publication in peer-reviewed journals as indicated in Category Ia and additional evidence of scholarship as described below. It is expected that the faculty member will engage undergraduates in their research. At a minimum this would be indicated by mentoring several students each year in Independent Research.

### **B-2a. Primary Evidence of Productivity**

#### **Category Ia - Peer-reviewed Publications**

Peer-reviewed publications constitute evidence of productivity that all scholars are expected to demonstrate. Appropriate areas of publication include the development of new knowledge and the application of knowledge in new ways in the biological sciences.

- Publications should primarily consist of refereed scholarly journal articles. In this regard, the candidate is encouraged to target appropriate peer-reviewed journals in their field as the predominant outlet for their scholarly work. The Department of Biology values all peer-reviewed publications, and encourages candidates to publish in journals with a wide general readership and/or those that serve an audience specific to their research areas.
- Review articles and chapters in books or symposium volumes that are peer-reviewed and comparable to a primary research article are considered in this category, as are the first editions of textbooks.

### **Category Ib – Funded Major Grants**

While not required as evidence of productivity, being awarded a major grant reflects a thoughtful and well-prepared application that has been subject to rigorous peer-review and been positively reviewed by experts in the field. Such grant applications include synthesis of the literature, proposal of projects that advance the field of study, preparation of an appropriate budget, and in many cases, collection of preliminary data. As such, we view a funded major grant as equivalent in stature to a peer-reviewed publication.

- Designation as a “major” grant relies upon criteria including, but not limited to, funding agencies with a national or international scope (*e.g.*, National Science Foundation, National Institutes of Health), funding rate of the agency, duration of the award, and dollar amount of the award. If using a grant as Category I evidence of productivity, a faculty member should indicate how their award fits this category as part of their application materials.
- Grants can be awarded to multiple investigators across many institutions. To be considered as Category I productivity, a substantial portion of the awarded funds must be used to support research activities by TCNJ faculty, students, and/or staff.

As noted above, the Department of Biology values collaboration with colleagues both within the College and at other institutions. Such collaborations can facilitate rapid progress in research. Co-authorship is very common and is as highly regarded in science as single authorship. Further, the author with the greatest contributions to the work may be listed first or last, depending upon the field. Candidates who publish collaboratively should demonstrate that they have established an independent research program to be considered for reappointment, tenure, and promotion. Candidates with co-authored, collaborative papers and/or grants should clearly indicate their contribution to these works.

### **Category IIa – Peer-reviewed Publications in Revision/Review**

An unpublished paper may also count as primary evidence of productivity if it has been submitted, well-reviewed, and is currently resubmitted or under revision for resubmission to the same journal within a limited time frame, as indicated by the reviews and a letter from the editor.

### **Category IIb – Well-reviewed Major Grants**

In recognition of the time and effort involved, coupled with the difficulty in obtaining major grants due to the level of competition, funding rates, *etc.*, peer-reviewed major grant proposals that were not funded but received positive reviews, and/or a request for resubmission are primary evidence of productivity. The same criteria that apply to Category Ib grants in terms of distinction as a major grant and involvement by TCNJ personnel apply here.

## **B-2b. Supplemental Evidence of Productivity**

### **Category IIIa – Minor Grants**

Funded grants that are either of short-duration (one year or less) or significantly less competitive, and grants that solely support student research are also valued, but constitute supplemental evidence of productivity in this category. Smaller grant proposals that were well-reviewed but not funded would be supplemental evidence of productivity in this category.

### **Category IIIb – Presentations**

Regular presentation of research activity at scientific meetings appropriate to the candidate's research discipline is strongly encouraged. Such presentations represent critical supplemental evidence of sustained productivity. These activities may include:

- Invited presentations at symposia or meetings
- Oral, platform, research presentations at scientific meetings
- Acceptance of an abstract for presentation through a competitive process
- Poster presentations
- Contributed presentations with student co-presenters
- Invited seminar presentations

### **Category IIIc – Scholarship Integrated with Teaching or Service**

Activities that integrate scholarship with either teaching or service may include, but are not limited to:

- Subsequent textbook editions
- Textbook chapters
- Published laboratory manuals
- Government reports

#### **C. Summary of Biology Scholarship Expectations for Reappointment, Tenure, and Promotion**

As indicated in the *TCNJ Reappointment and Promotions Document*, “Throughout the probationary period candidates should show steady progress toward a productive and coherent program of scholarship or creativity. By the time of reappointment with tenure or of a promotion decision, there should be a record of finished work conducted while at TCNJ and clear promise of ongoing and maturing scholarship.”

