

## **Department of Computer Science & Engineering Bylaws**

Approved: July 9, 2003

Amended: January 20, 2017

### **I. Introduction**

The bylaws for the Department of Computer Science and Engineering define 1) the role of faculty participation in governance, 2) procedures and criteria for promotion and tenure of TET BUFMs, and 3) procedures and criteria for the annual evaluation of the scholarship of tenure-track and tenured faculty. These bylaws may be amended in accordance with the collective bargaining agreement.

For the purposes of this document, departmental faculty refers to all bargaining-unit faculty members whose primary appointments are in the Department of Computer Science and Engineering.

### **II. Steering**

#### **2.1 Standing Committees**

The participation of the BUFMs of the Department of Computer Science and Engineering in departmental governance shall include four standing committees: the Steering Committee, the Undergraduate Studies Committee, the Graduate Studies Committee, and the Faculty Development Committee. Bargaining unit faculty who are members of the Steering Committee are elected; the Faculty Development Committee is composed of all tenured BUFMs; and all other committee memberships are appointed by the Department Chair with advisement from the Steering Committee. Members of the Steering Committee have two-year elected terms, which will be staggered. All other committee appointments are for an academic year. New committee members will take office at the beginning of the fall term. The Department Chair shall be an ex-officio member of all standing committees so as to have the opportunity to be directly involved in deliberations but without vote.

#### **2.2 Ad hoc Committees**

Ad hoc committees may be created by the Department Chair or by the Steering Committee to undertake and discharge specific tasks. The composition and selection of members of ad hoc committees shall be determined by the Chair and the Steering Committee.

#### **2.3 General Responsibility**

It is expected that committees will occasionally establish guidelines they view as helpful in the efficient execution of their duties. A guideline may constitute a useful precedent and will be made available to successive committees for their convenience. Guidelines are not binding on future committees. A committee may form subcommittees to focus on specific issues within the general area of responsibility of the committee.

Findings, reports, minutes of meetings, and correspondence shall be maintained by the committee Chair.

#### **2.4 Election of Steering Committee Members**

The election of members for a subsequent year's Steering Committee shall be held near the end of the academic year and be supervised by the current Steering Committee. The BUFMs will be canvassed to solicit nominations for the Steering Committee. The election shall then be conducted by secret ballot. Voting is restricted to BUFMs. If a vacancy develops midway through a term, an election will be held to select a replacement for the remainder of the unexpired term.

## **2.5 Appointments**

Appointments to standing committees shall be the responsibility of the Department Chair advised by the Steering Committee. Voting membership on standing committees is restricted to BUFMs whose primary appointment is in the Department of Computer Science and Engineering. Non-BUFM members of the departmental faculty may be appointed to serve (non-voting) on committees.

The Steering Committee shall request volunteers for appointed committee positions and make recommendations to the Chair regarding departmental and college committee assignments. The Steering Committee will attempt to distribute the faculty committee service load of the Department throughout the BUFMs. Any BUFM may volunteer to serve on any Departmental committee; such requests will always be granted unless membership in the committee is otherwise restricted or extraordinary circumstances prevail.

## **2.6 Steering Committee**

### **Purpose**

The purpose of the Committee is to serve as an advisor to the Chair. Specific responsibilities of the Committee are given below. The Committee

- Shall recommend nominations of department faculty for College committees.
- Shall supervise elections for membership on the next Steering Committee.
- Shall recommend department faculty for College and University awards.
- Shall review budget priorities and the allocation of departmental resources with the chair and bring attention to any matters that should be discussed by the entire faculty.
- Shall facilitate appointments to committees.

### **Composition**

The Committee shall be composed of BUFMs with three or more years of experience with the department. The voting membership of the committee will consist of the larger of four (4) members and a rounded number that is equal to 20% of BUFMs in the Department. The Chair of the Committee shall be a BUFM elected by the Committee at the first meeting of each academic year. The elected members shall serve staggered two (2)-year terms. The Chair of the Department of Computer Science and Engineering will serve as a non-voting member of the Committee.

