

FORM 8

T&R

**SIGNATURE SHEET FOR EVALUATIVE CRITERIA
APPROVED CRITERIA SHALL HAVE ALL REQUIRED SIGNATURES**

Department/Office: Mathematics

Department Chair: Dexter C. Whittinghill III
Print

Dexter C Whittinghill III
Signature

Academic Year (circle): 15-16 16-17 17-18 18-19 19-20

Date Sent to Dean/Supervisor: 26-Sept-17

Signature
Kan Maguire
Dean/Supervisor:

Date
10/6/17

Approved
Y/P/N

Add'l Admin:
[Signature]
Provost/designee:

3-10-18

Y/P/N

President/designee:

Y/P/N

Y = Approved	P = Approved pending modifications	N = Not approved
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For P or N decisions, the departmental committee should be provided with the reasons for non-approval, as well as suggested changes to the criteria within a reasonable time to ensure timely approval for first year candidates.

DIRECTIONS: Sign each line and print or stamp name below the line. This signature page must accompany the evaluative standards throughout the entire approval process, and serves as a record that all levels have contributed to the approval process. After all levels have approved the evaluative standards, this cover page and the criteria shall be duplicated, and a copy sent to the Senate office for archiving. The original criteria packet is returned to the Department/Office.

SUGGESTED TIMETABLE:

Departmental approval, sent to Dean/Supervisor:

Dean provides feedback regarding criteria

Final administrative approval and forwarding to Senate,
Department, and Dean

DATE
September 25 (earlier if possible)

October 9

November 1

**DEPARTMENTAL EVALUATION CRITERIA FOR TENURE AND RECONTRACTING
DEPARTMENT OF MATHEMATICS
ACADEMIC YEAR 2017-2018**

The Department of Mathematics will evaluate candidates for recontracting and tenure, using the following criteria, as defined in the AFT contract.

- **Teaching Performance**
- **Scholarly Achievement**
- **Contributions to University Community**
- **Contributions to Wider and Professional Community**

This document interprets these criteria in terms of the scholarly conventions of research in the mathematical sciences. It outlines the types and range of activities that are expected of pre-tenure faculty and identifies the appropriate evidence for documenting these activities and their consequences.

ROLE OF CHAIRPERSON AND DEPARTMENT HEAD

The Department Chairperson can serve as a member of the Committee, as well as in the evaluation process of individual candidates. The Department Chairperson can serve as the Chair of the Committee, if elected by the members of the Department.

The Department Head is an out-of-unit employee. The Head may not serve on the Committee. However, the Head may serve as an *ex officio* member at the invitation of the Committee.

DEPARTMENT OF MATHEMATICS MISSION STATEMENT

The Mathematics Department has a three-fold mission involving preparation of majors, service to other departments, and general education. Our primary mission is to prepare our majors for mathematical careers in education, government, business, and/or industry. This means preparing our majors either for jobs or for graduate school (which will then lead to jobs). Our service mission is to provide appropriate, effective, and efficient courses for students in other majors. Our general education (and service) mission is to prepare all students to be capable, productive and creative individuals in the handling of numerical and symbolic data in a highly technological society. The Mathematics Department will strive to provide all its students with an exceptional environment for achievement through challenging courses of study and personal interaction with professors. This environment should also promote a community of scholars with a diversity of backgrounds and learning styles that enhances the reputation and development of mathematics throughout the Rowan University community.

WEIGHTING OF EVALUATION CRITERIA

	Assistant Professors	Instructors
Teaching Performance	50%	60%
Scholarly Achievement/Professional Development (Instructors only)	35%	10%
Contributions to University Community	10%	At least 20% Department, at least 5% College and University
Contributions to Wider and Professional Community	5%	At most 5%

DEPARTMENT OF MATHEMATICS CRITERIA FOR EVALUATION FOR EFFECTIVE TEACHING.

