**Primary Unit Criteria for Comprehensive Review, Promotion, and Tenure
of Tenure-Track Faculty**

Paul M. Rady Department of Mechanical Engineering
College of Engineering and Applied Science
University of Colorado Boulder

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1. Scope

This document describes the procedures, policies, and criteria for specific use by the Paul M. Rady Department of Mechanical Engineering in evaluating tenure-track faculty for reappointment, tenure, and promotion. Primary units develop criteria that define the teaching, scholarly/creative work, and leadership and service expectations for faculty (Regent Policy §5.D.3.A), and this statement fulfills the Departmental obligation to produce such criteria as found in University of Colorado Administrative Policy Statement 1022 (APS1022) §V.A. as revised 7-1-2020. Further, this statement complies with the relevant requirements for this type of statement as contained in Regent Policy (§5.D.3) and APS 1022 (§V).

2. Rules of the Regents

Rules of the Regents, including Regent Policy §5.D.3, define the basic requirements for reappointment, tenure, and promotion. These basic requirements cannot be overridden or superseded by Department rules or interpretations.

The University standard states that tenure may be awarded only to faculty members who have demonstrated, at a minimum, meritorious performance in each of the three areas of teaching, scholarly/creative work, and leadership and service (to the University, profession, and/or public); and who have demonstrated excellence in either teaching or scholarly/creative work (Regent Policy §5.D.3; APS 1022 §IV.A). Faculty who are not meritorious or excellent in an area are given a rating of 'not meritorious.'

Each tenure-track faculty member is evaluated in a comprehensive manner at least once during the tenure probationary period apart from the review for the award of tenure. The comprehensive review typically occurs during the fourth year of full-time service and focuses on whether the candidate is making normal progress toward achieving the above standard (Regent Policy §5.D.3).

To be promoted to the rank of Professor (also referred to as "Full Professor"), an individual should typically have the terminal degree appropriate to their field or its equivalent, and a record that: (i) Taken as a whole, may be judged to be excellent; (ii) Demonstrates significant contribution to graduate and undergraduate education, unless individual or Departmental circumstances can be shown to require a stronger emphasis, or singular focus, on one or the other; and (iii) Since receiving tenure or promotion to Associate Professor indicates substantial, significant, and continued growth, development, and accomplishment in teaching, scholarly/creative work, and leadership and service (Regent Policy §5.D.3).

The purpose of this policy statement is to apply these general standards of performance in teaching, scholarly/creative work (previously called research), and leadership and service to the fields that are represented within the Paul M. Rady Department of Mechanical Engineering (Regent Policy §5.D.3.A).

In case of conflict, the rules of the College of Engineering and Applied Sciences and/or the University of Colorado Regents supersede this Department policy.

3. Departmental Policies and Procedures

This section describes the policies and procedures followed by the Department during its portion of review for reappointment, promotion, and tenure (first-level review, part 1). After the Department's review, a candidate's file is reviewed by the College (first-level review), the Campus (second-level review), and, for tenure, by the President and Regents (third-level review). The Regents make the final decision on cases involving tenure and the Chancellor makes the final decision on cases involving comprehensive review, reappointment, and promotion to both associate and full professor. The policies and procedures for first-level review by the College of Engineering and Applied Science are available on the College's website (currently http://www.colorado.edu/engineering). The policies and procedures for the Campus level of review are available from the Office of Faculty Affairs.

3.1. Guiding Principles

Reappointment, promotion, and tenure evaluations are holistic assessments of excellence in past scholarly and pedagogical activities and of productive service to our communities. In teaching, we value the education of creative and socially conscious engineers. In scholarly/creative work, we value innovative high-impact contributions that advance the state of knowledge and technology, as well as help solve pressing societal challenges. In leadership and service, we value contributions to internal faculty self-governance and external impacts on the community, as well as professional societies and organizations.

3.1.1. Comprehensive review and reappointment

Initial appointments for probationary tenure-track faculty members are usually for four years, and they are usually reviewed during the last year of the appointment period. Following Campus policy, a faculty member who starts in the spring semester has the option of delaying their review to the fourth full year rather than the third full year by waiving their first semester of service. Upon successful review, the normal reappointment for tenure-track faculty is for three years.

The comprehensive review of an Assistant Professor focuses on whether the candidate is making normal progress toward meeting or exceeding the standard for promotion to Associate Professor with tenure. In particular, the standard for reappointment is that the candidate is on a trajectory to achieve at the time of tenure an evaluation of meritorious in teaching, scholarly/creative work, and leadership and service, and excellence in teaching and/or scholarly/creative work, or that the candidate has a high likelihood of achieving these evaluations with reasonable corrections to their trajectory.

3.1.2. Promotion to Associate Professor and tenure

The mandatory tenure and promotion evaluation for tenure-track faculty normally occurs during the seventh year of the probationary period. Generally, the recommendation of promotion from Assistant Professor to Associate Professor and a recommendation of tenure will be concurrent. Thus, the criteria for promotion and tenure are similar and normally considered at the same time. Early promotion to Associate Professor without tenure will be considered only in exceptional cases in which the Assistant Professor has exhibited highly successful performance and is clearly "on track" toward tenure. Early tenure may also be considered for those candidates who have met the standards for tenure before the mandatory review time. The comprehensive review of an Assistant Professor must be successfully completed before or coincidental with undertaking a tenure review. The person considered for early promotion and/or tenure will typically have had at least five years of experience beyond their Ph.D. and at least three years of academic experience at the time of promotion.