### **Activities**

The Committee shall meet at least once per term during the academic year or more often at their discretion, in order to achieve the goals expressed above.

## **2.7 Undergraduate Studies Committee**

### **Purpose**

The Committee has the responsibility for evaluating and making recommendations to the department faculty and to the appropriate College and University committees on issues relating to the undergraduate programs of the department. In particular, the Committee shall

- Make recommendations on all changes, additions, or deletions of undergraduate courses offered by the Department of Computer Science and Engineering.
- Make recommendations on all changes in the requirements for degrees or certificate programs in all undergraduate programs in the department including honors program.
- Review materials used in courses to ensure that course content is consistent with the catalog descriptions and prerequisite material is covered in prerequisite courses and make recommendations as needed.
- Make policy recommendations on all variations and exceptions to the degree requirements.
- Review and make recommendations on undergraduate petitions.
- Make recommendations for undergraduate awards and scholarships awarded by the department.

### **Composition**

The Committee shall be composed of at least five BUFMs. The chair of the committee shall be elected by the members at the first meeting of each academic year. The Chair of the Undergraduate Studies committee should be the ex-officio representative of the department to the corresponding College committee.

The Committee, at its discretion, may invite other members of the faculty and staff to participate and contribute to discussions on curricular issues.

## **2.8 Graduate Studies Committee**

### **Purpose**

The Committee has the responsibility of evaluating and making recommendations on all issues relating to the graduate programs of the Department. In particular, the Committee shall

- Make recommendations on all changes, additions, or deletions of graduate courses offered by the Department of Computer Science and Engineering.
- Make recommendations on all changes in the requirements for degrees or certificates in all graduate programs in the Department.
- Make recommendations on all variations and exceptions to the departmental degree requirements. This includes the evaluation of transfer courses and substitutions in the degree program.

- Review and make recommendations on the Ph.D. program including the organization and administration of qualifying examinations, candidacy examinations, and dissertation defenses.
- Review and make recommendations on graduate petitions.
- Make recommendations on the selection of departmental GTAs and GRAs.
- Review and make recommendations on admission to graduate programs.
- Recommend a member to serve as the departmental liaison with the library.
- Review and make recommendations for graduate awards, scholarships, and fellowships.

### **Composition**

The Committee shall be composed of at least five BUFMs who are members of the graduate faculty and will include the Director of the CSE Ph.D. program. The members at the first meeting of each academic year shall elect the chair of the Committee. The Committee will forward to the department Steering Committee the name of the member recommended to be the departmental representative to the College Graduate Studies Committee.

## **2.9 Faculty Development Committee**

### **Purpose**

To assist in establishing a faculty of outstanding ability and superior performance in teaching and scholarship. The specific responsibilities of the Committee are as follows:

- To provide an annual evaluation of all untenured TET BUFMs summarizing their progress toward tenure.
- To provide an annual evaluation for tenured Associate Professors who request it by the CBA-specified deadline summarizing their progress toward promotion. These evaluations shall be conducted by only by those FDC members of higher rank than the individual being evaluated.
- To make department faculty recommendations on tenure and promotion cases for TET BUFMs.
- To perform annual peer evaluations of teaching for untenured TET BUFMs and for any tenured TET BUFMs who request it. Peer evaluation will normally consist of at least a review of course materials, syllabi, and student evaluations. Class visitations (1 to 3 class sessions) may also be arranged by members of the Faculty Development Committee, results from which will be used to inform the FDC's peer evaluation. Peer evaluation reports will be used by the Faculty Development Committee and by the department chair for their annual evaluations. [Peer evaluation of teaching of NTE BUFMs shall be in accordance with the CBA.]
- To select tenured BUFMs from other departments to bring the membership to the minimum required if there is an insufficient number of members of the Committee as required by the collective bargaining agreement.
- To review and make recommendations for requests for Professional Development or other leaves.

