

## **UMD Department of Mechanical and Industrial Engineering**

Indices and Standards for Tenure and Promotion to Professor  
as Required by Section 7.12 of the Board of Regents Policy on Faculty Tenure (June 10, 2011)  
and

Indices and Standards for Promotion to Associate Professor

Approved by the Faculty on April 19, 2010

Approved by Dean on April 19, 2010

Reviewed by Vice Chancellor for Academic Administration on May 6, 2010

Reviewed by Senior Vice President for Academic Affairs and Provost on August 11, 2011

Approved by Chancellor on December 15, 2011

### **I. Introductory Statement**

This document describes with more specificity the indices and standards that will be used to evaluate whether candidates meet

- the general criteria for tenure as described in Section 7.11 (Appendix 1) of the *Board of Regents Policy on Faculty Tenure* (June 10, 2011) with revisions noted in the *Tenure Code Application to the UEA Contracts*,
- the general criteria for promotion to associate professor and
- the general criteria for promotion to professor as described in Section 9.2 (Appendix 2) of the *Board of Regents Policy on Faculty Tenure* (June 10, 2011) with revisions noted in the *Tenure Code Application to the UEA (University Education Association) Contracts*.

### **II. Departmental Vision and Mission Statements**

#### **Vision**

The UMD Department of Mechanical and Industrial Engineering (MIE) will be internationally recognized as the premier engineering department in the Great Lakes Region for its high quality undergraduate education, applied masters' level programs in Environmental Health and Safety and Engineering Management, integrated outreach activities in regional economic development, international partnerships, and applied research; thus enabling the growth of our students, faculty, alumni, industry, and economy.

#### **Mission-BSIE**

The mission of the Bachelor of Science in Industrial Engineering program is to deliver a hands-on, laboratory-intensive undergraduate education to provide students with the tools and skills to excel in the profession, as they pursue life-long learning and make positive contributions to society. With an emphasis on integrated systems and a strategic

partnership with Luleå University of Technology in Sweden, the BSIE program will offer unique opportunities for study abroad, undergraduate research, and technical electives to develop an enhanced global perspective.

### **Mission-BSME**

The mission of the Bachelor of Science in Mechanical Engineering program is to deliver a laboratory-intensive undergraduate mechanical engineering education to provide students with the tools and skills to excel in the engineering profession, as they pursue life-long learning and make positive contributions to society. The student learning experience will offer unique opportunities for study abroad, undergraduate research, and electives outside of mechanical engineering to develop an enhanced global perspective.

### **Mission-MSEM**

The mission of the Engineering Management Program at the University of Minnesota is to provide tools for practicing engineers to more effectively manage technology, people, and information in their careers to ensure economic growth, competitiveness, ethical decision-making, and environmentally responsible behavior.

### **Mission-MEHS**

The Masters in Environmental Health and Safety program at the University of Minnesota Duluth will produce highly-regarded and sought-after graduates who have the requisite skills and knowledge to practice environmental health and safety effectively in a diverse range of occupations and will do so in a competent, professional and ethical manner.

## **III. Criteria for Tenure**

What the Department of Mechanical and Industrial Engineering seeks above all in its faculty members is intellectual distinction and academic integrity consistent with the vision, mission, and educational objectives established by the Department. 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. This determination is reached through a qualitative evaluation of the candidate's record of teaching, scholarly research or other creative work, and service. Interdisciplinary work, technology transfer, public service, international activities and initiatives, attention to questions of diversity, and other special kinds of professional activity by the candidate will 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.<sup>1</sup>

The Department does not define the degree of importance that should be attached to each of the different criteria for tenure. Ideally, a candidate should demonstrate some distinction in all three areas which are stressed in this statement—teaching, scholarly research, and service. A candidate lacking significant contributions in two of these areas would not be considered a strong prospect for tenure. In all cases, however, each criterion will be considered.

---

<sup>1</sup> Derived from Section 7.11 (Appendix 1) of the *Board of Regents Policy on Faculty Tenure* (June 10, 2011)

## **A. Teaching**

Teaching is a primary mission of UMD, the Swenson College of Science and Engineering, and the Department of Mechanical and Industrial Engineering, so the Department expects all faculty members to strive to be excellent teachers.