The Rules of the Regents state that "Associate Professors should have the terminal degree appropriate to their field or its equivalent, considerable successful teaching experience, and promising accomplishment in research." The standard for promotion to Associate Professor with tenure is defined as demonstrated

meritorious performance in each of the three areas of teaching, scholarly/creative work, and leadership and service, and demonstrated excellence in teaching and/or scholarly/creative work.

The granting of tenure implies a long-term commitment on the part of the University and is, consequently, the most critical decision made regarding a faculty member (and the only one requiring Board of Regents approval). Such commitments must be limited to persons who are judged most likely to remain valued assets to the University. The granting of tenure is based primarily on the effectiveness of the candidate's teaching and the quality of their scholarly/creative work. Implied in a recommendation to grant tenure is the judgment that the candidate's future performance will lead to promotion to Full Professor after a suitable period as Associate Professor. This judgment should be based on evidence that the candidate, if granted tenure, will achieve the distinguished reputation in research, the effectiveness in teaching, and the level of activity in professional service required for promotion to Full Professor. The recommended person must be one of the best people the University could expect to attract to this position.

3.1.3. Promotion to Full Professor
There is no mandatory time at which consideration for promotion to the rank of Full Professor occurs. For faculty who develop their careers along a very fast and steep trajectory, promotion may be considered within six years, or even less in exceptional cases, after the previous promotion. For faculty members whose career trajectory is less steep, or whose scholarly work, by its nature, requires a longer period of development, the period between promotions may be a decade or longer. Review for promotion to Full Professor is conducted in the same manner as is the tenure and promotion review, including the solicitation of external letters of assessment.

Consideration for promotion to Full Professor is based on the effectiveness of their teaching, their scholarly/creative work, and the scope of their professional activities and service on and off campus. For promotion to Full Professor, the candidate should have a record that, taken as a whole, is judged to be excellent. They should have a record that indicates substantial, significant, and continued growth, development, and accomplishment in teaching, scholarly/creative work, and leadership and service.

3.2. Guidance to Candidates for Preparation of Materials
Candidates for promotion and tenure, as well as for promotion to Full Professor, are required to provide each of the following materials. Candidates for reappointment are only required to provide the first six items (i.e., all but the list of external reviewers, who are not contacted during the comprehensive review process per College policy). Candidates should prepare the required materials prior to the beginning of the fall semester in which the case will be considered. For cases requiring external letters, the list of recommended external reviewers (see Section 3.2.7) should be provided by the candidate at the end of the preceding spring semester.

3.2.1. Curriculum vitae (CV)
This document represents a cumulative record of the candidate's creative/scholarly work, teaching, and leadership and service achievements. The CV should be formatted for ease of review during the personnel action being undertaken. CVs should be organized into the following sections:
a. Educational background: Include all universities attended and degrees, as well as years of attendance. Include names and institutions for dissertation advisors.
b. Employment history: For postdoctoral positions, include names and institutions of postdoctoral advisors.
c. Honors and awards: Indicate the granting institution, year, department, and/or organization.
d. Scholarly/creative work:
   - List scholarly/creative work appearing in: (i) peer-reviewed journal publications, (ii) non-peer-reviewed journal publications, (iii) peer-reviewed conference proceedings, (iv) non-peer-

reviewed conference proceedings. Include authors, year, title, journal/proceedings name, volume, and/or page numbers. The impact of journals should be indicated using an impact factor, ranking of the journal within the field (obtained, e.g., from https://jcr.clarivate.com/jcr/browse-journals), or other relevant metric.

- Written work in press or submitted but not yet accepted for publication should be clearly identified as such.
- List conference presentations and seminars/lectures, indicating the conference, year, and whether the presentation was contributed or invited. Poster presentations should be listed in a separate section.
- Additional sections should be added for book chapters, books at academic presses, books at non-academic presses, patents, online video series, websites, blogs, etc. For patents, indicate whether the patent is provisional or awarded.
- List research funding received and pending proposals. Include agency, title, amount received, beginning and end dates, names of all co-investigators, candidate's role (Principal Investigator or Co-Principal Investigator), and candidate's portion of the funding. During reappointment review, also include the list of proposals submitted and declined.
- Publications since starting at CU should be indicated (i.e., publications starting with when the candidate is listed with their CU affiliation).
- The candidate's name should be highlighted in bold everywhere it appears in author lists for all scholarly/creative work. Student researchers from the candidate's group should be indicated by an asterisk (*) and postdoctoral researchers should be indicated by a caret (^) in author lists. The thesis and postdoctoral supervisors of the candidate should be indicated by a superscript chevron (< or >). Candidates should include a legend for the notation used in their CV.
- The Department considers publications that have been accepted for publication and campus policy allows the candidate to add materials at any point during review.

