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*Approved by the Senior Vice President for Academic Affairs and Provost
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Department of Electrical and Computer Engineering, Institute of Technology

7.12 Criteria for promotion and tenure

I. Introduction

This document describes with more specificity the indices and standards that will be used to evaluate whether candidates meet the general criteria in Sections 7.11 and 9.2 of the Regents Policy on *Faculty Tenure* for the following personnel evaluations:

- A. Annual performance appraisal of progress toward achieving tenure.
- B. Recommendation for awarding indefinite tenure according to Regents Policy on *Faculty Tenure* (University of Minnesota, 2007, hereafter cited as *Faculty Tenure*), Section 7.11. General Criteria.
- C. Recommendation for promotion to Associate Professor and Full Professor according to Regents Policy on *Faculty Tenure*, Section 9.2 Criteria for Promotion to Professor.
- D. Annual performance appraisal for post tenure review according to Section 7a.1 and 7a.2 of *Faculty Tenure*.”

In addition, this document is consistent with the *Procedures for Reviewing Candidates for Tenure and/or Promotion: Tenure-Track and Tenured Faculty* (2007), hereafter referred to as the *Procedures*.

II. Department of Electrical and Computer Engineering Mission Statement

The Department is committed to providing up-to-date and effective education in the fields of electrical and computer engineering to students at all levels, to international preeminence in the creation and dissemination of knowledge in its areas of scholarly focus, and to the advancement and application of technical knowledge through professional service.

III. Annual Appraisals of Probationary Faculty

Probationary faculty will be reviewed annually and progress will be evaluated according to Section 7.11 in *Faculty Tenure* and the criteria described herein (Section IV).

Mentoring is an important component in the promotion and tenure process. The Electrical and Computer Engineering Department has a formal mentoring process for all probationary faculty. Each new faculty member will have a mentor who can offer guidance and feedback on logistics related to getting started at the University of Minnesota, particularly with regard to teaching, research, advising of students, and funding opportunities. The mentor will also advise on the appropriate level of service. All mentors of probationary faculty must be tenured.

The department head will be responsible for soliciting an annual written report from each probationary faculty member on his or her teaching, research, and service activities plus any additional information he or she deems necessary for the review according to this 7.12 statement and the *Procedures*. For probationary faculty with a strong interdisciplinary component in their research or who hold joint appointments, input will be solicited from senior faculty in the related unit(s) and from the comparable sources in the other department(s). The head will write an assessment in consultation with the department Promotion, Tenure, and Awards committee. The head will present an oral report of all relevant data to the tenured faculty who will then vote on continuing the appointment. A simple majority is required for reappointment. It will be the responsibility of the department head to review the faculty's recommendation with the probationary faculty member. This will be the basis for the annual Form 12 for the review of probationary faculty.

Tenure decisions may be made in any year of the probationary period, as described in Section 5.2 of *Faculty Tenure* and Section 9 of the *Procedures*. A candidate must be considered in a formal tenure review no later than the last year of the probationary period.

In accordance with Section 5.5 of *Faculty Tenure* the probationary period may be extended by one year at a time at the request of the faculty member for childbirth/adoption, caregiver responsibilities, or medical reasons. The criteria for evaluation of faculty who have had their probationary period extended are no different than the criteria for faculty who do not have an extension of the probationary period. Extension of the probationary period in accordance with Section 5.5 will not be a factor in the evaluation.

The Department may recommend termination of a probationary faculty's appointment at any time in accordance with Section 10 of the *Procedures*.