##### **C-1. For Pre-tenure Reappointment**

During the first year there should be evidence that the faculty member has begun doing research at TCNJ, as shown minimally by setting up their lab, planning and/or conducting preliminary studies, and recruiting students into the research lab (which should continue throughout the probationary period). From the second through the fourth years, there should be evidence of continued progress toward productive scholarship, which must include ongoing or concluded studies. Additional evidence could include manuscript preparation, grant writing, and attendance at scientific conferences, ideally for presentation. During the fourth year there should be clear evidence of productivity as shown minimally by a submitted manuscript based at least in part on work done at TCNJ and a presentation at a scientific conference.

##### **C-2. For Tenure and Promotion to Associate Professor**

Having demonstrated the potential for establishing a productive and independent research program at TCNJ during the previous reappointment, applicants for tenure and promotion must provide evidence that the program has progressed to the stage where the research serves as the basis for publication and, perhaps, potential grant support. The level of progress made as a researcher should clearly demonstrate: 1) that the applicant has been and will continue to conduct themselves as a highly respected teacher-scholar, and 2) the likelihood that the applicant will continue to grow as an ongoing scholar throughout their tenure at the College.

The Department of Biology accepts for tenure and promotion to Associate Professor, either on a normal or accelerated timeline, evidence of scholarly output based on work performed entirely or in part while at TCNJ that includes all of the following:

- Clear articulation of an independent research program going forward, with definite goals for the next five years
- One peer-reviewed, scientific research publication (Category Ia) • At least one of the following:
  - An additional peer-reviewed manuscript that has been published (Category Ia), accepted for publication (Category Ia), or well-reviewed and resubmitted or under revision for resubmission (Category IIa)
  - A major grant that has either been funded (Category Ib) or has received positive reviews, whether funded or not (Category IIb)
- Evidence of scholarly productivity from Category III, to ideally include regular presentations at scholarly meetings appropriate to the candidate's discipline and/or a small grant
- Indication of ongoing, active, and well-mentored involvement of undergraduates in research, which is most valued when students present their research at disciplinary meetings, and co-author abstracts and/or scientific papers

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 in order to be considered for tenure.

### **C-3. For Promotion to Professor**

The *TCNJ Reappointment and Promotions Document* states that “Promotion to Professor requires a sustained pattern of scholarly activity since attaining the rank of Associate Professor, with evidence indicating the maturation of the scholarly/creative/professional record.” For the Department of Biology, sustained scholarly activity will be reflected by all of the following since the promotion to Associate Professor:

- Clear articulation of a continuing, productive research program going forward, with definite goals for the next five years
- Two products from Category I, at least one of which must be a peer-reviewed publication. I.e., two peer-reviewed publications of research (Category Ia), or one peer-reviewed publication (Category Ia) and one major grant (Category Ib). In the case of a research program in which a single publication typically requires many experiments conducted over multiple years, one paper can be substituted as two.
- One additional product from Category I (peer-reviewed publication or major grant) or Category II (well-reviewed manuscript or grant application) or sustained supplemental scholarly activities (Category III), with some at a higher level (*e.g.*, presenting invited talks at conferences)
- Confirmation by two external reviewers considered experts within the candidate's scholarly sub-discipline that the candidate has established a sustained pattern of scholarly achievement.

- The candidate should describe how their research program has matured and their record of productivity is at an appropriate level within their sub-discipline. Some indicators of maturation could include publishing in higher impact journals, publishing with more undergraduate co-authors, addressing broader and/or more complex research questions, increasing the interdisciplinarity of the research program, and/or increasing the level of grant proposal submissions (either in number or in research scope). In addition, prestigious service to one's discipline can bolster the case for scholarly maturation. Examples could include reviewing one or more major grant proposals, serving on the editorial board of an academic journal, being invited to give scholarly presentations, and/or organizing major conferences or conference symposia. These lists are not exhaustive, and it is the responsibility of the candidate to articulate how they have achieved a level of maturation appropriate to justify the rank of Professor.
- Consistent involvement of undergraduates in research

These standards may be somewhat relaxed under certain circumstances, as stated in the *TCNJ Reappointment and Promotions* document: “There may be periods when the level of activity is reduced (but not eliminated) due to a concomitant increase in librarianship or service, such as serving as an area or divisional coordinator. In such cases, there should be evidence that the scholarly/creative/professional activity has been maintained to some degree and has promise for full resumption when the other activities return to normal.”