College of Arts and Sciences
DEPARTMENT OF MATHEMATICS AND COMPUTER SCIENCE
Rank and Tenure Procedures and Criteria

I. PROCEDURE

Evaluation of Application for Promotion and Tenure

Faculty in the Department of Mathematics and Computer Science are evaluated for promotion and tenure using the procedures described in *The Faculty Manual of Saint Louis University* and the College of Arts and Sciences Rank and Tenure Procedures in section II.A.6 of the *College Policy Binder*.

In the Department of Mathematics and Computer Science, the procedures for tenure and for promotion to associate professor and professor are as follows:

- **The Candidate's Responsibilities**

  The candidate for promotion and/or tenure should inform the Chair by April 1 that the candidate intends to apply for promotion the following fall and should provide the Chair with a list of potential outside evaluators, a list of colleagues from which to choose colleague evaluators, and a list of students from which to choose student evaluators. If the candidate has any special concerns, the candidate should communicate these to the Chair. All this should be done by the end of May or another date set by the Chair. The candidate should submit the completed dossier by September 1. The candidate's student evaluations (summarized in the dossier) and scholarly work should be included as appendices to the dossier. Candidates for promotion to associate professor should summarize all Saint Louis University student evaluations. Candidates for promotion to professor would ordinarily summarize the last five years of student evaluations.

- **Role of the Departmental Faculty**

  The role of the department faculty is given in section 4.2 of the College of Arts and Sciences Rank and Tenure Procedures.

- **The Chair's Responsibilities**

  The Chair is responsible for administering the promotion and tenure process at the department level. The Chair is expected to exercise appropriate judgment in carrying out the process.

  The candidate submits names to be considered as outside evaluators. The Chair adds names to the list. The chair selects the outside evaluators; at the Chair's discretion, the Chair may consult appropriate faculty in selecting outside evaluators. After consultation

with the candidate, the Chair decides what materials should be sent to each evaluator. Generally, the outside evaluators are sent a cover letter, a brief vita of the candidate, copies of the candidate's recent publications, and a copy of the Department's tenure and promotion criteria. The evaluators are asked to comment on the quality and significance of the candidate's work.

The candidate submits a list of varied students to fill out the student form (for example, majors and non-majors, students from introductory, advanced, and graduate courses, advisees as appropriate). The Chair makes a list of student evaluators. At the Chair's discretion, the Chair may consult appropriate faculty in selecting student evaluators. The Chair chooses two students, one from the candidate's list and one from the Chair's list. To provide adequate coverage of the candidate's work in teaching and advising, additional student letters may be solicited after consultation with the candidate.

The candidate submits a list of faculty (one or more) to fill out the colleague form. The Chair chooses one faculty member from the list and an additional faculty member.

The Chair makes the candidate's dossier (including appendices), the student letters, and the letters from outside evaluators available to those faculty who will vote on the candidate. The Chair presides over the faculty meeting to discuss and vote on the candidate, fills out the Chair's form, and assembles the Department's part of the dossier. The Chair participates in the vote.

The procedure for promotion to emeritus/a status is as follows:

The candidate submits a letter requesting emeritus/a status to the Chair of the Department, provides a rationale for emeritus/a status being awarded, and appends a current curriculum vitae. The Chair presides over a faculty meeting to discuss and vote on the candidate and fills out the appropriate forms as may be required. All tenured faculty members in the Department are eligible to attend the meeting and to vote.

Mentoring and Evaluation of Untenured Faculty

Each spring the Chair will ask each untenured faculty member to submit the candidate's part of the dossier. The Chair distributes the dossier to the tenured faculty who then meet, discuss the untenured faculty member, and advise the Chair what to communicate verbally and in writing to the untenured faculty member concerning progress towards tenure. A copy of the written evaluation is kept on file and a copy is also sent to the Dean. The third review will be marked the "Third Year Review" when it is forwarded to the dean. (Note: This review is separate from the annual review of all faculty.)

II. CRITERIA

Candidates for promotion and tenure in the College of Arts and Sciences are evaluated according to the criteria in *The Faculty Manual of Saint Louis University* as interpreted and applied to the

College of Arts and Sciences in the *College Policy Binder,* section II.A.6. This document further interprets and applies those criteria to the Department of Mathematics and Computer Science.

The criteria for promotion are in the areas of teaching, advising, scholarship and research, service, skill and knowledge of the field, and collegiality. Satisfactory performance is required in each area. Of these, teaching and research/scholarship are the most important. Good teaching is absolutely essential, and each university professor must be a scholar.