e. _Teaching accomplishments:_
- List classes taught at CU and elsewhere (if applicable), including the name of the class, course number, number of students enrolled, semester, and year.
- List any textbooks, study guides, manuals, workbooks, or electronic media produced for student or class use.
- List individual undergraduate and graduate students mentored. Include names, period mentored, and completion dates (with degrees or honors) of the students for whom the candidate served as either the primary mentor or the co-advisor. For co-advisor arrangements, the name(s) of the co-advisors should be included and the approximate percentage advising contribution for each advisor should be noted.
- List exam (e.g., comprehensive and preliminary) and thesis committees on which the candidate has served, including student name, department, and advisor.

f. _Service and leadership activities:_
- List internal service and leadership activities to the Department, College, and Campus.
- List external service and leadership activities to professional organizations and government agencies. Include conference/workshop/session organizing, journal and grant/proposal reviews, and other activities. Outreach activities to the community on behalf of CU may also be included.

g. _Media recognition:_ List articles/stories in which the candidate has appeared, including links if available.

3.2.2. Teaching statement

The evaluation of teaching is focused on two areas: (i) course instruction and (ii) mentoring. These two areas are evaluated using the teaching quality framework (TQF) and this statement is an opportunity for

the candidate to reflect on their contributions and activities in both course instruction and mentoring. The statement should provide context and self-reflection on the development of their teaching approach, philosophy, and accomplishments, rather than repeating information already available in the CV. The recommended length of this statement is no greater than approximately 1,500 words.

With respect to course instruction, the candidate should specifically comment on the first five dimensions of the TQF, using evidence and examples from their own course instruction. These dimensions include (a) goals, content, and alignment, (b) preparation for teaching, (c) methods and teaching practices, (d) presentation and student interaction, and (e) student outcomes. If applicable, the candidate should also highlight significant contributions to curriculum and course development, development of textbooks or other teaching materials used elsewhere, educational grants, teaching publications and presentations, and/or significant participation in activities of the American Society for Engineering Education (ASEE) or in the educational functions of the professional societies of which the candidate is a member.

With respect to mentoring, candidates should discuss their mentoring of undergraduate, MS, and PhD students enrolled at CU and elsewhere (with clear indication of the student's home institution). The candidate should also describe their mentorship of post-doctoral researchers, if applicable. Focus should be placed on the involvement of student and post-doctoral researchers in the candidate's research program and the candidate should specifically address their progress, with evidence and examples, related to the sixth dimension of the TQF focused on mentorship and advising.

Throughout the statement, the candidate should reflect on the development and impact of their teaching and advising, which addresses the seventh and final dimension of the TQF. The candidate should describe their contribution to local or external teaching communities, comment on how their teaching has changed over time, including how the candidate's professional development activities have informed their teaching practices and philosophy, and describe to what extent they have reflected on and improved their teaching and contributed to the broader teaching community, both on and off campus.

Candidates should include a section titled "Broader Impacts" in the teaching statement that outlines how they have considered and addressed the larger societal connections of their teaching and mentoring activities. For example, the candidate could describe how have they have promoted diversity, equity, and inclusion through their classroom instruction and mentoring. The candidate could discuss how they have worked to make their classroom teaching more inclusive through curriculum development, pedagogical choices, adoption of different evaluation methods, or how they have worked to mentor traditionally under-represented students in research. Outreach activities and community engagement related to teaching and mentoring could also be described.

3.2.3. Scholarly and creative work statement
The evaluation of scholarly and creative work is focused on three areas: (i) production of scholarly and creative work, (ii) applying for and spending external funding, and (iii) engagement with professional communities and society. Candidates should specifically address contributions and activities in each of these three areas, with separate sections in the statement focused on each area. The recommended length of this statement is no greater than approximately 1,500 words, not including figures (not required) and references. The statement should be appropriate for an educated public, as most reviewers at the second and third levels will not be engineers. Again, this is the candidate's opportunity to provide context and demonstrate growth, as opposed to primarily repeating data from the CV.

A primary focus of the statement should be to show innovation and impact through scholarly and creative work; candidates should explicitly discuss the intellectual significance, impact, and depth of their research contributions. The Department values high-impact products over simply a large quantity of products. The

candidate should comment on the quality and field-specific standing of journals in which they have published; this information should contextualize the journal impact factors and rankings included in the CV. The candidate should describe the significance of the example scholarly/creative works included in their materials (see Section 3.2.5), and highlight the impact of any other particularly notable scholarly/creative works listed in their CV, without repeating information already available in the CV. An outlook for future research directions the candidate plans to pursue may also be identified.

Candidates should include a section titled "Broader Impacts" in the scholarly and creative work statement that specifically addresses the societal, community, and/or diversity, equity, and inclusion impacts of their work. For example, the candidate could describe how they have worked to make their lab inclusive and equitable, how their work directly affects under-served communities, or how their research benefits human health and safety.