IV. Conferral of Indefinite Tenure

Section 7.11 of *Faculty Tenure* specifies the criteria for tenure:

7.11 General Criteria. What the University of Minnesota seeks above all in its faculty members is intellectual distinction and academic integrity. The basis for awarding indefinite tenure to the candidates possessing these qualities is the determination that each has established and is likely to continue to develop a distinguished record of academic achievement that is the foundation for a national or international reputation or both [3] This determination is reached through a qualitative evaluation of the candidate's record of scholarly research or other creative work, teaching, and service [4]. The relative importance of these criteria may vary in different academic units, but each of the criteria must be considered in every decision [5]. Demonstrated scholarly or other creative achievement and teaching effectiveness must be given primary emphasis; service alone cannot qualify the candidate for tenure. Interdisciplinary work, public engagement, international activities and initiatives, attention to questions of diversity, technology transfer, and other special kinds of professional activity by the candidate should be considered when applicable. The awarding of indefinite tenure presupposes that the candidate's record shows strong promise of his or her achieving promotion to professor.

[3] "Academic achievement" includes teaching as well as scholarly research and other creative work. The definition and relative weight of the factors may vary with the mission of the individual campus.

[4] The persons responsible and the process for making this determination are described in subsections 7.3 through 7.6.

"Scholarly research" must include significant publications and, as appropriate, the development and dissemination by other means of new knowledge, technology, or scientific procedures resulting in innovative products, practices, and ideas of significance and value to society.

"Other creative work" refers to all forms of creative production across a wide range of disciplines, including, but not limited to, visual and performing arts, design, architecture of structures and environments, writing, media, and other modes of expression.

"Teaching" is not limited to classroom instruction. It includes extension and outreach education, and other forms of communicating knowledge to both registered University students and persons in the extended community, as well as supervising, mentoring, and advising students.

"Service" may be professional or institutional. Professional service, based on one's academic expertise, is that provided to the profession, to the University, or to the local, state, national, or international community. Institutional service may be administrative, committee, and related contributions to one's department or college, or the University. All

faculty members are expected to engage in service activities, but only modest institutional service should be expected of probationary faculty.

[5] Indefinite tenure may be granted at any time the candidate has satisfied the requirements. A probationary appointment must be terminated when the appointee fails to satisfy the criteria in the last year of probationary service and may be terminated earlier if the appointee is not making satisfactory progress within that period toward meeting the criteria.

To be awarded indefinite tenure in the Department of Electrical and Computer Engineering, a faculty member must demonstrate effectiveness in teaching and must establish a record of excellence and creativity in scholarly research and its dissemination. These are the primary criteria, and the fulfillment of both is a minimum requirement for the awarding of indefinite tenure. Extraordinary distinction in teaching alone, or in research alone, is not sufficient for the granting of indefinite tenure.

A faculty member may choose to participate in service to the profession and in other governance and service activities. These contributions, however, are secondary to the teaching and research components in evaluations leading to decisions related to the granting of tenure, and are not required components of a tenure dossier. An outstanding record in the service component alone is not, by itself, sufficient to form the basis for a recommendation to indefinite tenure.

When considering the record of probationary faculty who have stopped the tenure clock (Section 5.5 of *Faculty Tenure*), the criteria for promotion and tenure are no different than the criteria for faculty who do not have an extension of the probationary period. Extension of the probationary period in accordance with Section 5.5 should not be a factor in the tenure decision. That is, a record of six years post-hiring with a one-year stopping of the clock must be considered the same way that one considers five years post-hiring with no stopping of the tenure clock.

A. Teaching

Effectiveness in teaching is assessed from the candidate's contributions to the overall teaching mission of the University including, where appropriate, classroom, laboratory and individualized instruction at both undergraduate and graduate levels, the supervising of graduate students, and the advising of postdoctoral personnel.

Examples of factors which may be used in the evaluation of effectiveness in teaching include, but are not limited to, the following:

- written evaluations by students; where quantitative course evaluations are used, performance is expected to be in the satisfactory range as defined by the department norms for courses at a similar level. Student evaluations in the

Department of Electrical and Computer Engineering show considerable variation due to class size and level, and these variations will be taken into account.