- To arrange for colloquia and special lectures to support faculty areas of interest.
- To assign a mentor for each new BUFM, on request.

### **Composition**

The Committee shall be composed of all tenured BUFMs in the Department. The chair of the Committee shall be elected by the members at the first meeting of each academic year.

### **Activities**

The Faculty Development Committee shall meet as needed to undertake such tasks as it may set for itself in achieving the goals expressed above. Members of the Committee shall not participate in the evaluation or vote on recommendations for promotion to a higher rank than their own.

### **2.10 Faculty Search Committees**

At least 75% of the members of a search committees for a faculty position will be BUFMs from the Department of Computer Science and Engineering. A majority of the members of a search committee for a Department Chair will be BUFMs from the Department of Computer Science and Engineering.

### **2.11 Administrative Reviews**

The BUFMs will participate in the reviews of the Chair, the Dean of the College of Engineering and Computer Science, and other administrators as requested.

### **2.12 Departmental Faculty Meetings**

#### **Purpose**

The purpose of departmental faculty meetings is twofold: to make faculty recommendations to the College committees, University committees, or the Department Chair; and to inform the faculty of items of interest occurring in the Department, the College, and the University. The Department Chair shall chair department faculty meetings.

The format of department faculty meetings will be

1. Approval of minutes of preceding meeting
2. Report of the Department Chair
3. Reports of the Department Standing Committees
4. Unfinished Business
5. New Business
6. Announcements

A department faculty meeting may be called by the Steering Committee, the Department Chair, or at the written request of at least 33% of the faculty members of the department. The Department Chair shall set the agenda for each department faculty meeting and shall make the agenda available to all faculty

members of the department at least 24 hours prior to the meeting. A quorum for a department faculty meeting consists of a simple majority of the BUFMs of the department.

Items may be entered on the agenda by any standing committee. Any member of the faculty may also recommend a topic to the Department Chair or to the Steering Committee.

To provide time for discussion and consideration of the issues, all items subject to faculty vote must be distributed to the faculty at least one full work-day prior to the meeting. The lone exception to this procedure is when a motion is made to suspend the rules to have an immediate vote on an item of new business not so distributed. A vote of two thirds of the Department BUFMs (not just those at the meeting) is required to suspend the rules in order to allow for such immediate voting. Voting will be conducted using secret ballot if requested by one or more faculty members. Eligibility to vote at department faculty meetings is restricted to full-time faculty members whose primary appointments are in the Department of Computer Science and Engineering, except for the department chair.

### **III. Promotion and Tenure**

#### **3.1 General Criteria for Promotion and Tenure**

The Department of Computer Science and Computer Engineering establishes the following general criteria for promotion and the awarding of tenure. More specific requirements for promotion to Associate Professor and to Professor follow these general requirements. The criteria enumerated below will require the candidate to provide evidence of excellence as a teacher, as a scholar, and as an effective service provider to the institution and to the academic and professional communities. The requirements are grouped into three categories: Research, Teaching, and Service.

#### **Research**

Scholarship includes activities that utilize a faculty member's expertise to contribute to his/her academic discipline, related disciplines, and to the wider society. A spirit of inquiry is the essential core of every academic institution. Research supports this spirit in a very direct fashion and is also interwoven with the process of stimulating learning. Thus, quality research is to be highly valued in determining promotion and the granting of tenure.

Primary indications of quality normally include, but are not limited to, the following:

- publication of research results and of extended scientific and engineering reviews in peer-refereed journals of acknowledge stature (particularly those of scholarly professional societies such as the ACM and IEEE);
- development of tangible innovative items, such as patents, license agreements, etc.;
- ability to attract funds, particularly from sources external to the university, to support research efforts of the candidate and to support graduate students;
- publication with known publishers of research monographs, book chapters, and professional books;
- positive evaluations of scholarship by reviewers external to the university;

- teaching innovations such as development of a laboratory, publication of textbooks, and educational publications;
- developing a research program based on research activities, including supervision of students (undergraduate, Master, PhD) associated with his or her research and building up a research lab;
- development of hardware and software that are used beyond Wright State University.