3.2.4. Leadership and service statement

This statement should describe the candidate's leadership and service in two areas: (i) internal (Department, College, and Campus) and (ii) external (to the profession and the public). Candidates should include leadership and service dates and level of effort required when relevant (for example, if the candidate was a journal editor/co-editor, they should describe the extent of their activities, involvement, and/or number of papers handled). Candidates should avoid repeating information already available in their CVs and should instead focus in this statement on describing the quality and impact of their leadership and service activities. Candidates should particularly highlight any leadership positions or roles, with a description of activities performed and outcomes. The recommended length of this statement is no greater than approximately 1,500 words.

Candidates should include a section titled "Broader Impacts" in the leadership and service statement that describes their professional impacts on society through their service activities. For example, this could include leadership and service activities focused on fostering a more diverse, equitable, and inclusive environment at CU, both inside and outside the Department. The candidate could describe service to the community and society that intersects with their work at CU. Candidates could discuss how any of their leadership and service activities have been focused on making their profession, professional societies, or meetings more inclusive and equitable.

3.2.5. Three representative examples of scholarly work

Candidates should include three peer-reviewed publications that demonstrate their accomplishments in scholarly and creative work. Candidates should include publications reflecting work completed after joining CU and that are notable for their innovation and impact. Candidates should explain in their scholarly and creative work statement (Section 3.2.3) why these publications are particularly noteworthy. Publications including PhD student authors are preferred.

3.2.6. Research funding history

This must be included in the dossier, either as part of the candidate's CV (see Section 3.2.1) or as a separate list. The Department finance team will prepare a list of expenditures for candidates, and candidates should indicate whether they are the Principal Investigator (PI), Co-PI, Senior Personnel, or Subcontractor, as well as their portion of the funding. Dates, project titles, and funding agencies should be provided with all expenditures. Candidates should list pending proposals.

3.2.7. List of recommended external reviewers (not required for reappointment)

The candidate may provide a short list (up to six names) of who can be *included* or *excluded* as potential reviewers on cases for promotion to Associate Professor and tenure, and for promotion to Full Professor. This list should include professional scholars who can write authoritatively about the candidate's scholarly

and professional service record, chosen to avoid any known or apparent biases, either positive or negative. The list should not include anyone with a conflict of interest in the case which, as defined by the College and University, includes PhD or postdoctoral mentoring relationships and close collaborators (typically indicated by status as co-authors or co-investigators on multiple peer-reviewed publications or grants in the past three years).

3.3. Departmental Process to Prepare the Case
Including all materials provided by the candidate, as outlined in Section 3.2, the Department prepares a complete dossier that makes the case for reappointment, promotion, and/or tenure. Preparation of the dossier and case consists of several components and activities, as outlined in the following sections.

3.3.1. Primary unit evaluation committee
The Primary Unit Evaluation Committee (PUEC) assembles the candidate's dossier, which contains at least the mandatory items described in the Department, College, and Campus guidelines before sharing materials with the Departmental members for the vote and forwarding to the Dean's review committee. All student and post-doctoral researcher names and affiliations should be redacted from letters submitted as part of the review before distribution beyond the PUEC.

All tenured Department faculty are eligible to serve as members of the PUEC for the following cases: comprehensive review for feedback or reappointment of Assistant Professors, promotion to Associate Professor, or a tenure case. All Full Professors in the Department are the voting faculty and potential PUEC members in cases involving promotion to Full Professor. The Chair is eligible to vote either as a member of the Primary Unit or in their role as Chair, but not both, as described in the Department bylaws.

While collaboration and cooperation are encouraged in the College, it is also important that all reviews be unbiased. Faculty members who have a professional or personal potential conflict of interest with a candidate should not serve on the candidate's PUEC or participate in writing the PUEC, Chair's, or Dean's reports. Potential conflicts of interest include PhD or postdoctoral mentoring relationships and close collaborations (typically indicated by status as co-authors or co-investigators on multiple peer-reviewed publications or grants in the past three years). Family members should recuse themselves from personnel reviews of immediate family members. Questions on potential conflicts of interest should be directed to the Chair, Dean, or Associate Vice Chancellor for Faculty Affairs.

The PUEC is elected or appointed as specified in the Department's bylaws. The PUEC is responsible for assisting the candidate in assembling their dossier, soliciting opinions from outside reviewers, and providing written and oral summaries of the candidate's dossier to the primary unit.

3.3.2. Consultation with the PUEC and/or Department Chair
A member of the PUEC and/or the Department Chair will meet with faculty being considered for reappointment, promotion, or tenure in the last semester of the academic year preceding the preparation of their case. This meeting will be used to communicate expectations for the preparation of required materials. For non-mandatory or early cases, this discussion will also be used to determine whether the timing for the case is appropriate. A member of the PUEC and/or the Department Chair will meet with the candidates again at the beginning of the semester in which their case will be considered to ensure that materials preparation is on track. Additional ad hoc meetings are also encouraged, and candidates may send their materials to the PUEC and/or Department Chair before official submission for review.