- written evaluations by peers based on classroom visits and review of course materials;
- development of new courses and/or laboratories;
- supervision of undergraduate research projects;
- advising of undergraduate and professional student organizations;
- advising of undergraduate and graduate students
- development of instructional materials;
- publication of textbooks;
- local and national awards for teaching.
- participation in teaching improvement programs and a upward trajectory in student evaluations.
- scholarly research on pedagogy
- supervision of graduate students at the masters and doctoral levels
- peer evaluation of the progress of the candidate's advisees
- conducting of graduate seminars
- supervision of postdoctoral personnel and other post-baccalaureate programs and students

B. Research

The quality of a candidate's original research and the impact of the work within the candidate's professional discipline are the primary criteria by which professional distinction in research is established. Examples of factors upon which an analysis of the research accomplishments of the candidate may be based include, but are not limited to the list below.

- Written evaluations of the candidate's research activities and of the candidate's publications in peer-reviewed research journals, abstracts, conference preprints, conference proceedings, and other professional publications. These evaluations are requested from persons who are generally recognized as leaders in the candidate's research area. It is recognized that the prestige of an academic venue is often dependent on the field of study. For example, some academic fields may traditionally favor peer-reviewed conference publications over journal articles. These differences should be taken into account when evaluating the research productivity of a candidate.
- If the candidate has a strong interdisciplinary component in his/her research, the academic unit should obtain letters of evaluation from faculty in the related unit(s) and from some external reviewers who can address the interdisciplinary nature of the work.
- Participation in professional conferences, symposia, meetings, and special lectures, especially those for which participation was by invitation. The quality of the venue should be taken into account when evaluating conference participation.

- Demonstrated ability to obtain external research funding, at a sufficient level to sustain his/her research program, is a high priority for faculty being considered for promotion with indefinite tenure
- If the candidate's work involves collaboration with other research groups, the contributions of the probationary faculty member to the collaborative effort will be clearly described.
- Election to prestigious national organizations that recognize excellence in a discipline.
- Research awards and honors granted by professional societies, government agencies, and industry.
- Patents, inventions, technology transfer, and other such developments of a significant scientific or engineering nature.
- Publication of scholarly review articles and research monographs.

In evaluating the candidate's research contributions through the various avenues of publication and presentation, the objectives are to establish that the work is of high quality, that it is a scholarly and creative contribution to the candidate's professional discipline, and that it is a measure of the candidate's potential to make continuing contributions in pure and/or applied research.

Written evaluations of a candidate's research are requested from persons who are generally recognized as leaders in the candidate's research area. Effort should be made to obtain at least 8 letters of evaluation. The reviewers may include persons within the University but must include at least 6 evaluations from outside the University, most of whom should be of international stature. The candidate will be asked to suggest the names of reviewers to the department head in consultation with the head of the departmental promotion and tenure committee. The *Procedures* require that: the Department should seek appraisals both from persons suggested by the candidate and from other recognized scholars in the field. Refer to section 12 of the *Procedures* for specifics concerning external reviewers.

C. Service

In the Department of Electrical and Computer Engineering, service to the profession is an integral component of a faculty member's professional obligations. It enhances the faculty member's professional reputation, and it brings recognition to the Department and the University. By itself, however, service to the profession is not a sufficient basis for the granting of tenure. Service is not a required component of a tenure dossier.

Examples of service contributions to the profession include, but are not limited to:

- editor or associate editor of a refereed scientific or technical journal.
- officer in a national or international scientific or technical society.
- member of a national or international scientific or technical committee.
- member of a governmental or scientific advisory committee.

- organizer or member of the organizing committee for a national or international symposium or conference.
- reviewing of technical or scientific papers for journal publication and conference presentation, and the reviewing of proposals for funding agencies.
- participation in relevant outreach and public service activities.

V. Promotion

The following paragraphs describe the criteria for promotion to tenured ranks from within the Department. The same criteria and standards are applied for appointments from outside.

