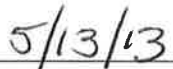


Biomedical Engineering  
The College of New Jersey  
Disciplinary Standards for Reappointment, Tenure, and Promotion

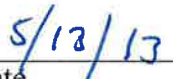
The attached disciplinary standards have been reviewed and approved by the Committee on Faculty Affairs, the Council of Deans, and the Provost.


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 in years 1-4. Candidates for promotion will use the disciplinary standards in effect in the year in which they apply for promotion.

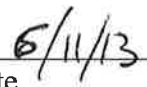
  
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The Biomedical Engineering Department will next review its disciplinary standards in Academic Year 2016-2017.

## **Disciplinary Standards for Faculty of the Department of Biomedical Engineering**

*[Approved 04/02/2013]*

A significant amount of this document was adapted from The Committee on Faculty Affairs Final Recommendation on Re-Examination of the Promotion and Reappointment Document (PRD); however, it was amended to better reflect the, scholarly activity of the faculty in the Department of Biomedical Engineering at The College of New Jersey. It is clear that these standards are not replacements for those discussed (in full details) and presented in the *PRD*

The requirements for promotion at TCNJ are more stringent than those for 4<sup>th</sup> year reappointment and tenure; therefore applicants for 4<sup>th</sup> year reappointment and tenure may also select to strive to fulfill the requirements for promotion to Associate Professor. Taking guidance from the broadly defined attributes for each rank offered by the Final Recommendation on Re-Examination of the Promotions Document authored by the Committee on Faculty Affairs dated from , standards relevant to the Biomedical Engineering Department are defined. Fundamentally, it is important to illustrate at each rank whether the program with which a faculty is associated with is better because of the contributions of that faculty member. Such contributions should be impacting, meaningful, positive, and sustainable. The difference of the standard for different ranks should be related only to the maturity level of those contributions, not the type. In other words, all faculty should be involved in similar types of endeavors; however, the combination of quantity, quality, intensity, and success level would be expected to be higher for a faculty with full Professor rank than with an Associate Professor rank.

The following standards apply to scholarly/professional activity. However, for many faculty members, scholarly accomplishments and teaching overlap and as such often are enhanced. Candidates whose activities in these areas are integrated are encouraged to highlight this aspect of their work in the application.

### **Disciplinary Standards for Scholarly Activity**

TCNJ embraces the model of a professor as a teacher-scholar. The College recognizes the need for faculty to actively engage in research projects relevant to their field, and to publish scientific findings in respected refereed journals.

A key facet of the teacher-scholar model is the role of a faculty member as a teacher of scholarship to undergraduate students. Engagement of students in undergraduate scholarly activities not only enhances a research project by allowing more efficient and consistent execution of its tasks, but also affords the students a learning experience that is not attainable in typical classroom settings. Faculty should thus strive to serve as mentors who pass their knowledge and expertise about a particular topic to their students, who can gain a sense of fulfillment from contributing to new knowledge.

Regarding scholarly activity, the Biomedical Engineering Department recognizes the scholarship discovery as defined in the PRD. The scholarship of integration or application is also recognized if they are evidenced by items described under the section titled *Reappointment and Tenure*. The committees involved in the evaluation of candidates should take into account the nature of

the work and field (e.g. experimental vs. numerical, emerging technology vs. more mature technology, etc.), and the difficulties involved in completing research in each field.

The quality of the research is of more importance than mere quantity; although candidates for re-appointment, tenure, or promotion are expected to consistently engage in new research and to bring new projects through fruition. The quality of the scholarly research is defined by its significance to one's field of study, and requires peer-review to validate the significance of the work; hence, the importance of the publication of research in refereed journals. The entire body of an applicant's research history is applicable for illustrating a pattern of continued scholarship, but works finished since appointment at TCNJ or since the last promotion are required for promotion, and carry greater weight.

There may be some years when the level of scholarly activity is reduced (but not eliminated) due to a significant increase in teaching or service, such as serving as a department chair. In such cases the reduction in scholarship should not be counted against the candidate, but there should be evidence that the candidate's scholarly/creative/professional activity has been maintained to some degree and has promise for full resumption when the other activities return to normal levels.

Faculty need to initiate and maintain a sustainable research program in a field of study relevant to Biomedical Engineering that will support faculty-oriented and student-supported research efforts. Collaborations are encouraged, but not at a level that will limit the ability of the faculty to perform individually directed research programs. In a collaborative effort, if the faculty member is not the first author, last author or corresponding author, he/she must demonstrate the extent of their individual contribution.

### ***Interdisciplinary Work:***

The productivity of a faculty member in discipline-related research may be complemented by productivity in interdisciplinary scholarship. Types of interdisciplinary scholarship, either cross-departmental or interschool collaborations, include interdisciplinary research, pedagogical research, and development of interdisciplinary projects in education or practice.

For interdisciplinary work, scholarly activity should be evaluated in the same manner as previously, with primary emphasis being given to refereed journal publications and submitted grant proposals that initiated or sustained a significant research endeavor.