3.3.3. Teaching quality framework (TQF) evaluation summary
This [form](#) should be included in the dossier and should specify the sources of evidence to be used for each dimension of the teaching evaluation. The sources of evidence used by the PUEC in completing the TQF evaluation summary include the following at a minimum, each of which is required:

a. <u>Candidate teaching statement:</u> The candidate's assessment of their success in each of the TQF dimensions should be outlined in their teaching statement (Section 3.2.2), providing the "self-voice" required for a holistic TQF evaluation.

b. <u>Faculty course questionnaires:</u> Submit the complete record of faculty course questionnaire (FCQ) summaries of each course taught and the instructor summary compiled by the Office of Budget, Planning, and Assessment, for the period of review. For promotion to the rank of Professor, include only the FCQs since promotion and tenure. Fall FCQs should be added when they become available.

c. <u>Peer reviews of teaching:</u> These reviews, especially for junior faculty, should not be just one or two classroom visits in the semester of the review submission. They should instead represent a series of visits over several years, providing opportunities for feedback, improvement, and assessment. Feedback from these reviews should be prepared using the [MCEN Peer Observation Protocol](#).

d. <u>Student reviews of teaching:</u> To assess the quality of classroom instruction, feedback from students should be included in the TQF assessment and should come from at least one of the following sources:

- *Report of class or group interviews:* Interviews of a class or group of students should be performed without the candidate present, and the students should be asked to describe both the positive aspects of the course and instructor and areas for improvement. Feedback should be provided to the candidate. Feedback from class or group interviews should be prepared in the [TQF format](#).

- *Letters from randomly solicited students:* Letters may be requested from students who have taken courses from the faculty member being evaluated, both at the undergraduate and graduate levels, including current students and alums. Letters should preferably be requested for several different classes and semesters to gauge development over time. At least four letters are required if this form of evidence is used in the TQF assessment. Letters should be requested using [this format](#).

e. <u>Student reviews of mentoring:</u> To assess the quality of mentorship and advising, feedback from students should be included in the TQF and should come from at least one of the following sources:

- *Report of research group interview:* An interview of students in the candidate's research group should be performed without the candidate present, and the students should be asked to describe both the positive aspects of the candidate's mentoring and areas for improvement. Feedback should be provided to the candidate.

- *Letters from research advisees:* Letters may be requested from current or former students who have been research advisees of the candidate. At least three such letters are required if this form of evidence is used in the TQF assessment. Letters should be requested using [this format](#).

f. <u>Other:</u> Additional sources of evidence that may be used in the TQF assessment include the development of new and innovative teaching methods, authorship of textbooks, course material provided publicly in websites and video series, and other notable teaching accomplishments with broad impact.

With respect to the student letters, unsolicited comments from students submitted to the Chair, Dean, or a member of the department staff may also be included. Some degree of randomization should be used in selecting individuals and the method of selection should be described in the dossier. The candidate should not select the letter writers nor be involved with any correspondence requesting letters. Letters solicited from students and mentees should be anonymized before being shared with the full faculty of the primary unit and a copy of the solicitation template (provided, e.g., [here](#)) for each group should be included in the final dossier.

3.3.4. Solicitation of external letters (not required for reappointment)

In total, six external letters are required for promotion to Associate Professor and tenure or promotion to Full Professor. Letters must be submitted from professional colleagues not affiliated with CU who are well

respected in a field close to that of the candidate. Letters from mentors and direct collaborators (i.e., individuals with whom the candidate has published papers and/or won external funding in the past 3 years) are not to be included in the minimum number of required letters. Evaluators must be selected by the PUEC and chosen to avoid any known or apparent biases, either positive or negative. All letters received must be submitted with the dossier. Individuals contacted but not able to review must also be listed, along with the reason for the declination. A full CV from external reviewers is not required. However, an abbreviated CV or short summary of the qualifications for each reviewer should be included immediately after their letter.

The template for letters of solicitation to external reviewers is available here; substantive changes to this letter should be approved by the Office of Faculty Affairs. Evaluators should be asked to specify if the candidate would be reappointed, promoted, or receive tenure at institutions comparable to CU and, if not, why. Each evaluator should be asked to state their relationship with the candidate. All requests for information from external reviewers must go through one representative from the PUEC. External letters should be requested at least three months before the dossier is due to the FLRC.

Candidates may not select their own evaluators, but they are asked to recommend names to the primary unit. The candidate may provide a short list (up to six names) of who can be *included* or *excluded* as potential reviewers on cases for promotion to Associate Professor and tenure, and for promotion to Full Professor. A list of who recommended each reviewer (the candidate, the PUEC, or both) should be included in the dossier. An equal or greater number of external reviews included in the final dossier should be selected by the PUEC.

3.3.5. Comprehensive Review/Promotion/Tenure Talk
Candidates going through comprehensive review, promotion, and tenure are required to give a seminar describing scholarly/creative work, teaching, and leadership/service accomplishments, including future plans. This seminar allows the candidate to demonstrate their excellence in scholarly/creative work, teaching, and/or leadership and service. At least one month's notice should be given to the candidate before the seminar and the seminar should be advertised widely within the Department to students, faculty, and staff. The seminar should take place before the Department vote on the case.