Secondary indications of quality include, but are not limited to, the following:

- refereed conference proceedings;
- invited presentations, workshops, and seminars at other universities or research institutes;
- preparation and submission of grant proposals for funding;
- technical communications, communications on ongoing research, book reviews;
- serving as a major advisor on Ph.D. dissertations and M.S. theses.

Authorship considerations. A majority of the required publications, especially the archival publications, should normally have the candidate or the candidate's supervised student- as the primary author. Collaborative efforts are encouraged where appropriate to the research topic and when resources can be obtained through teamwork that would not be available to the single investigator. Nevertheless, a publication record in which a disproportionate share of the required papers have collaborators as the primary authors is not appropriate because it fails to document that the candidate has established an independent research program.

Consistency. The candidate should be able to show that the independent research program has been built and sustained over his or her time at Wright State University. It is natural that a transient period may occur as the candidate acquires and develops graduate student researchers, builds a laboratory, and the like. However, once a reasonable period of adjustment is past, the research program of the candidate should begin to grow and produce in a fairly steady manner. To receive a favorable recommendation, evidence of consistency must be present in the candidate's record.

External Funding. A faculty member should contribute to the Departmental research mission not only by scholarly publication, but also by obtaining resources to support his or her research activities and also to support his/her graduate students. The primary objective of seeking competitive funding from federal, state, and other sources external to the university to aid in the production of high quality research and to allow the candidate to build the infrastructure to support such activities in the future and to support his/her graduate students.

Competitive Awards. Along with refereed publications, peer review of proposals by funding agencies (such as NSF, AFOSR, ONR, NIH, ARL, DARPA, NIMA, etc.) provides an additional external review of the quality and utility of a faculty member's research. A candidate should demonstrate success in obtaining competitively reviewed funding as a principal or co-principal investigator.

Internal and Targeted Funding. Funding opportunities frequently exist within Wright State University and from targeted programs (such as those sponsored by the Ohio Board of Regents) that significantly limit the competition for the awards. The objectives of these programs are to enhance the recipient's

ability to obtain additional external funding and to support his or her research program. Success of these programs will be directly reflected in the publications that have been generated and the external funding that has been obtained as a result of the internal support. Generally, internal funding will have little bearing on an evaluation for promotion or tenure except for the students they support. However, State of Ohio programs will be examined individually to evaluate whether they are sufficiently competitive to be counted.

To conclude, candidates for promotion at either level and for the award of tenure must provide clear and compelling evidence that they have developed a productive research program. One element of this evidence is the letters from outside reviewers evaluating the quality of the candidate's scholarship. The chair of the FDC shall request at least three letters of evaluation from a list of referees agreed upon jointly by the candidate and the FDC.

### **Teaching**

The successful candidate for promotion and tenure has demonstrated excellence in the classroom, as a graduate advisor, and as a mentor. Evidence of such excellence can be inferred from student and peer evaluations of classroom performance, publications on education, textbooks published, course enhancement or documented effective teaching innovations, curriculum development, grants to support curriculum development, and teaching awards.

The candidate should have taught a variety of material at all academic levels from the undergraduate to the graduate. Significant differences among the areas, departmental needs, scheduling matters, and other opportunities will impact the degree of diversity represented in the candidate's teaching history, however, and so candidates will not be penalized when their assigned teaching has not provided them with opportunities to display such variety.

The candidate is expected to meet his or her class on time and to be prepared to teach the subject material. In addition, the candidate should be available for a reasonable period of time each week to meet with students from class, from student organizations, or who are seeking advice on other academic matters. At all times, faculty members are expected to treat students with courtesy and respect.