Criteria for Promotion to Associate Professor with Tenure

- **Teaching**

  Faculty members seeking promotion and/or tenure should demonstrate success in teaching a variety of courses appropriate to their backgrounds and the needs of the Department.

  Curriculum development and the supervision of undergraduate research projects, master's theses, and doctoral dissertations are considered contributions to teaching.

  Indicators of teaching quality may include (but are not necessarily limited to) the responses to quantitative and open-ended questions on student evaluation forms; peer evaluation by colleagues; sample teaching materials that the candidate may wish to submit; and the comments on the student, colleague, and chair forms.

- **Advising**

  Advising includes the formal and informal activity of providing academic, professional, and career advice to undergraduate and graduate students. Although supervision of undergraduate research projects, master's theses, and doctoral dissertations is considered part of teaching, a faculty member who supervises work of this kind often plays a significant role as an advisor as well.

  Indicators of the quality of advising may include (but are not necessarily limited to) the number of advisees, the amount of time devoted to advising, letters from current and former advisees, and the comments made in the student, colleague, and chair forms.

- **Scholarship and Research**[i]

  The candidate should have established a program of ongoing research of high quality and a substantial reputation beyond the thesis. There are many ways to demonstrate that such a program and such a reputation have been established, and it is not possible to specify the precise number of publications that would be required. Quality of publication is important, as well as quantity.

  The most important evidence of research quality is the publication of refereed books, of refereed papers in well-regarded journals, or of papers in selective and prestigious edited

books or conference proceedings. Publications that result from collaborative work with researchers in other disciplines count towards tenure and promotion, whether they appear in mathematics, computer science and statistics journals or in journals in other disciplines. Collaborative work with researchers in other disciplines is evaluated according to the quality and significance of its mathematics, computer science or statistics component, and more weight is given to papers that involve new approaches to modeling problems in other disciplines or substantive new mathematics, computer science or statistics than to routine applications of known techniques. Publications that have been accepted but which have not yet appeared should be counted towards tenure and promotion.

Instructional materials and pedagogical endeavors, normally considered evidence of teaching ability, may be considered only to the degree that they have national or international impact on the field. Secondary evidence of scholarship and research includes presentations at professional meetings, presentations in seminars or colloquia, grants and awards, reviews, software development, and other professional service activities. Other indicators include but are not necessarily limited to the letters from outside evaluators and the comments on the student, colleague, and chair forms.

It is unlikely that one can meet this criterion without publishing three papers, at least two of which go beyond the thesis.

- **Service**

  Service includes, but is not necessarily limited to, service on committees and task forces and undertaking administrative or other duties important to the Department, College, University, profession, or community (performed in a professional capacity).

- **Skill and Knowledge of the Field**

  In mathematics, computer science and statistics, skill and knowledge of the field are demonstrated primarily through successful teaching and research. Skill and knowledge of the field are also indicated by evidence of professional reputation. Such evidence may include but is not necessarily limited to: a) invitations to address professional meetings, to review grant proposals, to referee papers, to write reviews of publications, and to serve as a professional consultant; b) seminar presentations; and c) the comments on the student, colleague, and chair forms, and in the letters from outside evaluators.

- **Collegiality**

  The candidate must be able to work constructively and professionally with others towards departmental, college, and university goals. Evidence of collegiality is provided by the comments on the student, colleague, and chair forms.

Criteria for Promotion to Professor

Promotion to the rank of professor ordinarily presupposes the qualifications for the rank of associate professor. In addition, candidates will be evaluated according to the following criteria. The candidate must meet the criteria in each area and should make a distinguished contribution to the mission of the Department, College, and/or University in at least one of teaching, research/scholarship, and service.

- **Teaching**

  The candidate should show continued strong performance and growth in the area of teaching. The candidate is expected to remain up-to-date and be involved in appropriate curricular or pedagogical discussions.

- **Advising**

  The candidate should show continued strong performance in the area of advising.

- **Scholarship and Research**[1]

  The candidate should have a continuing strong and productive research program that earns attention from recognized scholars in mathematics, computer science or statistics and that makes a substantial contribution beyond the work that was presented at the time of promotion to the rank of associate professor. There are many ways to demonstrate that such a program has been maintained, and it is not possible to specify the precise number of publications that would be required, for quality of publication is important, as well as quantity. The Department does not require a specific rate of publication, since the publication record can be affected by such factors as a faculty member's decision to shift to a new area of research.

- **Service**

  A tenured faculty member is expected to take a more active role in the governance of the Department, College, University, and profession.

Criteria for Promotion to Emeritus/a Status

Except in extraordinary circumstances, a faculty member will have served the University for at least 10 years in a full time capacity prior to application for emeritus/a status. The candidate must have provided valuable contributions to the Department's mission and must plan to remain professionally active. Additionally, the candidate must have been a collegial member of the Department and University.

