

Department of Computer Science & Engineering

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 the 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 the 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 Mission Statement

The mission of the Department of Computer Science and Engineering is to (1) perform research and discovery in all areas of computer science and engineering, (2) provide a world-class education, based on research and discovery, to students at all levels, and (3) be a resource for the State, by transferring technology to industry, helping maintain a well-trained workforce, and supporting K-12 education in science and engineering.

III. Annual Appraisals of Probationary Faculty

Probationary faculty will be reviewed annually and progress will be evaluated according to Section 7.11 in the *Regulations*, and the criteria described here (Section IV). Mentoring is an important component in the promotion and tenure process. It is expected that probationary faculty will be mentored according to department standards and expectations.

Each probationary faculty member is assigned by the Department Head a mentoring committee, selected from the senior faculty, to discuss progress in research and teaching and to help the probationary faculty member with issues such as workload, teaching assignments, time management, proposal and paper submissions. Members of the mentoring committee might

change during the probationary period to fit the evolving needs of the probationary faculty member. Changes are made by the Department Head, after consultation with the probationary faculty member. Additional details on mentoring procedures are in the departmental policy on mentoring.

The Department's Faculty Evaluation Committee is responsible for soliciting an annual report from each probationary faculty member on their teaching, research, and service activities plus any additional information deemed necessary for the review according to the 7.12 statement. The committee will prepare a written report for the tenured faculty, which will then review the report and may decide to vote at its discretion. If the faculty does vote the decision will be made by simple majority. It will be the responsibility of the Department Head to review the committee's report and 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.

For faculty with significant interdisciplinary activities the evaluation committee will seek input from experts in the other disciplines to which they are contributing. All faculty are expected to make substantial contributions in teaching and research to computer science and engineering in addition to the outside disciplines. Joint appointments will be evaluated by both departments in accordance with the agreement established at the time of hiring.

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 in 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 for faculty who do not have an extension of the probationary period. Extension of the probationary period in accordance with Section 5.5 may not be a factor in the evaluation.

The department may recommend termination of a candidate'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:

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 Computer Science and 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. An outstanding record in the service component alone is not, by itself, sufficient to form the basis for a recommendation to indefinite tenure.

The use of any factor other than teaching, research and service in making the decision about a probationary faculty member must be specifically stated and justified at the time of the decision ("Interpretations #6" in *Faculty 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 may 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 at the undergraduate level 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 those courses, when available;
- 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;
- development of instructional materials;
- publication of textbooks;
- local and national awards for teaching.
- participation in teaching improvement programs and an upward trajectory in student evaluations.

The Department expects all probationary faculty to demonstrate effectiveness in teaching courses both at the undergraduate and graduate level.

Peer evaluation of teaching will be conducted by a tenured faculty member in the Department once a year. The peer evaluator will review and evaluate class materials in addition to evaluating classroom performance. The purpose of these evaluations, decided in advance by the Department Head, will be in some years to provide a written evaluation of the probationary faculty member's

teaching abilities; in other years it will be to provide informal feedback for the purpose of improvement. Formal written evaluations will be provided approximately every other year during the probationary period. For faculty with interdisciplinary teaching, evaluation information for outside courses will be obtained.

The tenure dossier of all probationary faculty will include the peer evaluation reports as well as the syllabus, assignments, exams, and optionally other material for one undergraduate and one graduate course. The Department expects to see written comments from students' evaluations, which provide context in which to interpret quantitative data.

The Department encourages participation of probationary faculty in formal teaching improvement programs. Some faculty members may need to take additional steps to improve their teaching; for such faculty the expectation is that they exhibit significant measurable improvement as measured, for example, by student and peer evaluations.

Evidence of outreach activities to educational institutions, including K-12 schools, and efforts to broaden the participation of underrepresented groups in computer science will be considered as a contribution to teaching.