The Department expects faculty to demonstrate the following teaching competencies:

Mastery of content. This category includes:

- Appropriate background for courses taught
- Knowledge of subject
- Up-to-date in fields relevant to courses

Appropriate structure and organization. This category includes:

- Use of class time/Canvas for online courses
- Appropriate syllabi
- Development and maintenance of course outlines
- Use of appropriate devices and standards for evaluation of student learning

Effective communication. This category includes:

- Clarity of instruction
- Responsiveness to student questions and other input
- Timely information on changes in syllabus
- Feedback to students on their progress

Appropriate teaching methods. Examples of appropriate teaching methods include:

- Student-centered teaching
- Inquiry-based teaching
- Engagement of students in learning
- Promotion of interaction among students and students learning from each other
- Using learned concepts to solve new problems

Promotion of a positive learning environment. This category includes:

- Enthusiasm for subject

- Fairness and impartiality
- Student comfort in asking questions, engaging in discussion, or approaching instructor
- Promotion of student participation in some aspect of course activities

Teaching Expectations for Reappointment and Tenure.

Courses assigned to probationary faculty should reflect, at least in part, the role for which the faculty member was hired. The evidence for the faculty member's competency in the various categories given above will include the following:

- Peer observations
- Candidate self-assessment
- Student evaluations
- Other testimonials related to instruction

For pre-tenure submissions, the candidate will be expected to show competency in each of the categories of standards, to provide appropriate reflection on teaching effectiveness, to develop a thoughtful plan for rectifying any deficiencies, and develop a plan to grow as a teacher.

For tenure, the candidate should demonstrate positive outcomes for each of the categories directly related to instruction. If any categories are still deficient, the candidate should provide evidence of significant progress in addressing the deficiencies since they were identified in prior submissions, and that there is a reasonable expectation that these deficiencies will be satisfactorily overcome within a short time after tenure.

The Department would like to close with a quote from Morris Kline:

“There is no definitive characterization of good teaching. A teacher who stimulates his students to learn is good. Of course, she or he should be doing more but he is doing something vital. A teacher who is boring in class but fully aware of the difficulties students have, presents the material clearly in class, and meets them after class to provide additional help is good. Even the person who is neither stimulating nor especially careful in his presentations but gets to know his students and makes them feel that she or he is their friend to whom they can come for any kind of help or advice is a good teacher. Every good teacher must know the average student's background and prepare his lectures and choose a text accordingly. Student evaluations must be taken with a grain of salt.”¹

DEPARTMENT OF MATHEMATICS CRITERIA FOR EVALUATION OF RESEARCH AND SCHOLARLY ACTIVITY

¹ (Taken from An Interview with Morris Kline, Part 1, by G. L. Alexanderson, in The Two-Year College Mathematics Journal, Volume 10, 1979, page 176. Morris Kline wrote many books including Why Johnny Can't Add and Why the Professor Can't Teach. He wrote numerous mathematical research papers as well as papers on mathematical education and the history of mathematics.)

The Department expects that probationary faculty will demonstrate an appropriate record of past scholarship and evidence of continuing to pursue research beyond the awarding of tenure. The primary types of evidence for scholarly productivity are given below. The primary evidence for continued scholarship will come from the faculty member's narrative for future research plans. It is expected that the faculty member will demonstrate research activity since the beginning of his or her appointment, and the products of research should reflect some effort at Rowan University. However, it is also acknowledged here, and in most cases should be expected, that the faculty member's research at Rowan will build upon efforts prior to his or her arrival here and may incorporate proposals, data, and even results from pre-Rowan work.

Evidence of scholarly activity. The Department recognizes the following categories of items that provide evidence of productive scholarship:

Peer-reviewed publications on research in the mathematical sciences and related fields.

Typically, this includes research in a subfield of the mathematical sciences or a related field. Note that scholarship of teaching falls into this category if the candidate was hired specifically to contribute as a scholar of mathematics education. Furthermore, for candidates with joint appointments this might include scholarship that utilizes mathematics or statistics in other fields. Publication in peer-reviewed journals is the primary form of dissemination of research results. Publications in other peer-reviewed venues, such as edited volumes and monographs, also fall into this category.