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### **Service**

Faculty members are expected to contribute to his or her research community and its professional activities. Typical examples of such involvement include holding editorships of journals, serving on conference organization committees, organizing and chairing sessions at national conferences, holding offices in professional societies, reviewing papers and proposals, and participating in review panels. In addition, the candidate must demonstrate that he or she has carried a fair share of the service responsibilities of the Department and the rest of the University community, by participating actively in Department plus College and/or University committees. In particular, the candidate should consistently



attend assigned committee and other departmental meetings and complete the work necessary for the committees to fulfill their responsibilities.

An assistant professor seeking tenure must demonstrate active participation in departmental and professional service. For promotion to professor, the candidate is expected to have assumed a leadership role in departmental, university, or professional service.

In all activities, a candidate must exhibit professionalism and ethical behavior in his or her interactions with students, other faculty, and members of the professional community.

### **3.2 Criteria for Promotion to Associate Professor with Tenure**

In this section we provide additional specific requirements for promotion to Associate Professor with tenure and for awarding tenure to an untenured Associate Professor. It is normally expected that an Assistant Professor will be considered for promotion to Associate Professor with tenure during his or her sixth year at Wright State University. Consideration for the award of tenure to an untenured Associate Professor will generally occur during his or her third year at Wright State University.

A candidate may be considered for promotion to Associate Professor or for tenure prior to the normal time when the candidate has experience as a tenure track faculty member at other institutions or when a candidate's performance is uniformly outstanding and the candidate's level of performance has been of sufficient duration for the Faculty Development Committee to be confident that criteria have been met. For an untenured Associate Professor, the candidate's record over the preceding five years, which may include time prior to his or her joining the faculty at Wright State University, will be considered for review. In this case, it is necessary that the candidate's level of performance has been of sufficient duration for the Faculty Development Committee to be confident that criteria have been met. The candidate's performance record since appointment at Wright State University is given strongest consideration.

Since it is unrealistic to define precise minimum requirements for publications, external funding, teaching, and service, we will use the terms "adequate," "expected," and "outstanding" to describe general ranges of performance. A candidate must have at least an "adequate" rating in each of the four categories below and an average rating of at least "expected" across teaching, publication, and external funding in order to receive a favorable recommendation for promotion and tenure.

#### **REQUIREMENTS**

**Publications.** Performance is demonstrated by the publication of high-quality archival journal papers or their equivalent. For this measure, a textbook, a patent or license agreement, and other primary measure of research publication counts as the equivalent of one journal publication each (up to a maximum of 2). Similarly, measures of secondary performance, such as a highly selective conference paper, 3 regular conference papers or a book chapters count as the equivalent of one journal publication (up to a maximum of an additional 2). Adequate performance is demonstrated by the publication of 6 journal equivalents, expected performance by 8 journal equivalents, and outstanding performance by 12 journal equivalents.

**External Funding.** Performance is demonstrated by external funding that makes a significant contribution to the academic programs in the department or to the development of an ongoing research

program of the faculty member by the acquisition of the necessary research equipment, support of students, and other research related expenses. Adequate performance is demonstrated by the awarding of grants equal to at least \$100,000 total costs, which includes 4 semesters of graduate student support. Expected performance is demonstrated by the awarding of grants equal to at least \$200,000 total costs, which includes 6 semesters of graduate student support. Outstanding performance is demonstrated by the awarding of grants equal to at least \$300,000 total costs, which includes 11 semesters of graduate student support.

Teaching. The evaluation of teaching will be obtained through a comprehensive assessment of the candidate's classroom performance and research instruction. The rating will consider the overall quality of the performance and trends of improvement. For the purposes of this measure, research instruction will be measured in the graduation of Master's students, or its equivalences. Two years of Ph.D. student supervision beyond qualifiers counts as the equivalent of one Master's student. Every 3 completed honor's projects, or 18 credit hours of independent study count as one Master's student. Supervision of one Ph.D. student to completion counts as three Master's students.