For interdisciplinary work between two disciplines which typically do not share a common background (i.e. – engineering and business), the school recognizes that the end result of the collaboration may not be of a substantial technical nature as to be published in the typical refereed engineering journals. Therefore, a net result of this sort of collaboration leading to peer-reviewed conference papers, national presentations, publications in refereed journals not of a technical nature, etc. should be given equal weight as if the end result was a publication in a refereed technical journal, or a submitted grant proposal that initiated or sustained a significant research endeavor. Additionally, in keeping with the mission of the College and its emphasis on student involvement in scholarly activity, interdisciplinary collaboration between two unlike disciplines which utilizes significant student involvement between both disciplines should be looked upon very favorably and be recognized as scholarly activity.

### ***Guidelines for Scholarly Achievement:***

A successful scholarship program can be defined by: 1) several projects in different stages of development or a systematic plan for one's projects; 2) student involvement; 3) primary responsibility for a significant portion of one's scholarship; 4) research initiated at TCNJ; and 5) an appropriate history of the dissemination of scholarly product(s) in peer-reviewed formats. The following list is not all-encompassing, but does offer several avenues for acceptable endeavors that are acceptable paths for the fulfillment of scholarly activities for faculty seeking reappointment and tenure, and promotion. All faculty should strive to excel in a combination of endeavors.

Faculty need to publish relevant research in high-quality, peer-reviewed journals. The quality of a journal can be quantified using a combination of the following characteristics:

- Professional sponsorship or other affiliation status
- Status of the journal editors within their respective fields
- Article citations five or more years after the publication date
- Average citation record for the journal if available
- Acceptance/rejection rates for the journal if available

In addition to the publication of scholarly work, faculty are expected to further their scholarship through a combination of the following endeavors:

- ◆ Present and/or publish relevant research in high-quality conferences. The quality of a conference or conference proceeding can be quantified using a combination of the following characteristics:
  - A peer review process
  - The status and scope of the professional organization sponsoring the conference, i.e. international, national, or regional
  - Acceptance/rejection rates for submissions if available
- ◆ Seek external funding for equipment, research, and curriculum enhancement and development. Potential sources include not-for-profit organizations, government sources and private companies.
- ◆ Be active in the consulting and/or professional arena. Such activities are considered scholarly when they are within the faculty's scholarly area and involve the creation, rather than the application, of knowledge and are evidenced by the items described under the section titled ***Reappointment and Tenure***.
- ◆ For invited publications and presentations (including invited presentations at professional meetings and conferences or contributions to printed publications), the quality of the work can be quantified according to:
  - The scope of the professional organization extending the invitation (international, national, or regional)
  - The stature of the editor of the book or journal requesting the article

- The academic standing of the publisher
  - The readership of the journal or book
- ◆ Engage in the development of book materials, which has been contracted by a reputable publishing entity. The quality of a published book can be quantified using a combination of the following characteristics:
- The academic standing of the publisher, e.g. national recognition as an academic publisher
  - Published reviews of the work
  - Evidence of readership, e.g. size of the press run or sales
  - Citation frequency

***Reappointment and Tenure:***

Faculty members are expected to initiate an individual and original research program in an area of interest that adds to the diversity of research in the department of their appointment. Integral to this program should be the involvement of undergraduates as active participants who learn new skills and gain insight into current topics of research and development.

*The scholarly activity and professional endeavors should be evidenced by:*

*One publication in a refereed journal and one of the following:*

- *One additional publication in a refereed journal (published or under favorable review)*
- *Two (2) refereed Technical Conference Papers at the National or International level*
- *A peer-reviewed, competitive, multi-year grant proposal in response to a national call for proposals from a national government agency or regional/national private organization with published review criteria that supports the research of the faculty that has been funded or submitted and well-reviewed with significant promise of future funding*

***Promotion to Associate Professor:***

Faculty are expected to maintain a pattern of continuing achievement since the initial appointment, with specific evidence of previous and continuing scholarly activity and professional endeavors. The evidence should include at least two (2) publications in refereed journals and additional activity from any category (1-3) listed above for tenure. An external review may be requested by the applicant as an additional component of this evidence.

***Promotion to Professor:***

In general, the rate of research productivity for this rank must be higher than that expected for the rank of Associate Professor. Faculty is expected to sustain and expand a pattern of achievement since the attaining of the rank of Associate Professor, with evidence indicating the maturation of the scholarly and professional record. Evidence of maturation of scholarly activities since promotion to associate professor should include at least one publication in a referred journal and at least two of the following:

- *One additional publication in a refereed journal (published or under favorable review)*
- *Two (2) refereed Technical Conference Papers at the National or International level*
- *A peer-reviewed, competitive, multi-year grant proposal in response to a national call for proposals from a national government agency or regional/national private organization with published review criteria that supports the research of the faculty that has been funded*
- *Publication of a refereed chapter in books/symposium, review article or first edition of a textbook*

An external review is required as one component of this evidence. Those promoted to the rank of Professor should be held in high regard by their peers and should be role models for their junior colleagues.