A. To associate professor (with tenure) from assistant professor (probationary)

Promotion to the rank of associate professor from the rank of probationary assistant professor in the Institute of Technology is always accompanied by the granting of permanent tenure. Thus a candidate for promotion to associate professor must have established a professional record that meets the requirements for effectiveness in teaching and professional distinction in research as set forth in Section IV. Service contributions are also included in the evaluation of the candidate, but cannot be used in place of either the teaching or the research criteria.

B. To associate professor (with tenure) from associate professor (probationary)

The granting of indefinite tenure to an associate professor on a probationary appointment requires that the candidate meet all the requirements for effectiveness in teaching and professional distinction in research as set forth in Section IV.

C. To professor from associate professor

Section 9.2 of *Faculty Tenure* specifies the criteria for promotion to full professor:

9.2 Criteria for Promotion to Professor. The basis for promotion to the rank of professor is the determination that each candidate has (1) demonstrated the intellectual distinction and academic integrity expected of all faculty members, (2) added substantially to an already distinguished record of academic achievement, and (3) established the national or international reputation (or both) ordinarily resulting from such distinction and achievement [8]. This determination is reached through a qualitative evaluation of the candidate's record of scholarly research or other creative work, teaching, and service [9]. The relative importance of these criteria may vary in different academic units, but each of the criteria must be considered in every decision. Interdisciplinary work, public engagement, international activities and initiatives, attention to questions of diversity,

technology transfer, and other special kinds of professional activity by the candidate should be considered when applicable. But the primary emphasis must be on demonstrated scholarly or other creative achievement and on teaching effectiveness, and service alone cannot qualify the candidate for promotion.

[8] "Academic achievement" includes teaching as well as scholarly research and other creative work. The definition and relative weight of the factors may vary with the mission of the individual campus. Not being promoted to the rank of professor will not in itself result in special post-tenure review of a tenured associate professor.

[9] The persons responsible for this determination are the full professors in the unit who are eligible to vote. The outcome of the vote is either promotion to the rank of professor or continuation in rank as an associate professor. The procedures for voting are identical to those outlined in Section 7.4 for the granting of indefinite tenure, the nondisclosure of grounds for the decision (Section 7.5), and the review of recommendations (Section 7.6). In addition, a petition to the Judicial Committee for review of a recommendation of continuation in rank as an associate professor follows the procedures specified in Section 7.7 for decisions about promotion to associate professor and conferral of indefinite tenure.

In the Department of Electrical and Computer Engineering, candidates for promotion to full professor are expected to have a record of accomplishment that exceeds that achieved for promotion to associate professor. All associate professors are expected to work to achieve promotion to full professor. It is the responsibility of the department head to advise the associate professors on their progress as part of the annual departmental performance review process.

A candidate for promotion to the rank of professor must have achieved a high level of professional distinction on a national and international level through research contributions that are distinguished by substance, quality and creativity, and through consistently high standards in teaching. Service to the profession, participation in the governance of the institution, and other services to the Department, College, and University, is expected for candidates for promotion to professor, but they are not in themselves bases for promotion to the rank of professor. Promotion to the rank of professor will not be granted solely on the basis of length of service to the academic unit.

For promotion to professor, the candidate is expected to satisfy the criteria specified in Section IV, with emphasis on:

- high quality research which indicates that the candidate is among the leaders in the field, as documented by letters from acknowledged national and international leaders and contributors to the knowledge base in the field.
- demonstrated high quality teaching.
- a record of effective advising of masters and doctoral degree candidates.

Examples of other factors that may be used to establish a candidate's professional reputation include, but are not limited to, the following:

- invitations to national and international symposia and conferences.
- membership and the holding of office in professional societies.
- general professional contributions such as editorships, expository writing, and other activities that enhance the professional stature of the candidate.
- the effective advising of post-doctoral personnel.