[i] For the benefit of administrators and members of the College Committee on Rank, Tenure, and Sabbaticals and of the University Committee on Academic Rank and Tenure, we provide the following comments about publication norms and practices in mathematics, computer science and statistics. The National Research Council's 2006 study, *A Data-Based Assessment of Research-Doctorate Programs in the United States (revised 5/3/2011)*, contains data about publication rates in Ph.D.-granting departments in the natural, physical, mathematical, and social sciences. In the 127 mathematics doctoral programs surveyed, the number of publications per faculty member ranged from about 0.3 per year to about 1.9 per year. For 128 programs in computer science, the range was from about 0.2 to about 4.5. For 61 programs in probability and statistics, the range was from about 0.1 to about 2.3. The comparable figures for some other disciplines were: 0.1 to 8.0 (chemistry); 0.3 to 5.0 (cell and developmental biology); 4.5 to 34.5 (philosophy); 4.8 to 23 (history); and 0.0 to 2.9 (psychology). After taking into account the Department's heavy commitment to its teaching mission, we conclude that a publication rate of approximately one paper every one or two years is an appropriate objective for a mathematician or computer scientist at Saint Louis University. A candidate who has maintained that rate would merit attention among recognized scholars in mathematics, computer science and statistics.

A study published in the *Notices of the American Mathematical Society* shows that, among those who published mathematics research papers during the period from 1940 through 1999, only 25% published six or more papers [See Jerrold W. Grossman, "Patterns of Research in Mathematics", in *Notices of the American Mathematical Society*, Vol. 52, No. 1 (Jan., 2005), pp. 35-41].

In mathematics, computer science and statistics, both singly and jointly authored papers are common. According to Grossman's study, about 2/3 of the mathematics research papers published between 1940 and 1999 had only one author, and about 1/3 were jointly authored. Fewer than 1/10 of the papers had more than two authors. More recently, during the 1990s, about 54% of the papers had only one author, and about 13% had more than two authors.

In mathematics and computer science, the order in which the authors of a jointly authored paper are listed ordinarily conveys no information about the relative importance of their contributions to the paper. Professional guidelines stipulate that all of the listed authors "must have made a significant contribution to [the paper's] content" (See "Ethical Guidelines for the Society," in *Notices of the American Mathematical Society*, Vol. 51, No. 6 (June/July, 2004), pp. 675-677.). Authors are often listed alphabetically, by surname, and sometimes they may be grouped by institutional affiliation. This convention does not necessarily apply to articles that are co-authored with researchers in other disciplines. According to "Ethical Guidelines for Statistical Practice" from 1999 (http://www.amstat.org/about/ethicalguidelines.cfm), "authorship order in statistical publications should be by degree of intellectual contribution to the study and material to be published, to the extent that such ordering can feasibly be determined. When some

other rule of authorship order is used in a statistical publication, the rule should be disclosed in a footnote or endnote."

In mathematics and statistics, reviews and abstracts may play different roles from those that they play in some other disciplines. Many papers and books in mathematics and in some of the more mathematical aspects of computer science and statistics are reviewed in the *Mathematical Reviews Database*, which is published by The American Mathematical Society. According to the Mathematical Reviews website (www.ams.org/msnhtml/about_mathsci.html), this database "provides timely reviews or summaries of articles and books that contain new contributions to mathematical research," rather than the more extended evaluative reviews that might be common in some other disciplines.

The *Abstracts of Papers Presented to the American Mathematical Society* is a publication that contains abstracts of papers that are presented at meetings of that organization. These abstracts are usually brief announcements of new results, with a maximum length of 1300 characters. Such abstracts are not considered to be research papers, but they often announce results that are subsequently published in research journals.

In mathematics and mathematical areas of computer science and statistics, a significant period of time often elapses between the acceptance of a paper and its appearance in a journal, and waiting periods of one or two years are not uncommon [See, for example, "Backlog of Mathematics Research Journals," in *Notices of the American Mathematical Society,* Vol. 49, No. 8 (Sept., 2002), pp. 963-966.].

Regarding scholarly activity in computer science, the Computing Research Association has issued a useful statement about "Evaluating Computer Scientists and Engineers For Promotion and Tenure" (See *Computing Research News*, September, 1999, or www.cra.org/reports/tenure_review.html.). That statement describes the important role that computational artifacts, such as chips and software, can play in computer science research, and it explains why publication in the proceedings of selective and prestigious conferences is equivalent, and sometimes even preferable, to publication in archival journals.