3.3.6. PUEC recommendation and report
The PUEC report should include a description of the findings of the Committee regarding (i) teaching performance, (ii) scholarly and creative work, and (iii) University and professional leadership and service. The PUEC will also make a recommendation on the proposed personnel action and report it in the written report. The written report of the evaluation committee becomes part of the dossier. The names and affiliations of the external reviewers should not be revealed in the PUEC report in any way. The Department Chair should not serve on the PUEC or write its report (as their recommendation is expressed in a separate report).

3.3.7. Dossier presentation and review
After the PUEC report is complete, the PUEC or Department Chair schedules a meeting where faculty eligible to vote in the personnel case discuss the candidate's record, per the unit's bylaws. After discussion, a vote is initiated via secret ballot. The final dossier shall be made available to the faculty who are eligible to vote before any vote on the case. All faculty members who are eligible to vote on a particular case must be allowed to review the entire dossier before they are asked to vote.

3.3.8. Primary unit (Department) vote
The primary unit is normally composed of the faculty members of the Department authorized to vote on matters of appointment, reappointment, tenure, and promotion. Only members of equal or higher rank

relative to the proposed action are authorized to vote on personnel cases. Each unit must have a minimum voting membership of at least five eligible faculty members. Supplementing the voting membership of the primary unit requires the review and approval of the Dean. Only tenured faculty are eligible to vote on tenure-track cases. Research-track faculty are ineligible.

Votes should be recorded in the categories of 'for' the proposed action, 'against' the proposed action, 'abstain' or 'excused absence'. Excused absences should be limited to faculty members who are on leave or have a conflict of interest and are unable to participate in the review and vote. The Department Chair should not vote, but they may be present during the discussion by the primary unit. If faculty abstain from voting, they should be asked to provide a reason so that the chair can summarize that for the next levels of review.

3.3.9. Chair's report of the primary unit evaluation and recommendation
The Chair's letter provides a summary of the faculty's discussion of the candidate's case and explicitly provides the Chair's evaluation and recommendation, which may agree or disagree with the PUEC letter and/or the primary unit faculty vote. Regardless of the assessment, the Chair shall provide a detailed rationale for the recommendation. Both the Chair's letter and the PUEC letter are meant to offer constructive feedback to a candidate, regardless of the type of assessment being made, and both shall be shared with the candidate when the case is forwarded to the Dean's review committee (i.e., the FLRC).

The Chair's letter should specify the actions taken by the primary unit, including the results of the vote, reasons for the recommendation, and an explanation of any dissenting votes based on anonymized opinions, for example those expressed during the department discussion. The report should include a description of the review and the voting process that was followed. It should also include the recommendation of the Chair on the proposed personnel action, along with reasons for disagreement if this recommendation differs from the majority vote of the primary unit. The report from the Chair to the Dean must not identify the external reviewers by name or in any other way. This report becomes part of the dossier.

4. Criteria

In the following sections, expectations are outlined for ratings of meritorious and excellent in each of the evaluation areas for teaching, scholarly/creative work, and service/leadership.
a. For reappointment, candidates are expected to be on track to achieve, at the time of promotion and tenure, ratings of at least meritorious in each of teaching, scholarly/creative work, and leadership and service, with a rating of excellent in either teaching or scholarly/creative work.
b. For promotion to Associate Professor and tenure, candidates are expected to achieve ratings of at least meritorious in each of teaching, scholarly/creative work, and service/leadership, with a rating of excellent in either teaching or scholarly/creative work.
c. For promotion to Full Professor, candidates are expected to demonstrate a record that, taken as a whole, may be judged to be excellent; a record of significant contribution to graduate and undergraduate education, unless individual or departmental circumstances can be shown to require a stronger emphasis, or singular focus, on one or the other; and a record since receiving tenure or promotion to Associate Professor that indicates substantial, significant, and continued growth, development, and accomplishment in teaching, scholarly/creative work, and leadership and service.

4.1. Evaluation of Teaching
The evaluation of teaching is focused on two primary areas: (i) course instruction and (ii) mentoring. These two areas are equally important for all tenure-track faculty and are given equal weighting in determining an overall teaching rating. Performance in course instruction is assessed, in part, using the first five

dimensions of the TQF, while mentorship is assessed, in part, according to the sixth dimension. Candidates should also note any activities related to the seventh dimension of the TQF to provide additional evidence of excellence in teaching.

4.1.1. Course instruction

Contributions are comprised primarily of instruction in undergraduate and graduate courses related to the core teaching mission of the Department.

a. Meritorious: Candidates show evidence of sustained high-quality education at both the undergraduate and graduate levels. In the context of the TQF dimensions, a rating of "meritorious" could be indicated by all five dimensions related to course instruction being rated with proficiency levels of 1 or 2, with occasional 3s or 4s. The candidate should have a thorough knowledge of the subject matter of the courses they have taught and should keep their courses up to date by incorporating new material. The candidate should have a working knowledge of the science of teaching and learning as applied to their content area. The candidate should have demonstrated an ability to develop new courses or to make substantial revisions to old ones. The students consider the candidate to be an effective teacher and the candidate is willing to spend adequate time with students outside the classroom. The candidate has made effective use of peer evaluation and programs or training to improve teaching. The candidate has worked to make their classroom teaching more inclusive, for example through curriculum development or the adoption of different evaluation methods.