Venues for publications in this category should be peer-reviewed and have a readership appropriate to the segment of the scientific community interested in the candidate's subfield. The department does not use metrics such as impact factors to set any minimum standards of significance for a peer-reviewed venue, as what constitutes a high impact factor in some fields is well-above the highest impact factor in other fields. However, the department recognizes publication in especially selective venues as a significant accomplishment.

While the candidate need not be the primary author on all publications, the candidate should be making original contributions appropriate for an independent researcher. In many cases, the candidate's authorship will adequately convey the significance of the candidate's contributions, e.g., if the candidate is the sole, lead, or (in the case of publications where a student performing research under the tutelage of the candidate is the lead author) last author. In those cases where authorship alone does not indicate the candidate's contributions, he or she should discuss his or her role in the production of the publication.

External grant submissions and awards.

This category includes all forms of external funding, though greatest weight is given to competitive programs that incorporate peer review in the evaluation process. Unfunded submissions are valued as evidence of scholarly output, especially if the submission received favorable reviews.

The general expectation of the Department is that a candidate should be able to sustain his or her research without additional direct support from the institution beyond start-up funds, adjusted load, and allocated space. Thus, the candidate is expected to pursue external funds for other direct costs required for the execution of his or her research. The Department does not specify any dollar amount, only that the candidate is able to obtain sufficient funds to maintain research productivity.

External grant submissions and awards are useful in other ways to the evaluation process. First, they provide evidence of the value of the candidate's research through peer reviews of proposals and through the validation of successful funding. Second, because they reflect ongoing or future research, they speak to the candidate's prospects for future productivity.

Presentation of research.

This category includes oral and poster presentations of research at national or international meetings or regional conferences of a national organization of the discipline, as well as invited talks at other institutions. As with publications, the relative significance of the candidate's contributions to presented research should be reflected by authorship, or else the candidate should explain his or her role in the presented research. Greatest weight will be placed on those presentations where the candidate has the greatest responsibility for bringing the research to the attention of his or her fellow scientists, particularly where either the candidate or his or her student is the presenter.

Software development.

This category includes development of software routines, java applets, etc. that have been accepted for use in pedagogy or analysis in the mathematical sciences.

Scholarship of pedagogy.

This category includes the conduct, presentation, and publication of peer-reviewed research on the teaching of the mathematical sciences at any level. This category distinguishes scholarship of pedagogy from research in the mathematical subfield for which the candidate was hired. If a candidate were hired as a scholar of mathematics education, then this distinction would not exist and scholarship of pedagogy would be considered the same as the candidate's area of research for evaluating publications and presentations.

Textbook development.

This category includes the development of manuscripts for the teaching of the mathematical sciences at any level.

Student mentoring.

This category includes any evidence pertaining to the mentoring of Rowan undergraduate or graduate students in research activities, where the student is an active participant in the scientific process. Evidence of student mentoring includes formal inclusion of students in scientific pursuits, either for credit or for pay, participation of students in presentation of research at institutional or extramural scientific conferences, and student authorship on peer-reviewed publications. The Department recognizes that, because of the need for students to be trained first in the appropriate research methods, and because student aptitudes for research can vary greatly, student research progresses at a much slower pace than faculty research.

Research Expectations for Reappointment and Tenure**Pre-tenure reappointment**

For recontracting submissions prior to the submission for tenure (i.e., first, second, and third year submissions), the faculty member should provide evidence that his or research program is being established and is on schedule to produce the appropriate outcomes for receiving tenure. Initially, this will include the use of any start-up funds to provide necessary research equipment, and later should include evidence that the faculty member's research is producing results that peers in the disciplinary community will recognize as contributing to advancing knowledge in the discipline. Typical evidence for this would include authorship on presentations at national or international scientific conferences or regional conferences of the national organization of the discipline, as well as peer-reviewed publications and proposals.

