Department of Mathematics
Guidelines for Promotion and Tenure
March 2017

The Department of Mathematics values excellence in teaching effectiveness, continued engagement in professional achievement, and a commitment to departmental and college-wide service as the basis for tenure and promotion recommendations, ranked in that order. While success within each of these areas can manifest in a variety of ways, it is incumbent on candidates, in consultation with the department, to articulate a vision and plan for themselves, and to communicate this plan in such a way as to show the plan's relevance and benefits to the mission, goals, and objectives of the department. Candidates must create their own professional identity and provide evidence that they have the ability to follow through with their goals. The department acknowledges that the plan will be fluid and subject to re-evaluation and updates with feedback from the department. We also recognize that many activities may fall within multiple categories. It is, therefore, the responsibility of candidates to communicate how these activities contribute to the relevant components of their file.

Succinctly, the department's expectations are as follows:

Teaching Effectiveness: Intentional planning and thoughtful reflection on the items listed in IV.6.1.1 of the Linfield Faculty Handbook is necessary. The candidate should recognize that the process of teaching is one that requires a cycle of planning, execution, and adaptation based on thoughtful reflection.

Professional Achievement: Active engagement in the profession is necessary. The candidate should have a plan with documented progress toward his or her goals.

Service: The service component of a candidate's file should exhibit a record of ongoing activities within the department and in the campus-wide community. It should be noted that participation in campus activities should not be done at the exclusion of departmental activities.

It is the philosophy of the department that tenure and promotion to associate professor are linked, and the combination of the two is a forward-looking decision.

Teaching Effectiveness

The Department of Mathematics values excellence in teaching first among the criteria used in the tenure and promotion process. The department believes that intentional planning and reflection on the items listed in Section IV.6.1.1 of the Faculty Handbook is necessary for achieving teaching effectiveness. The process of teaching is one that requires a cycle of planning, execution, and adaption based on thoughtful reflection, and the candidate's promotion and tenure file should clearly demonstrate this reflection.

- **Evaluation of Teaching.** As stated in the Linfield Faculty handbook, teaching will be evaluated by students, colleagues, and the department chair. Students evaluations will be made via the college-wide course evaluation process. Colleague evaluations will be made primarily based on discussions with the candidate and at least one classroom visit. Untenured faculty are observed by all tenured department members at least once prior to going up for tenure, and observed at least once a year by the department chair. Associate professors are observed by all tenured faculty at least once before going up for promotion.

- **Role of Classroom Observations in Evaluation.** Tenured faculty will make every effort to attend multiple courses over the probationary period to document progress in teaching. Faculty evaluations should document student engagement, instructor organization, alignment of the level of material presented with the level of the students, and instructor facilitation of student understanding of the material. Candidates are encouraged to try new pedagogical techniques and classroom observations should contribute to a climate of encouraging innovation. Thus, observation should include pre- and post-observation discussion of the candidate's classroom goals and reflection on how well those goals are being met.

  In addition to the items listed in Section IV.6.1.1, other examples of teaching effectiveness may include:

  - adapting teaching styles and pedagogical approach to the context of the course and/or students' needs.
  - a trajectory of teaching techniques over the years that indicates thoughtful reflection on the candidate's teaching methods.
  - participation in workshops/conferences aimed at pedagogical approaches to teaching undergraduate mathematics.

- **Advising, Assessment, and Curriculum.** The Department of Mathematics also expects its members to participate in academic advising, and to be engaged in the shape and assessment of the department's curriculum. Examples of items in a candidate's file that can help demonstrate this level of involvement, in addition to colleague appraisals, include:

  - active advising (including numbers of advisees, participation in Colloquium for first-year and/or transfer students).
  - supervision of independent studies or internships.
  - making significant revisions to existing courses with respect to content, emphasis, or pedagogy.
  - creating a new course to meet a change in a department's curricular needs, or to meet student interests.
  - teaching a breadth of courses across the departmental curriculum.
  - teaching non-departmental courses, including those within the Linfield Curriculum.

- **Tenure and Promotion to Associate Professor.** Candidates for tenure and promotion to associate professor should have demonstrated a positive trajectory of teaching effectiveness that is based upon thoughtful reflection and assessment of their classes, as well as attention to the items discussed earlier in this section. Candidates are encouraged to have begun making contributions to the variety of pedagogical approaches used by the department, as well as contributions to the broader college curriculum.