b. Excellent: In course instruction, excellence may be demonstrated through publications and presentations related to teaching, including textbooks, new teaching methods and aids, and the introduction of new laboratory experiments. In the context of the TQF, a rating of "excellent" may be indicated by proficiency level ratings of mostly 4 in the first five dimensions. Most notably, these dimensions should include evidence of achievements beyond standard classroom practice, for example through one or more of the following: (i) sustained recognition of accomplishment through multiple high-level campus, CU System, and national awards in education; (ii) production of multiple peer-reviewed works on teaching and scholarship of teaching and learning; (iii) curriculum design and innovation, including textbooks or the equivalent resources impacting CU, national and international audience; (iv) sustained grants or funding in support of developing, enacting, and sustaining effective educational programs; (v) programmatic development, such as the creation of a new pathway or program in the field that positively impacts those at University of Colorado and serves (and is taken up) as a national model. Excellence may also be demonstrated through substantial outreach activities and community engagement related to teaching.

4.1.2. Mentorship and student advising

Contributions can take the form of advising students in either educational or research settings, independent of department, including serving as the formal advisor or co-advisor of MS or PhD students, supervising independent study students, serving on dissertation and thesis committees, advising of undergraduate research (e.g., via the UROP or DLA programs), and supervision of postdoctoral researchers.

a. Meritorious: The candidate is a conscientious and effective mentor of students in research at both the graduate and undergraduate levels. The candidate shows evidence of growing student mentorship across all levels, with a mix of PhD, MS, and undergraduate student supervision. Candidates are expected to participate in and lead thesis and dissertation committees, including PhD preliminary exams. Students, particularly at the PhD level, should be involved in the production of scholarly and creative work. Candidates for promotion and tenure should have already graduated, or nearly graduated, a PhD student. The candidate includes under-represented students in their research and creates an inclusive group environment.

b. <u>Excellent:</u> The candidate has demonstrated substantial and sustained excellence in student mentorship. The candidate should have graduated multiple PhD students and should have a robust and diverse research group. The candidate has demonstrated success and substantial engagement in mentoring under-represented and/or non-traditional students, including leadership and participation in both internal and external mentoring programs.

4.2. Evaluation of Scholarly and Creative Work
The evaluation of scholarly and creative work is focused on three areas: (i) production of scholarly and creative work, (ii) applying for and spending external funding, and (iii) engagement with professional communities and society. The production of scholarly and creative work is the primary contributor to the overall rating, followed secondarily by applying for and spending external funding. Engagement with professional communities and society is an important component of the overall rating but is weighted less than the other two areas. A primary focus in all areas is to show innovation and impact through scholarly and creative work.

4.2.1. Production of scholarly and creative work
Contributions can take the form of peer-reviewed papers, books, book chapters, monographs, peer-reviewed conference publications, software, provisional and awarded patents, and publicly available technical reports and web content.
a. <u>Meritorious:</u> The candidate has established a research program that results in the publication of peer-reviewed journal papers, although not necessarily in the top journals of their field. The rate of publication is close to or below the candidate's peers at the same career stage. Graduate students are involved in research, primarily as co-authors (as opposed to lead authors). The candidate is working on problems that are of practical and societal interest but are not necessarily recognized as the most important problems by experts in the candidate's field. The candidate has not yet developed a notable scholarly reputation at other universities or in industry. The candidate's scholarly and creative work shows modest or limited evidence of innovation and broader impact.
b. <u>Excellent:</u> The candidate demonstrates evidence of innovative and high-impact research through publication of significant papers in top journals or other venues of equivalent quality and impact. The rate of publication compares favorably to the candidate's peers at the same career stage. Graduate students are involved in research and have appeared as lead authors on multiple publications. The candidate is working on problems that are recognized as significant by experts in the field, and the candidate has developed a scholarly reputation at other universities and in industry. Recognized authorities outside the University acknowledge the candidate's national and international reputation and innovative contributions in scholarly accomplishment, and the candidate may have received both internal and external awards related to research (not required). The candidate possesses a reputation of primary association with a particular achievement or subject, providing strong evidence of research leadership. The candidate's scholarly and creative work shows significant evidence of innovation and broader impact.

4.2.2. Applying for and spending external funding
This funding can come from federal agencies, private foundations, or industry with the faculty member as principal investigator (PI), co-PI, or co-I.
a. <u>Meritorious:</u> The candidate has applied for and may have received external funding, but not at a level sufficient to support a research group of 3-5 graduate students for the duration of their degrees. The candidate may still have a sustained research program, even demonstrating excellence in the production of scholarly and creative work, but the program is supported primarily by internal funding and smaller, shorter-term grants.

b. <u>Excellent:</u> The candidate has a vigorous and sustained research program that is fully supported by external funding. The candidate has secured several multi-year grants from federal agencies, private foundations, or industry. The candidate's funding level compares favorably to their peers at other institutions and is at a level sufficient to support 3-5 graduate students on a continuing basis for the duration of their degrees. The candidate may have organized and led large group proposals with multiple PIs and/or participating institutions. The candidate may have received major awards for research with substantial funding attached.