Adequate performance is demonstrated by minimal criticisms by peers with a major effort towards solving any significant problems. The candidate must demonstrate teaching effectiveness in the classroom and in the laboratory. Course materials and content are kept up-to-date and appropriate for the course. If initial student and/or peer evaluations indicate problems, trends of improvement must be demonstrated. Adequate performance also requires the equivalent of the supervision of 2 Master's students with thesis to completion.

Expected performance in classroom teaching is demonstrated by mostly positive evaluations by students and peers with only minimal criticisms. Course materials and content are kept up-to-date and appropriate for the course. Expected performance also requires the equivalent of the supervision of 4 Master's students with thesis to completion.

Outstanding performance in teaching is demonstrated by recognition and/or awards for teaching. In addition, an outstanding rating requires strong evidence of exemplary performance in curriculum development, course oversight, or student advising well beyond that expected of a typical faculty member. Outstanding performance also requires the equivalent of the supervision of 6 Master's students with thesis to completion.

Service. The evaluation of service will consider the candidate's participation in Department, College and University governance and his/her contributions to the professional community.

Adequate performance is demonstrated when the candidate regularly volunteers for and is involved with the representative functions of the department, such as open houses, student advising, and departmental committees as assigned by the Chair.

### **3.3 Criteria for Promotion to Professor**

In this section we provide additional specific requirements for promotion to Professor and for awarding tenure to an untenured Professor. The career accomplishments of the candidate should establish him or her as a nationally or internationally recognized contributor to the discipline. Moreover, evidence of continuing and consistent scholarship is required to ensure that the candidate's contributions represent the current state of the discipline and to provide confidence that criteria have been met.

To provide sufficient time to establish a continuous record of scholarship at the level expected for promotion to Professor, a candidate normally will have completed at least five years at the rank of Associate Professor. In exceptional cases, a candidate may be considered for promotion to Professor prior to the completion of five years at the rank of Associate Professor. A case may be considered exceptional when a candidate's performance is uniformly rated outstanding according to the criteria listed below and the exceptional level of performance has been of sufficient duration for the Faculty Development Committee to be confident of its recommendation.

Consideration for the award of tenure to an untenured Professor will normally occur during his or her second year at Wright State University. To ensure that the candidate's contributions represent the current state of the discipline and to provide confidence that criteria have been met, the candidate's record over the five years preceding his or her consideration for tenure must satisfy the criteria for promotion to Professor listed below.

As in the previous section, the terms expected and outstanding will describe general ranges of performance. A candidate's performance must satisfy the expected performance in all areas, and be outstanding in at least one area to receive a favorable recommendation for promotion to or tenure at the rank of professor.

Publications. Expected performance is demonstrated by the publication of 18 journal equivalents, and outstanding performance by 25 journal equivalents. Definitions of journal equivalences are as per promotion to associate professor. Normally, at least half of the required number of journal equivalents, listed above, must have been completed since the last promotion or within the last 5 years.

External Funding. Expected performance is demonstrated by the awarding and execution of external grants and contracts equal to at least \$500,000 total costs, which includes 14 semesters of graduate student support. Outstanding performance is demonstrated by the awarding and execution of external grants and contracts equal to at least \$1,000,000 total costs, which includes 27 semesters of graduate student support. At least half of the required number of numeric measures, listed above, must have been completed since the last promotion or within the last 5 years.

Teaching. Expected performance is demonstrated by mostly positive evaluations by students and minimal criticisms by peers. The candidate must demonstrate teaching effectiveness in the classroom and in the laboratory. Course materials and content are kept up-to-date and appropriate for the course. Expected performance also requires the equivalent of the supervision of 10 Master's students with thesis to completion.