- **Promotion to Professor.** As faculty in the department are encouraged to find and pursue their own style and pedagogical techniques as part of their professional identity, special merit in the area of teaching effectiveness can manifest itself in a variety of ways. Some examples demonstrating special merit may include:

  - significant contribution to the curriculum (such as off-campus course development, teaching INQS, developing new courses for the mathematics curriculum, and developing courses for the Linfield Curriculum).

- teaching awards.
- revising existing courses to include innovative pedagogical approaches,
- innovations in teaching pedagogies that contribute to the broader community. For example, innovations that are then adopted by other faculty members at Linfield or colleagues at other institutions.

Generally speaking, special merit in this category encompasses the notion that the effect of the candidate's teaching reverberates and has had a significant positive impact within the Linfield community and perhaps beyond.

Professional Achievement

We would like to indicate that the following list is not exhaustive; furthermore, we recognize that while the list is not ranked, not all items provide equal evidence of professional achievement. In particular, while other activities may contribute favorably to the assessment of a candidate's record of professional achievement, the importance of peer-reviewed publications in original mathematics research is unlikely to be replaced. Original research also includes research done with undergraduates. As discussed above, however, it remains incumbent upon candidates to create their own professional identity, to articulate a reasoned argument for their plan and progress toward professional goals, and to describe the significance of the relevant work.

- **Professional Publications.** We expect our faculty to publish in reputable peer-reviewed journals or with well-established publishers of books. Publication includes print and electronic journal articles, chapters in books, entire books, invited and contributed papers that appear in conference proceedings, and contributions to mathematical literature intended for wider circulation (magazines, web encyclopedias, etc.). We realize there is a distinction between mathematical expository writing for a wide audience versus specialized research that is only accessible to a narrow audience. The former may have challenges due to standards of exposition and interest, while the latter often involves a high level of expertise and years of work. Since the rate of publication varies from one sub-discipline of mathematics to another, the departmental colleague appraisals will address the appropriateness of the candidate's rate of publication. We value interdisciplinary research equally with any other mathematics research. It is not uncommon for mathematicians to collaborate with scholars in a wide variety of fields, though most likely collaborations would be with physical or social sciences. Interdisciplinary work may be evaluated on the nature of the mathematical contribution, and depending on the work may be judged against standards of peer review in either mathematics or the other discipline. For example, a collaboration with a biologist in which the work was published in a peer-reviewed biology journal would still count as a peer-reviewed publication, but its weight might depend on the nature of the mathematical contribution to the work; a series of mathematical calculations would not have the weight of a new collaborative mathematical model.

  In addition to the work described above, the candidate may engage in peer-reviewed publications in related areas, including, but not limited to, matters of pedagogy and curricular design. There are various journals that publish articles related to teaching or short commentaries on pedagogical aspects of mathematics education. Publishing a textbook would also fall into this category.

  Unlike some other disciplines, in mathematics the order that authors are listed in publications is done alphabetically. As such, no weight should be given to where a candidate is listed on a publication. In addition, the Department of Mathematics values single-author works and collaborative

works equally. Of course, with respect to collaborative publications, candidates should clarify their role in the work, but the mere fact that a publication has multiple authors should not be weighted less. Finally, the Department of Mathematics does not distinguish between works that have been published and those that have been accepted for publication.

- **Undergraduate Research.** The department views creative and authentic research with undergraduates as a highly valuable scholarly activity; moreover, undergraduate research is congruent with the mission and goals of both the department and Linfield. In particular, undergraduate research coincides with the strategic plan to promote experiential learning opportunities for students. Ideally, a research project is one in which the collaborators cooperatively address mathematical questions whose answers are unknown. Opportunities for this sort of activity are possible through independent studies and through summer work supported through Linfield Student-Faculty Collaborative Research Grants, or other funding. Another possibility is for a faculty member to be involved with an externally funded research program, such as an REU (Research Experience for Undergraduates) at Linfield or another institution.