Appointment with tenure and role of the external evaluator

It is expected that applicants for tenure will provide evidence of research productivity and promise for continued scholarship. The types of evidence should generally fall into the categories described above and should be appropriate in terms of quantity and quality for disciplinary norms given the length of the tenure clock and the constraints of necessary institutional support. Given wide variation in publication and funding rates across the many sub-disciplines of the mathematical sciences, it is inappropriate to assign a single number or measure for a given type of evidence. In addition, simple quantities of deliverables might not properly reflect the quality of the research that produced them.

The Memorandum of Agreement now requires that candidates for tenure provide an evaluation of their research by an external reviewer at another institution with expertise appropriate for assessing the candidate's research. The Department will consider more than one reviewer if the candidate wishes to provide more. The Department will ask the external reviewer(s) to comment on 1) the quantity and

quality of the candidate's research, and 2) the merit of the candidate's accomplishments in scholarship taking into account Rowan's infrastructure, institutional support for research, and other institutional factors that affect research productivity.

Professional Development for the Tenure-Track Instructor

Candidates for tenure and recontracting at the rank of Instructor do not have the expectation to develop a research program. Rather, their scholarly and creative activities are designed to focus on maintaining currency in their field, with respect to current state-of-the-art methods of instruction in their area of expertise. The candidate-written self-appraisal should focus on how they have maintained currency, and include detailed plans for maintaining that currency in a separate section on plans for future growth. The Department and University recognizes that engaging in fundamental, applied, or pedagogical research activities is one way to stay current, but the research itself is not the goal, rather one possible mechanism towards achieving the goal of maintaining currency.

DEPARTMENT OF MATHEMATICS CRITERIA FOR EVALUATION OF CONTRIBUTIONS TO THE UNIVERSITY COMMUNITY

The Department recognizes service to the Department and University as a significant aspect of faculty development. The expectations of the Department reflect the need for a probationary faculty member to learn about the institution, participate in the non-academic operations that are necessary for the functioning of the academic enterprise, and contribute to the institution in rewarding ways. At the same time, the expectations reflect the need for probationary faculty to balance commitments to service with their responsibilities for teaching and research.

The following categories of service to the Department and institution are recognized here:

Basic departmental service.

This category includes those functions in which all or most of the department faculty would normally participate, including participating in department meetings and serving on departmental committees that do not have membership restrictions. This is the most appropriate type of departmental service for probationary faculty.

Academic Advising/Mentoring.

The Department has an embedded advisor that we share with the Department of Computer Science. The advisor works with all incoming students, including first-year students, internal transfers, and external transfers. Upon beginning classes at Rowan, external transfers are assigned to faculty advisors/mentors. Native students and internal transfers are assigned to faculty advisors/mentors in their second year; however, an advanced internal transfer may be assigned an advisor immediately following the transfer process.

Probationary faculty members are expected to spend their first year learning about the institution in preparation for their role as academic advisors to Mathematics majors. In their second year, probationary faculty will be assigned a reduced share of advisees. In the third year, probationary faculty will be assigned a proportionate share of advisees and may receive a proportionate share of new advisees each subsequent year. Due to students wishing to work with faculty in their area of interest, students may request permission to switch advisors, at the permission of the new advisor. When this happens, the advising load will be balanced as new advising assignments are made during future semesters.

An additional aspect of advising involves meeting with students who wish to discuss certain research or career plans associated with a faculty member's expertise. The embedded advisor and other members of the Department will forward students to an appropriate faculty member when the subject matter is best discussed with a specific individual.

Advanced departmental service.

This category includes service to the Department that is generally more involved than basic service and often is restricted to faculty with tenure, such as serving on departmental committees for T&R or promotion. It also includes serving as a departmental representative for any committee with a significant workload, such as the CSM Curriculum Committee. Probationary faculty members are not expected to engage in departmental service at this level.

Departmental leadership. This category includes leadership roles within the department, such as:

- Chairing committees in the advanced service category
- Serving as a departmental representative to the University Senate.

Probationary faculty members are not expected to engage in departmental service at this level.

Basic university service.