Participation in the governance of the institution and other services to the University and the Department, as well as active contributions to the profession and the community are expected for the Electrical and Computer Engineering faculty. Examples of such services include, but are not limited to, active participation in departmental, collegiate, and university committees, and active participation in professional societies and organizations, and engagement in community outreach.

The methods of assessment of the performance of a candidate being considered for promotion to the rank of professor are the same as those employed in the granting of tenure.

VI. Post Tenure Review of Faculty Performance

The goals and expectations for tenured faculty will parallel those used in the granting of tenure taking into account the different stages of professional development and will provide for flexibility. Tenured faculty in the Department of Electrical and Computer Engineering are expected to maintain an active research program, effectively teach courses as required by the Department, advise students, and serve the goals of the Department, the College, and the University. It is understood that the division of effort between research, teaching, and service may vary from one faculty member to another and may vary over time for a particular person as departmental needs and individual aspirations evolve.

According to Section 7a of *Faculty Tenure* all faculty are reviewed annually as part of the annual merit review process in accordance with Senate policy. The Department of Electrical and Computer Engineering has a Post Tenure Review Committee of two full professors and one associate professor (all with tenure) who are elected by the faculty. If, during the course of the annual review process, both the department head and the elected Post Tenure Review Committee find a faculty member's performance to be substantially below the goals and expectations of the Department, they must send a letter or memorandum to the faculty member stating that finding. The letter must be signed both by the department head and by all members of the Committee, must specify the deficiencies, and must set a time period of at least one year, during which the faculty member should address the identified problems. Both the department head and the Committee should work with the faculty member to improve performance during that time. Efforts must be made at this point in the process to assist the faculty member in remedying perceived deficiencies.

If the faculty member's performance continues to be below expectations then the procedures described in 7a.3 of *Faculty Tenure* will be followed.

Faculty are expected to remain active in research. As a guideline, "research active" faculty should be at least as productive as is required for the granting of tenure. Faculty who are less productive than this would be expected to contribute more to teaching and service. The metrics that are used to assess research productivity are similar to those that are used to evaluate the qualifications of faculty for tenure.

Faculty are expected to be effective teachers. Teaching includes classroom, laboratory and individualized instruction at both undergraduate and graduate levels, the supervision of graduate students, and the advising of postdoctoral personnel, where appropriate. Effectiveness is gauged by factors including the contributions to the Department's overall teaching mission, satisfactory student ratings and comments, and peer evaluations. As a guideline, faculty should be at least as effective in teaching as is required for the granting of tenure.

Tenured faculty are expected to perform service work. Service may take the form of (1) discipline-related service, which includes both service to the profession and outreach to or engagement with the local, state, national, or international community based on one's academic expertise; (2) institutional service, which includes administrative, committee, and related service to one's department or college, or the University. Tenured faculty are collectively responsible for most of the institutional service work that is needed for the Department, College, and University to function effectively.

VII. Procedures

The departments of the Institute of Technology comply with the procedures as provided by Sections 7.4, 7.61 and 16.3 of *Faculty Tenure*.

The Department of Electrical and Computer Engineering will have a five member Promotion and Tenure Committee which will also be responsible for the annual reviews of probationary faculty. During the decision year, if not before, this same committee will be responsible for reviewing the letters of recommendation for promotion and tenure. The candidate working with his or her mentor will be responsible for assembling the dossier in accordance with the guidelines provided by the Institute of Technology and the *Procedures*. Based on their review of the dossier and the letters of recommendation, the department's Promotion and Tenure Committee will make its recommendations for tenure decisions to a meeting of the tenured faculty in the Department of Electrical and Computer Engineering. All of the tenured faculty are expected to have reviewed the candidate's file prior to the meeting and participate in the vote. After discussion the faculty will vote. A two-thirds majority of the faculty eligible to vote is required for a positive recommendation. The same procedures and voting standard will apply to decisions for promotion to full professor where all of the full professors (and only the full professors) are expected to review the file and to participate in the vote.