4.2.3. Engagement with professional communities and society

Contributions can take the form of conference presentations, invited or keynote talks, documented public impact, press coverage of research contributions, publicly available data sets, self-published software or code implementations, and scientific outreach around faculty scholarship.

a. <u>Meritorious:</u> The candidate shows evidence of sustained dissemination of scholarly and creative work, primarily to their professional community and peers. The candidate regularly communicates research findings in contributed presentations, although has relatively few invited presentations. The candidate has modest or limited engagement with society and the broader community.

b. <u>Excellent:</u> The candidate shows evidence of sustained dissemination of scholarly and creative work, with specific emphasis on documented public and societal impact. The candidate regularly communicates research findings in both contributed and invited presentations. The candidate may have been invited to present at prestigious institutions and forums and has significant documented public engagement and media reports. The candidate places particular focus on ensuring that their scholarly and creative work reaches a broad audience, for example using tailored approaches to engage K-12 students, different demographic groups, professional communities, the local community, and both national and international public media.

4.3. Evaluation of Leadership and Service

The evaluation of leadership and service is focused on two areas: (i) internal and (ii) external leadership and service. Although both internal and external leadership and service are important in determining the overall rating, internal leadership and service are given greater weighting given the focus on faculty self-governance in the Department, College, and University. In all areas, documented quality and impact is more important than quantity of service activities.

4.3.1. Internal leadership and service

Contributions can take the form of service to the Department, an Institute, the College, or Campus, in the form of semester or year-long formal and informal activities that directly support our collective teaching and research missions. Standard forms of internal leadership and service are typically committee work, faculty mentoring, and significant administrative and/or leadership roles. Internal service also includes serving as a member of or chairing an ad hoc committee, including faculty search committees.

a. <u>Meritorious:</u> The candidate serves on one or more Departmental committees and may become involved in College-level committees, primarily as a participant. The candidate may have had some leadership responsibilities within the Department, for example leading graduate student recruiting or organizing Departmental seminar series. The candidate is an active participant in Department functions, including faculty hiring and Department meetings, and engages in mentoring of other faculty in the Department. The candidate is an active participant in activities intended to broaden participation by students, faculty, and staff in science and engineering, including recruiting diverse and under-represented students.

b. <u>Excellent:</u> The candidate serves in leadership positions at the Department, College, and/or University levels, including serving as Chair, Associate Chair, Program or Institute Director, Program or Institute Associate Director, or Associate Dean. The candidate may have developed major College initiatives or

facilities that contribute to research, teaching, and faculty governance activities in the Department, College, and/or University. The candidate may have developed and led formal mentoring programs for students, faculty, and staff, as well as participated in substantial mentoring activities themselves. The candidate may have developed and led activities intended to broaden participation by students and faculty in science and engineering. Through their leadership, the candidate may have created opportunities for other faculty to engage in outreach and activities related to the promotion of diversity, equity, and inclusion within the Department, College, and/or University.

4.3.2. External leadership and service

Contributions to scholarly communities take the form of formal and informal activities that directly support that community's scholarly activities. Other common forms of external service focus on reviewing papers and proposals, either as an ad hoc reviewer or a member of a program committee or other formal panel, helping to organize a professional meeting, serving a professional society, or participating in significant outreach to the public (local, state, or national).

a. Meritorious: The candidate participates in external professional activities, such as chairing sessions at conferences and serving on program boards or review panels. The candidate performs reviews of papers and proposals, as well as becomes involved in organizing some aspects of professional meetings, such as workshops and mini-symposia. The candidate engages in outside industrial or governmental activities that have contributed to their effectiveness as a faculty member. The candidate participates in professional activities intended to promote the development of their field, with a particular focus on broadening the participation of under-represented and non-traditional groups in science and engineering. Service to the community and society, particularly via outreach to broaden participation in science and engineering, is strongly encouraged.

b. Excellent: The candidate holds leadership positions in their professional communities and is professionally recognized outside the University, as evidenced by membership and leadership in significant professional and scientific committees, conferences, councils, boards, and review panels. The candidate may manage peer review as a journal editor or senior member/chair of a conference program committee or another formal panel. The candidate may be the lead or co-organizer of a large professional meeting or conference. The candidate may lead outside industrial or governmental activities that contribute to the effectiveness of themselves and other faculty members. The candidate may serve as a program officer at a grant-making institution (public or private). The candidate leads professional activities intended to promote the development of their field, with a particular focus on broadening the participation of under-represented and non-traditional groups in science and engineering.

Reviewed and Approved

Peter Hamlington   6/1/2023
_____   _____
Peter Hamlington, Chair, Paul M. Rady Department of Mechanical   Date
Engineering

Keith Molenaar   6/1/2023
_____   _____
Keith R. Molenaar, Dean, College of Engineering and Applied Science   Date

Russell L. Moore   6/1/2023
_____   _____
Russell L. Moore, Provost   Date