At the graduate level, the primary consideration in establishing teaching effectiveness is expertise in the teaching of advanced courses, in the conducting of graduate seminars, and in the supervising of graduate students at the masters and doctoral levels, including peer evaluation of the progress of the candidate's advisees. Other factors that may be taken into consideration at the graduate level are:

- written evaluations by students;
- written evaluations by peers based upon classroom and/or seminar visits;
- development of new courses and/or laboratories;
- 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 following:

- written evaluations of the candidate's research activities and of the candidate's publications in peer reviewed research journals and research monographs. These evaluations 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, some 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 chair of the candidate's mentoring committee. *The Procedures for Reviewing Candidates for Tenure and/or Promotion: Tenure-Track and Tenured Faculty* require that: the department should seek appraisals both from persons suggested by the candidate and from other recognized scholars

in the field. In the Department of Computer Science and Engineering, about half of the suggested reviewers should come from the candidate and half from the department. All the letters will be solicited by the Department and not by the candidate.

- if the candidate has a strong interdisciplinary component in his or her research, the Department will obtain letters of evaluation from faculty in the related unit(s) and from some external reviewers whose research also crosses similar interdisciplinary boundaries. Collaborative research is valued and will be judged assuming that all authors make contributions to the research. The contribution of individuals will be assessed from candidate's self-identification of specific contributions and from information provided by collaborators.
- written evaluations of the candidate's publications in the form of abstracts, conference preprints, conference proceedings, and other professional publications. These evaluations are an integral part of the documentation upon which the decision on the quality of the candidate's research is based, but they do not form the primary basis for that decision.
- participation in professional conferences, symposia, meetings, and special lectures, especially those for which participation was by invitation.
- external research funding from sources outside the University is desirable to the extent that this is a measure of the research skills and competence of the candidate. External funding will be considered favorably as a demonstration of ability to sustain financially that faculty member's research program. Peer reviewed funding is highly valued because of its indication of research excellence.

A 1994 NRC Committee on Academic Careers for Experimental Computer Science stated "The requirements for good research and engineering in experimental computer science and engineering (ECSE) are different from those of many other academic disciplines" and then added "Because conferences are the vehicle of choice in ECSE for the dissemination of research, well-refereed conference proceedings (as well as work published in refereed private journals) should be given as much weight as archival journal articles in evaluating a candidate's research portfolio for promotion and tenure". Certain proceedings articles should be weighted equally or even more heavily than archival journal articles when evaluating the candidate's research contributions. In view of the importance of conference publications we require documentation on the quality of the conferences, for example by indicating the specific or typical acceptance rates for papers submitted to the conference. In addition, the committee cited above, also underlined the importance of artifacts such as software or hardware prototypes. It stated "The importance of artifacts in demonstrating proofs of existence, concepts, and performance in ECSE, means that the development and implementation of computing artifacts with wide impact are comparable to publication of papers with wide impact". Candidates who develop such artifacts in their research are likely to publish fewer articles than candidates in other disciplines. Nevertheless, their contribution to the field can have as big an impact and should be therefore given special consideration.

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. The quality of publications, both in journals and in conferences, and of computing

artifacts will be assessed. The impact of the research contributions and the quality of the venues will be evaluated, based on the norms of peers. Acceptance rates at conferences, number of people who have used a computing artifact, new research directions spawned from the candidate's research are examples of factors that will be used in the assessment.

Other qualifications that the candidate may have acquired, and that may be used to establish the candidate's research ability include, but are not limited to, the following examples:

- 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.

C. Service

Service to the profession and to the broader public 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 in the Department of Computer Science and Engineering.

Examples of service contributions to the profession and to the broader public 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 private advisory committee.
- organizer or member of the organizing committee for a national or international symposium or conference.
- *member of the program committee for a national or international symposium, conference, or workshop.*
- review of technical and scientific papers for peer-reviewed journals and conference presentations.
- review of proposals for funding agencies.