1. Criteria for the demonstration of teaching effectiveness

Course Delivery

- a. Demonstration of mastery of the subject areas of the courses taught
- b. Demonstration of effective use of technology to enhance course delivery
- c. Course topics and materials are current and relevant and logically organized
- d. Course topics are clearly presented
- e. Course policies conform to University standards and are fairly enforced
- f. Demonstrated use of multiple teaching styles and group and/or team learning where appropriate
- g. Appropriate and fair assessments of student learning and assignment of grades
- h. Students are given timely feedback on their performance
- i. Measures have been taken by the candidate to maintain or improve his or her teaching performance

Contributions to Teaching

- j. Support of the assessment and improvement process for accreditation
- k. Demonstration of the ability and willingness to take on diverse teaching tasks
- l. Development of new courses, laboratories, or materials
- m. Involvement in curriculum development for the department's degree programs
- n. Involvement in improving the standards of teaching in the Department, College, campus, or engineering community
- o. Authorship of significant publications related to pedagogy

Academic Advising

- p. Full participation in academic advising activities
- q. Demonstration of an understanding of advisees academic and career goals
- r. Command of adequate knowledge of curriculum and policies to provide good advice

2. Evaluations of teaching effectiveness

Course Delivery

- a. Syllabi for courses taught by the candidate
- b. Materials and technology used by the candidate to support courses
- c. Relevance of courses taught by the candidate to program outcomes
- d. Evaluations by students and faculty of courses taught by the candidate have been maintained at a high level or improved upon
- e. Candidate was invited to teach at other universities or for business, government, or service organizations
- f. Candidate received awards that recognize excellence in teaching
- g. Candidate participated in teaching improvement activities (training, workshops, etc.)

Contributions to Teaching

- h. Candidate performed necessary assessments of program outcomes in courses and provided complete documentation of courses as required for accreditation

- i. Candidate made improvements to courses as assessments warranted
- j. Teaching workload of the candidate relevant to other department members (courses, contact hours, student credit hours)
- k. Level of courses taught by the candidate (lower or upper division, graduate)
- l. Diversity of courses taught by the candidate (number of different courses taught and degree programs supported)
- m. New courses and laboratories developed by the candidate
- n. Candidate participated in activities that raise the teaching standards of the department, college, or campus
- o. Candidate authored textbooks and/or chapters, articles in refereed educational journals, and articles in conference proceedings related to education.
- p. Candidate participated in or provided service to organizations that support engineering education (ASEE, educational committees of professional organizations)

#### Academic Advising

- q. Academic advising workload of the candidate relevant to other department members (number of advisees, group sessions)
- r. Success of advisees assigned to the candidate in completing degrees in a timely manner
- s. Candidate participated in college or university level advising activities (advisor training, advisement and registration for incoming students, campus preview)
- t. Candidate received awards that recognize excellence in advising

### **B. Scholarly Research**

The Department of Mechanical and Industrial Engineering expects all faculty members to maintain a productive program of scholarly 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 judged.

- 1. Criteria for the demonstration of research quality and impact
  - a. Development of a strong, well-recognized research program incorporating funded undergraduate and/or graduate students
  - b. Development of a national or international reputation in a specific research area
  - c. Demonstration of the ability to apply and transfer knowledge generated through research
- 2. Evaluations of research quality and impact
  - a. Candidate has authored publications in the field of study, including books and/or book chapters, articles in refereed journals, articles in trade publications, articles in conference proceedings, and technical reports on projects.
  - b. A significant number of the publications include the candidate as a

primary contributor and represent work done while at UMD.

- c. Candidate has secured internal funding
- d. Candidate has submitted proposals to obtain external funding
- e. Candidate has provided support for students and involved students in research
- f. Candidate has collaborated with other faculty members, departments, or organizations in research
- g. Candidate has performed successful projects in business, industry, government, or service organizations involving outreach and technology transfer.
- h. Candidate has developed and implemented successful engineering designs, developed software programs that have been adopted by business or industry, or applied for patents.

## **C. Service**

The Department of Mechanical and Industrial Engineering normally expects only a modest level of service of probationary faculty members. However, in cases where the limited availability of senior faculty members demands that probationary members carry a significant administrative and/or service burden, the contribution of a probationary member toward carrying that burden will be considered as a positive contribution toward earning promotion and tenure.

