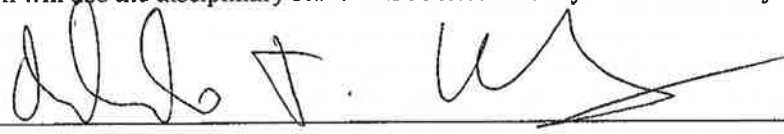



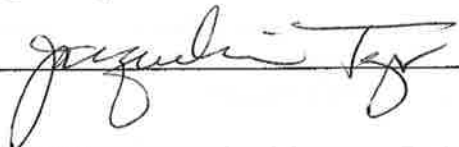
Department of Electrical and Computer Engineering
The College of New Jersey
Disciplinary Standards for Reappointment, Tenure, and Promotion

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. Candidates for promotion will use the disciplinary standards in effect in the year in which they apply for promotion.

Department Chair 

Dean  3/30/15

Provost  4/7/15

The Department of Electrical and Computer Engineering will next review its disciplinary standards in Academic Year 2018 - 2019.

The College of New Jersey, founded in 1855 as the New Jersey State Normal School, is primarily an undergraduate and residential college with targeted graduate programs. TCNJ's exceptional students, teacher-scholars, staff, alumni, and board members constitute a diverse community of learners, dedicated to free inquiry and open exchange, to excellence in teaching, creativity, scholarship, and citizenship, and to the transformative power of education in a highly competitive institution. The College prepares students to excel in their chosen fields and to create, preserve and transmit knowledge, arts and wisdom. Proud of its public service mandate to educate leaders of New Jersey and the nation, The College will be a national exemplar in the education of those who seek to sustain and advance the communities in which they live.

The mission of the School of Engineering is to develop highly competent professionals, preparing them for entry-level positions in engineering or teaching, or for further study in graduate or professional school. Allied with the College's mission, the School of Engineering is proud of its public service mandate to educate leaders of New Jersey and the nation, fostering intellectual growth of our students so that they may become productive citizens in the service of humanity. The School is dedicated to providing a dynamic learning environment that emphasizes open-ended design, problem-solving skills, teaming, communication, and leadership skills.

To accomplish its mission, the School of Engineering:

- offers a broad array of exceptional academic programs including: biomedical engineering, civil engineering, computer engineering, electrical engineering, mechanical engineering, engineering science (biomedical and engineering management), and STEM education;
- engages students in creating innovative design solutions that include realistic constraints such as economic, environmental, social, political, ethical, health and safety, manufacturability, sustainability, and global considerations, and disseminating these designs at national and regional venues;
- provides undergraduate research experiences, allowing students to work closely with members of the faculty; and
- employs highly dedicated faculty members who are effective teacher-scholars committed to maintaining a learner-centered undergraduate environment with emphasis on student mentoring.

Taking guidance from the broadly defined attributes for each rank offered by the Promotions and Reappointment Document authored by the Committee on Faculty Affairs, standards relevant to the Engineering departments can be 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.

One relevant issue is the faculty member's education. It is essential for re-appointment, tenure, promotion that she / he receive a doctorate or similar level of terminal degree

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. Appropriate modes of scholarship include: performance of advanced technical and innovative research in the field of engineering, advising of student research, publication of peer-reviewed conference and journal papers, generation of major funding applications and acquisition of external funding,

development of laboratory facilities, development of textbooks and innovative curricula (to be disseminated to parties outside of TCNJ), and participation in regional research initiatives. A major funding application is that submitted to institutions such as the National Science Foundation and Department of Defense. Certain consulting activities may be considered scholarship if it involved the creation rather than the application of knowledge and impacts significantly on one's discipline.

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 or pedagogy.

Regarding scholarly activity, 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.

Faculty need to initiate and maintain a sustainable research program in a field of study relevant to the department of appointment that will support faculty-oriented and student-supported research efforts. Adequate infrastructure to support both faculty and student-supported research should be established. 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, the faculty member must be a major contributor to the work (providing more than 33% of effort). That is, he/she must be first or corresponding author, or must demonstrate that the work could not have been done without the individual's 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
- Total circulation of the journal
- Article citations five or more years after the publication date
- Average citation record for the journal
- Acceptance/rejection rates for the journal

The level to which a publication reflects upon a faculty member's scholarly effort is dependent on several characteristics beside journal quality including – number of authors (one vs. many), author status (primary vs. supporting), and scale of project (large vs. small). These issues should be considered for re-appointment, tenure, and promotion.

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 scope of the professional organization sponsoring the conference, i.e. international, national, or regional
 - Acceptance/rejection rates for submissions
- ◆ 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 impact significant on one's discipline
- ◆ 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
- ◆ Enable undergraduate engineering students to participate in meaningful research, preferably work which allows these students to publish before graduation.

Reappointment and Tenure and Promotion to Associate Professor:

Faculty 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. Faculty are expected to maintain a pattern of continuing achievement, with specific evidence of previous and continuing scholarly activity and professional endeavors. The scholarly activity and professional endeavors should be evidenced by at least two publications in refereed journals for which he/she is the primary author. Additionally, the faculty should show scholarship in one of the following forms: one additional publication in refereed journals (published or accepted), a grant proposal, or program level curriculum development. An external review may be requested by the applicant as one component of this evidence.

Promotion to Professor:

Faculty are expected to sustain and expand the pattern of achievement, with evidence indicating the maturation of the scholarly and professional record. To sustain a pattern of scholarly activities, faculty are expected to maintain a consistent scholarly record over multiple years. The sustained pattern of scholarly activity and professional endeavors should be evidenced by at least three highly mature scholarly accomplishment for which he/she is the primary author. Evidence of maturation of scholarly activities includes: publications in refereed journals, invited presentations at national and international conferences or professional organizations; the writing and obtaining of grants; and mentorship. 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.