Service to the profession and to the larger public community is valued for purposes of promotion and tenure to the extent that these activities use the professional expertise of the faculty to the benefit of the profession and public in furtherance of the Department and University mission. Service is not a primary criterion for tenure. Participation in the governance of the institution and other services to the University and the academic unit is expected for faculty in the Department of Computer Science and Engineering and may be included as additional support for a tenure recommendation. Examples of such services include, but are not limited to, active participation

in departmental, collegiate, and University committees. *Mission* related service to the larger public community is also encouraged, but is not a primary criterion for tenure.

V. Promotion

The following paragraphs describe the criteria for promotion to tenured ranks from within the Department of Computer Science and Engineering. 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 Department of Computer Science and Engineering 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 Computer Science and 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 strongly encouraged to work to achieve promotion to full professor by adding substantially to an already distinguished record of academic achievement, by establishing a national or international reputation, and by maintaining high standards in teaching and academic integrity. In addition the candidate is expected to provide a significant demonstration of service to the department or the university. It is the responsibility of the Department Head to advise the associate professors on their progress.

When requested by an associate professor, the Department Head will appoint a mentor or a mentoring committee to provide support and mentorship. The Faculty Evaluation Committee, which is appointed by the Department Head from a small pool of elected professors, will perform an in depth evaluation of each associate professor every two years, and report the evaluation to the meeting of the full professors, as detailed in the departmental policy on faculty evaluation.

A candidate for promotion to the rank of professor must have achieved a high level of professional distinction with a national or international reputation through research contributions to the candidate's discipline 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.
- the effective advising of post-doctoral personnel in disciplines where this is appropriate.

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 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 tenure taking into account the different stages of professional development and will provide for flexibility. Tenured faculty in the Department of Computer Science and Engineering are expected to maintain an active research program, teach courses as required by the department and in a satisfactory manner, advise students, and serve the goals of the department and college. *They are also expected to support their research activities as necessary and to publish and present their research results when appropriate. Responsibilities are to be negotiated with the Department Head. The negotiated responsibilities might vary depending on the interests and talents of the faculty and on the needs of the Department.*

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 annual review will be conducted by the Department Head with the assistance from the Faculty Evaluation Committee, which is appointed by the Head from a small pool of elected faculty, as detailed in the department policy on faculty evaluation. If the annual review process determines that faculty performance does not meet the minimal standards determined by the department, then the faculty member will be so advised in writing with recommendations for improved performance and a time period of at least one year to demonstrate improvement. If the faculty member's performance continues to be below expectations then the procedures described in 7a.3 of *Faculty Tenure* will be followed.

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 Computer Science and Engineering has a Faculty Evaluation Committee, appointed by the Head from a small pool of elected faculty as detailed in the department policy on faculty evaluation. Evaluation of the probationary faculty is conducted every year by the tenured faculty, with the support of the Faculty Evaluation Committee. Associate professors are evaluated every two years by the full professors, also with the support of the Faculty Evaluation

Committee. Full professors are evaluated by the Faculty Evaluation Committee every four years. All faculty are reviewed annually by the Head.

The candidate, working with his or her mentoring committee, is responsible for assembling the dossier for promotion and tenure in accordance with the guidelines provided by the Institute of Technology. All the tenured faculty are expected to have reviewed the candidate's file prior to the meeting of the tenured faculty in the department and to participate in the tenure and promotion vote. After discussion the faculty will vote. Absentee ballots will be counted if requested and received in advance of the meeting, as allowed by University and departmental procedures.

The department vote is considered positive if two conditions are simultaneously satisfied: (1) At least two-thirds of the votes cast, ignoring abstentions, are "yes"; and (2) more than half of the votes cast (including abstentions) are "yes" votes. The same procedures and voting standard will apply to decisions for promotion to full professor.

Approved by the faculty: December 12, 2007

Approved by the Senior Vice President for Academic Affairs and Provost: March 24, 2008