This category includes participation in college or university committees that are generally open to all faculty members. Typical examples of this level of service include serving on (but not chairing) college or university committees that are not restricted in their membership (e.g., Senate T&R Committee would not be in this category) and are not heavy in workload (e.g., college or university curriculum committees would not be in this category).

Advanced university service.

This category includes participation in university committees that have responsibilities or workloads that exceed what should be expected of junior faculty. Committees in this category often require faculty members to have tenure or promotion above the Assistant Professor level, or evaluate numerous submissions from various departments or individuals across the college or university. Examples of such committees include:

- Senate T&R
- Senate Promotion
- Senate Curriculum
- Sabbatical Leave
- CSM Curriculum
- CSM Promotion
- CSM Adjusted Load
- Search committees for senior administrators

Probationary faculty members are not expected to engage in college or university service at this level.

University leadership: This category includes taking on leadership roles in service to the college or university, such as:

- Chairing college or university committees
- Serving as an officer in the Senate or AFT.

Departmental and University Service Activities for the Tenure-Track Instructor

Due to the recent addition of the tenure-track Instructor line, the College of Science and Mathematics has developed a list of viable service activities appropriate for probationary faculty at this rank. This list includes

- Coordinator for introductory courses
- Supervising/Evaluating/Mentoring Adjunct and probationary $\frac{3}{4}$ -time faculty (Note: upon receiving tenure, faculty at the Instructor rank will be allowed to serve on the departmental Tenure and Recontracting committee for the purpose of evaluating $\frac{3}{4}$ -time faculty.)
- New student orientation sessions
- Coordinator for Peer Advising Program
- Liaison for advising with the University Advising Center (UAC)
- Strong involvement with student club activities, external/outreach events (e.g., Math Team, Pi Mu Epsilon, South Jersey Math Alliance, Philly Science Fest, Homecoming and other alumni events, Rowan Sciences Day). Depending on the activity/event, this type of service may be counted as service to the wider and professional community.
- Non-research oriented departmental duties that support instruction (e.g. the Techniques for Teaching and departmental technology committees)

Service Expectations for Reappointment and Tenure

Probationary faculty members in their first two years are expected to participate in basic departmental service in their first two years, with the first year focusing on learning about the Department and institution, and the second year seeing the faculty member engage in some actual basic departmental

service. Basic departmental service is the only category of departmental service expected of probationary faculty.

In the third year, it is expected that the probationary faculty member will, additionally, engage in basic university service and continue at this level through the application for tenure.

DEPARTMENT OF MATHEMATICS CRITERIA FOR EVALUATION OF FULFILLMENT OF RESPONSIBILITIES TO THE WIDER AND PROFESSIONAL COMMUNITY

The Department expects that faculty will remain engaged in the promotion and development of their disciplines by participating in organizations appropriate to their fields of expertise and inquiry.

The following categories of service to the profession are recognized here:

Basic service to the profession.

This category includes maintaining membership in scientific societies and other academic organizations appropriate to the faculty member's field.

Advanced service to the profession. This category includes more active levels of engagement in the profession than basic service, such as:

- Serving as a reviewer of manuscripts for publication
- Serving on committees of appropriate organizations
- Serving as a reviewer of grant proposals
- Chairing or moderating technical sessions at meetings.

Probationary faculty members are not expected to engage in service to the profession at this level.

Professional leadership. This category includes leadership roles within the profession, such as:

- Serving as an officer of an appropriate organization
- Serving on an editorial board or as an editor for a journal
- Organizing regional, national, or international meetings of an appropriate organization.

Probationary faculty members are not expected to engage in service to the profession at this level.

Expectations for Service to the Profession for Reappointment and Tenure

As indicated above, probationary faculty members are not expected to demonstrate more than basic service to the profession throughout their probationary period in order to receive tenure. Of course, a faculty member who performs advanced service to the profession or engages in professional leadership would exceed the requirements for tenure. Service for any faculty member can include coordination of introductory courses, coordination of laboratory instruction, coordinating peer advising, and/or strong of student clubs or outreach activities.