Outstanding performance requires that student and/or peer evaluations demonstrate exemplary teaching performance, with a high level of student learning. The candidate has received awards for teaching effectiveness or the equivalent, and has taken a leadership role in curricular development. Outstanding performance also requires the equivalent of the supervision of 12 Master's students with thesis to completion.

Definitions of Master's student equivalences are as per promotion to associate professor.

Service. An expected rating requires continued involvement in the activities of the department through student advising, open houses, regular attendance at departmental faculty meetings, regular and effective service on department committees, and participation in 5 committee years at the college or

university level. Committee service or equivalent involvement in professional societies on the national and international level is also required.

An outstanding rating requires continued involvement in the activities of the department through student advising, open houses, regular attendance at departmental faculty meetings; regular and effective service on department committees; participation in 10 committee years at the college or university level; and frequent assumption of leadership roles. Substantial service to professional societies, editorships, conference organization, etc. must confirm that the individual is nationally or internationally acknowledged for his or her service accomplishments.

### **3.4 Criteria for Appointment with Tenure**

Occasionally an award of tenure is made with an initial appointment to the rank of Associate Professor or Professor. When this is considered, it is normally expected that the candidate currently has tenure at an academic institution whose stature and expectations are comparable with those of Wright State University. The career accomplishments of the candidate should establish him or her as a nationally recognized contributor to the discipline. To ensure that the candidate's contributions represent the current state of the discipline and to provide confidence that criteria have been met, the specific criteria given for promotion to the rank being considered (Section 3.2 for promotion to Associate Professor or Section 3.3 for promotion to Professor) must be satisfied.

## **IV. Annual Evaluation of Bargaining Unit Faculty**

### **4.1 General Criteria**

All bargaining unit faculty members shall be evaluated annually by the department chair. This is done primarily based on the annual report filled out by the faculty member and on the peer teaching evaluation, if any.

The criteria used to arrive at these ratings are to be uniform for all evaluations and are defined in the TET and NTE CBAs, excepting only scholarship criteria for TET BUFMs, which appear below.

### **4.2 Scholarship Criteria**

If multiple measures are required to achieve a certain level of performance, these measures may be from the same category. For example, if two additional measures are necessary from the list: i) publication of one journal article, ii) external grant of \$100,000 and iii) two semesters of graduate student support, publication of two journal articles would fulfill the requirement.

Factors used in rating the scholarship performance include submission of journal articles to peer-reviewed journals of acknowledged stature; acceptance of submitted articles; submission and acceptance of abstracts, proceedings, book chapters, reports, etc.; submission and award of patents; invitation to give lectures, conference presentations, seminars; submission of research proposals; funding of research proposals; support of students in the faculty member's research program. Similar to the promotion and tenure criteria, a textbook, a patent or license agreement, or other primary measure of research publication equals one journal article.

Unsatisfactory

The faculty member does not meet the requirements of an adequate level of performance in scholarship as outlined below.

#### Adequate

Research progress may be indicated by documenting an average of at least one of the following measures per year over the past three years:

- publication of a technical paper in a technical conference or a book chapter;
- submission of a journal paper for a peer-reviewed journal;
- submission of a research proposal to an external agency.

If the faculty member has had no external research support during the year, there must be documentation about submission of a research proposal to an external agency. This proposal must be for a major grant from a national source with the faculty member as the leading investigator.

#### Meritorious

Research performance in the meritorious category can be demonstrated by an average of at least two measures per year over the past three years such as those listed below:

- publication of a technical paper in a peer-reviewed journal;
- initial funding of a research grant;
- two semesters of graduate student support.

#### Outstanding

Assuming the faculty member has met the requirements for meritorious scholarship, an average of at least two additional measures per year over the past three years such as those listed below can be used as evidence of outstanding performance:

- publication of at least one additional journal article;
- external research grants and contracts exceeding \$100,000 in total costs per year;
- an additional two semesters of graduate student support.

#### Extraordinary

The faculty member must demonstrate research activities that exceed expectations for outstanding.