  The department acknowledges that some fields of mathematics are not conducive to involving students since the topics may be completely inaccessible to undergraduates. Therefore, it may be the case that some faculty may not choose to or be able to involve students in their own research agenda. In this regard, we feel that the pursuit of secondary fields of scholarly interest is particularly noteworthy when it will result in students being more effectively engaged in research, even if this pursuit slows the rate of peer-reviewed publications. Furthermore, it is likely the case that work toward publication may take a number of years of combining together different student projects, or the faculty member may need to extend or generalize the work done with students before the work is suitable for submission to peer-reviewed journals. It should also be noted that not every research project with students will be appropriate for publication, even if deemed successful. Also, it is viewed equally valuable for the faculty advisor (the candidate) whether or not he or she is listed on any publications or presentations. The ideal outcome of research with undergraduates is peer-reviewed publications, under either the student of faculty names. However, presentations by either the students or the faculty member are also valuable outcomes.

  While it is generally assumed that research done with student collaborators falls within the category of Professional Achievement, it is still incumbent upon the candidate to fully explain the nature and value of the work within his or her file.

- **Non-peer Reviewed Publications and Review Work.** Serving as a referee for one or more journals, writing reviews of published articles for Math Reviews, serving as an editor or associate editor for an academic journal or magazine, and writing book reviews fit into this category. Depending on the nature of the work, some of these activities require a great deal of time. Being requested to referee or review an article or book indicates that the candidate has established a strong reputation in one or more fields of mathematics. Developing a formal set of class notes that is used at both Linfield and at least one other institution of higher learning may fit into this category since other users of the material can provide feedback. Sharing of class material is becoming more common in mathematics communities as faculty adapt to newer pedagogical techniques. The candidate should communicate with the department concerning the merits of such work. Professional consulting work done cooperatively with or on behalf of representatives from academia, industry, or government is also a valuable professional achievement.

- **Substantial Involvement in Professional Organizations.** This item includes such activities as holding an office or being part of a committee in a professional organization. In many instances,

these positions should more naturally fall under the category of "professional service;" however, many such positions often require a vetting process that is indicative of a candidate's level of engagement and success in his or her field. Therefore, the candidate must articulate why this should be viewed as Professional Achievement, rather than service. In addition, since the nature of these activities can vary significantly, a candidate should make clear what the duties entail and communicate with the department concerning their value with respect to this process. Organizing a conference at Linfield or being an organizer for a session at a national meeting may also be valuable contributions within the context of Professional Achievement.

- **Participation in Professional Meetings and Conferences.** Attending professional meetings, presenting papers at meetings or conferences, and chairing or organizing special sessions at professional meetings are important as a support to other scholarly activities. The candidate should clearly explain how such activities contribute to his or her professional plan.

- **Writing and Submitting Proposals for External Grants.** Our members have occasionally written proposals for external grants to fund research or special projects, either on their own, or with other collaborators. We believe due to the time and effort required to write such proposals and the often low acceptance rate of some granting agencies, these endeavors should be valued, even if the grant is not funded. Candidates must justify the relevance of the grant-writing process toward their professional plan.

- **Tenure and Promotion to Associate Professor.** At the time of tenure and promotion to associate professor, a candidate should have published peer-reviewed work in original mathematics (which may be from the doctoral work), established a research agenda that goes beyond work done in his or her dissertation, and outlined a promising line of research for further publication. As said before, it is incumbent on the candidate to communicate the research plan and how it the research trajectory is moving beyond the dissertation. In addition, candidates are strongly encouraged to have developed, and begun implementing, appropriate research with undergraduates.

- **Promotion to Professor.** For promotion to full professor, our faculty should show evidence of an ongoing successful program of professional development. Some examples of possible evidence include peer-reviewed publication post tenure, professional presentations, and research with undergraduates. The rate and form of the professional achievement may change over time—and, in fact, a diversification of activities may be likely—but there should be evidence of greater visibility, recognition, and continued engagement in this area, thus demonstrating special merit. For example, successful grant applications, elected or leadership roles in professional organizations, or invited presentations can be evidence of greater visibility and recognition. In addition to continuing to publish peer-reviewed works, candidates will likely have continued participating in many of the activities listed above.

Service

The most important aspect of the expectations for service within the Department of Mathematics is that service begins in the department and extends outward from there. In particular, the expectations for tenure and promotion to associate professor are mainly centered on departmental activities. The expectations for promotion to full professor include both departmental activities and participation in college-wide initiatives.