1. Criteria for the demonstration of service
  - a. Performance of service to the University.
  - b. Performance of service to the engineering profession.
2. Evaluations of service
  - a. Candidate has served the department in an administrative capacity (Director of Graduate Studies, Associate Department head, etc.)
  - b. Candidate has served on departmental committees and on college level committees.
  - c. Candidate has served as an advisor or supervisor for student organizations.
  - d. Candidate has served professional societies in the role of committee member or session chair either locally, regionally, or nationally
  - e. Candidate has served as a technical reviewer for conference proceedings, journal articles, or grant applications.
  - f. Candidate has performed service related to engineering and/or education at the community, regional, national, or international level.

## **IV. Criteria for Promotion**

### **A. To Assistant Professor**

A faculty member lacking a doctoral degree initially will be appointed at the instructor rank. However, upon completion of the Ph.D. the rank of assistant professor can be conferred. Except in rare cases, such promotion does not involve the granting of indefinite tenure.

### **B. To Associate Professor**

Except in rare cases, promotion to the associate professor rank is associated with a decision concerning tenure. If the tenure criteria as discussed earlier in this document are met, promotion to associate professor will be recommended.

### **C. To Professor**

The criteria for promotion to the rank of professor are that the candidate has demonstrated the intellectual distinction and academic integrity expected of all faculty members, added substantially to an already distinguished record of academic achievement, and established the national or international reputation (or both) ordinarily resulting from such distinction and achievement. This determination is reached through a qualitative evaluation of the candidate's record of teaching, scholarly research or other creative work, and service. Interdisciplinary work, technology transfer, public

engagement, international activities and initiatives, attention to questions of diversity, and other special kinds of professional activity by the candidate will be considered when applicable.<sup>2</sup>

The Department does not define the degree of importance that should be attached to each of the different criteria for promotion to professor. Ideally, a candidate should demonstrate some distinction in all three areas which are stressed in this statement—teaching, scholarly research, and service. A candidate lacking significant contributions in two of these areas would not be considered a strong prospect for promotion. In all cases, however, each criterion will be considered.

Evaluations of excellence in each area are provided by students, graduates, faculty colleagues, external evaluators, and working professionals. Evidence for excellence in each area beyond that required for promotion to associate professor with tenure may be documented as follows:

1. Teaching: The candidate has received local, national, or international awards and citations, authored widely adopted texts and monographs, authored influential articles pertaining to education, made nationally recognized contributions to curriculum development, received lecture invitations or invitations to major universities as a visiting professor, or has been selected for editorship of recognized educational journals or text series.
2. Scholarly Research: The candidate is a recognized authority in a particular research specialty as indicated by the high quality and impact in the research area of the individual's published work, by the esteem in which the candidate is held by colleagues (as indicated by invitations to lecture, chair meetings, participate in grant review boards and on editorial boards, election to Fellowship in learned societies, etc.), and by the success of the candidate in attracting external grant support.
3. Service: The candidate has been elected to offices in professional societies, participated in professional review groups and panels, provided outstanding leadership within the Department, College, and University, or provided recognized professional service to the regional community.

## **V. Procedures**

The Department complies with the procedures for promotion and conferral of indefinite tenure set forth in Section 201.000 of the *Collective Bargaining Agreement between the Regents of the University of Minnesota and the University Education Association* that is in effect at the time of the promotion and tenure review and decision.

---

<sup>2</sup> Derived from Section 9.2 (Appendix 2) of the *Board of Regents Policy on Faculty Tenure* (June 10, 2011)

## Appendix 1

**Section 7.11 General 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 [2]. This determination is reached through a qualitative evaluation of the candidate's record of scholarly research or other creative work, teaching, and service [3]. The relative importance of these criteria may vary in different academic units, but each of the criteria must be considered in every decision [4]. 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.

[2] "**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.

[3] "**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.

[4] 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.

## Appendix 2

**Section 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 [7]. This determination is reached through a qualitative evaluation of the candidate's record of scholarly research or other creative work, teaching, and service. 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.

[7] "**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.

### References

1. Board of Regents Policy on Faculty Tenure (June 10, 2011)
2. Tenure Code Application to UEA Contracts
3. Collective Bargaining Agreement between the Regents of the University of Minnesota and the University Education Association