- **Departmental Activities.** The Department of Mathematics has a number of regular tasks. As with the expectations for Professional Achievement, it should be noted that the following list of items is meant to be neither exhaustive nor ranked.

    Department Chair: This person coordinates all of the activities of the department, including the budget, annual report, oversight of adjuncts, schedule and load issues, communication with Academic Affairs, and any other miscellaneous issues that arise. It should be noted that only tenured associate and full professors will assume this role.

    Assessment Coordination: This person organizes the assessment activities for the department. As we assess different outcomes each year on a three-year cycle, the tasks must be apportioned appropriately among the members of the department. This person helps with assigning tasks, compiling data, and facilitating discussions about our progress and changes that should be made.

    Book Orders : This person liaises with the library to ensure that the department is ordering books that will be useful and of interest to our students and members of the department. He or she distributes the book citations as they arrive and work to guarantee that the department uses its allotted budget for books and videos.

    OCE Liaison: This person works with the director of OCE to ensure that there is consistency in the delivery of our online course offerings through the Online and Continuing Education program.

    Technology Liaison: This person coordinates with ITS on issues relating to Mathematica, LaTeX, and printing for the department. He or she communicates with ITS about the computers in the Taylor Lab. In addition, he or she works with EMS on any problems with the computers or projectors in the Taylor classrooms.

    Taylor Series Coordinator: The Department of Mathematics has a monthly seminar called the Taylor Series. A member of the department is tasked with organizing these events, arranging for speakers, and coordinating any refreshments.

    Math Club Advisor: This person works with the student organization to create extracurricular and social opportunities for students interested in mathematics. Such activities can include movie nights, guest speakers, Pi Day celebrations, and meetings with students from other institutions.

    Pi Mu Epsilon Honor Society Advisor: This person works with the leadership of the student honor society on issues related to induction of new members, budget, guest speakers, and commencement.

    Putnam Exam: This is an annual math competition that takes place on the first Saturday of December. The duties involved include organizing the paperwork and proctoring the (six-hour) exam itself.

    Department Open House: One or two faculty members from the department organize the activities for this annual fall Colloquium evening. This includes planning the presentation and coordinating any handouts.

    Competitive Scholarship: This involves writing the exam, proctoring the exam, representing the department at the Academic Fair, and finally grading the exam. The duties for this are usually distributed among most or all members of the department.

    Student Engagement: This person is in charge of coordinating student involvement in regional and national conferences. In addition, this person will help encourage student participation in competitions such as the Kryptos Challenge.

Math Modeling Competition: This member of the department organizes the teams for the competition, helps facilitate the submission process, and coordinates the student presentations in the spring.

Tutoring Coordinator: This person works with Learning Support and the rest of the department to identify and hire tutors. In addition, he or she arranges the nightly schedule.

While it is not necessary for any one faculty member to participate in all of these activities, it is expected that each member of the department will regularly engage in a good number of the above duties.

- **College-wide Activities.** As candidates near tenure and promotion to associate professor, it is expected that their vision for service will expand to include not only departmental interests, but also campus-wide issues. We do not subscribe to the idea that one should simply get on a committee to provide evidence of service. Rather, a candidates should educate themselves about the issues that the faculty and the institution are facing and find their niche with respect to interest and expertise. While the following list of college-wide activities are the usual avenues for college-wide service, as above, this list is neither exhaustive nor ranked.

    - Serving as a division representative on a standing committee.
    - Serving as a member of a Linfield Curriculum Working Group.
    - Serving as a member of an ad hoc committee.
    - Special assignments within the administration, such as serving as Associate Dean of Faculty.
    - Significant work with Admissions on issues of recruitment.
    - Work with International Programs.
    - Serving as a Faculty Athletic Representative.
    - Participating in other campus activities, such as music, theater, radio, etc.

- **Service to the Mathematics Profession.** Service to the profession is not required, but adds evidence of the candidate's connection to the discipline and mathematics community. Some of these activities may be included in the Professional Achievement Section (see section on "Substantial Involvement in Professional Organizations"). Justification of placement in Professional Achievement as opposed to Professional Service must be provided by the candidate, and supported by the department in colleague appraisals. We value service at both the regional level and the national (or international) level. Examples of service activities or projects include helping organize professional meetings, grading Advanced Placement Exams or other competition exams, organizing regional math activities that involve multiple schools, serving on national or regional committees. Some examples of professional organizations are Mathematical Association of America (MAA), American Mathematical Society (AMS), Society for Industrial and Applied Mathematics (SIAM), Teachers of Teachers of Mathematics (TOTOM), and Association for Women Mathematicians (AWM). Most of these organizations have both national and regional service opportunities.

- **Service to the Community.** As with service to the profession, service to the community is not required, but adds evidence of the candidate's connection to the discipline and mathematics community. Some of these activities may be included in the Professional Achievement Section (see section on "Writing and Submitting Proposals for External Grants"). Justification of placement in Professional Achievement as opposed to Service to the Community must be provided by the candidate, and supported by the department in colleague appraisals. We value service at the local,

regional and national (or international) level. Examples of service activities include presenting a workshop or teaching a course for a group on a mathematical or statistical topic, organizing math activities for K-12 school events such as Pi Day or Math Night, judging at science fairs for K-12 at the local, state, or regional level, providing service to an organization that requires mathematical expertise such as analyzing data and preparing a report. (It should be noted that if such work is done as a consultant for hire, it would not normally be considered service.)

- **Tenure and Promotion to Associate Professor.** Candidates for tenure and promotion to associate professor should have a strong record of participation in departmental activities. In particular, they should be active with many of the items listed above under Departmental Activities. Additionally, as described above, candidates should have begun to expand their focus to include college-wide activities, and possibly activities in the greater mathematical community.

- **Promotion to Professor.** For candidates applying for the rank of full professor, it is expected that they have not only been an active participant in departmental activities, but have been engaged significantly in college-wide initiatives. Moreover, in order to achieve special merit in the category of service, some notion of *leadership* should be involved. This could be through serving as chair of the Department of Mathematics, chairing a standing or ad hoc committee, or chairing a Linfield Curriculum Working Group, to name some examples. As the number of such chair positions is limited, and these positions are often occupied by full professors, special merit in service may also be achieved by leading, albeit more informally, a significant campus-wide initiative, possibly as a member of one of the committees or groups on campus.

June 2, 2016

To: Charles Dunn
Chair, Department of Mathematics

I was very happy to review the May 2016 Draft of the Math Department's Guidelines for Promotion and Tenure. This document is very thoughtful and clearly identifies the responsibilities of both the candidate and the department during the entire timeframe from initial appointment to promotion to full professor.

The guidelines strike an appropriate balance for a liberal arts college like Linfield that demands excellence in teaching and professional activity while still expecting departmental and institutional service. The guidelines will be valuable not only to the existing Linfield community but may also be useful when recruiting new faculty. In addition, I believe that this document could serve as a model for other colleges who are developing their own guidelines for tenure and promotion.

I am basing my evaluation on my experiences serving on external departmental review teams, including at Linfield in 2014, as well as my experience at Wheaton as department chair and as chair of our campus-wide tenure committee. I have also gained some perspective on other institutions through my work with the Mathematical Association of America, including serving as Chair of the Northeastern Section and serving on the Board of Governors of the MAA.

If there is more information that you need, please do not hesitate to be in touch.

Sincerely,

Thomas Ratliff
Professor of Mathematics
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Friday, June 24, 2016

Dear Linfield College Faculty and Administrators,

I was part of a three-person team of evaluators, two external and one internal, that reviewed Linfield College's Mathematics Department during March of 2015. This was a very enjoyable and positive experience because of the wonderful attitudes and successes of this very energetic and student-centered faculty. I have reviewed mathematics departments and programs at public and private universities. All were student-centered (I select them that way), but none had such good relationships with administrators and faculty in other departments, nor provided and received such strong support to and from their administrative and faculty colleagues.

But to the point: The department faculty's proposed Guidelines for Promotion and Tenure for the Linfield Mathematics Department are excellent, and I heartily approve of them. They seem broad enough to encourage and reward contributions of various kinds and, at the same time, specific enough to serve as clear guidelines for department faculty and those evaluating them. Most importantly, these Guidelines appear to me to encompass and encapsulate what the mathematics faculty value in their departmental colleagues and culture based on what I learned during my short visit there.

Thank you for allowing me to play a small part in this process, and congratulations to you and your colleagues on building such a fine department for faculty and students!

Sincerely,

Janet L Beery

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