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Guidelines and Criteria for Promotion and Tenure in the College of Engineering

The purpose of this document is to provide guidance to tenure-line faculty, department heads, mentors, and internal and external evaluators for tenure-line faculty career advancement in the Penn State College of Engineering. The guidelines are meant to provide transparency into the expectations for promotion and tenure. Beyond the milestones of promotion or tenure, the guidelines also support continuous career advancement, encouraging our faculty to pursue trajectories aimed at the highest levels of impact, influence, and recognition. Furthermore, these guidelines aim to separate expectations from assessments, so our methods of assessment remain flexible, and are able to evolve with the growing diversity of our faculty and their activities.

The college's vision is that our faculty will pursue and sustain a career of excellence in teaching, research, and service that exemplifies [Penn State's values](#). Faculty should also embrace and advance the [college's mission and values](#).

As faculty advance in their careers, the guiding question should be whether they are having a positive and significant impact on their students, colleagues, the institution, the discipline, and the world.

Table of Contents

- 02 Impact and the Assessment of Excellence
- 03 Peer Review is the Foundation of Assessment
- 03 Expectations for Advancement—Promotion and Tenure Criteria
- 04 Early Promotion to Associate Professor with Tenure
- 05 Nomination for Promotion to Professor
- 05 Evidence of Excellence Through Impact
- 08 Appendix A
 - The Narrative Statement
- 08 Appendix B
 - Penn State Values
 - Mission of the College of Engineering
 - Vision for the College of Engineering
- 08 Appendix C
 - Development Process

Impact and the Assessment of Excellence

Excellence in scholarship is assessed by the positive impact of one's work. There is no single metric of impact and assessing impact is challenging. Assessments too often default to an accounting of activities and outputs as the standard to be met. While these activities and outcomes may be indicators of impact and excellence, they are not themselves the impact. Impact is evidenced by the benefit to the students, colleagues, the institution, the profession, the Commonwealth, the nation, humanity, and society generally. For example, faculty may actively advise graduate students and can cite the number of doctorate students graduated under their advisement as an output of this activity. The positive impact of this advising could be evidence of competitive awards received by advisees in recognition of the quality of their scholarship, job placement, etc.

Promotion and tenure dossiers are, by their nature, a set of lists and we rely upon evaluators to

use their considered professional experience to translate the factual content of a dossier into an assessment of excellence. In doing so, assessments should not overly emphasize any single metric or indicator. Evaluators are asked to assess impact holistically, taking into consideration the totality of a faculty member's accomplishments while remaining cognizant of potential sources of bias. It is incumbent upon evaluators to do more than cite numbers. That is, it is not sufficient to refer to a candidate for promotion receiving a certain numerical rating in an assessment of teaching effectiveness, the number of publications authored, or the number of dollars in research funding, without explaining how this evidence forms the basis of a determination of the positive impact, or lack thereof, of the candidate's contributions.

Internal and external evaluators are asked to describe how they interpret and translate the contents of a dossier into an assessment of excellence. How have they used, for example, a summary of numerical teaching ratings, a list of journal

publications, or a list of committee assignments to determine impact? The University's promotion and tenure dossier is standardized in content to accommodate faculty activities across a comprehensive university. For the purposes of the College of Engineering, factual content that pertains to the assessment of a faculty member's impact may appear in more than one section. For example, evaluators may consider a faculty member's record of publication with students to be relevant to the assessment of the impact of a faculty member's teaching and advising. Thus, while we evaluate faculty for research, teaching, and service, a holistic assessment is paramount.

College promotion and tenure criteria must encompass the breadth of engineering disciplines and the interdisciplinarity of engineering research and teaching, as well as the breadth of possible modes of impact, represented in our college. As a result, the criteria are intentionally non-specific about the weight evaluators give to any particular factor. Departmental criteria must be consistent with

those of the University and college, while also applying disciplinary norms to the assessment of impact. Departments and evaluators are also expected to be alert for sources of bias in their approaches to evaluating candidates and mitigate them to the fullest extent possible.

Peer Review is the Foundation of Assessment

The assessment of a faculty member's scholarly activities and impact is fundamentally based on peer evaluation. Dossiers contain peer evaluations of teaching and the opinions of external experts. Peer review is crucial in the dissemination of research results and vital to upholding the standards of publication and the ethical conduct of research. Promotion and Tenure review committees are comprised of peers who are tasked with assessing a candidate's accomplishments based on their individual and accumulated experiences. Evaluators should strive to provide informed, thoughtful, and unbiased assessments of a candidate's qualifications for advancement. While information from students and other non-peers may be included in a candidate's dossier, and administrators have key roles in the promotion and tenure process, it is the faculty peers, particularly those at the department-level, who may be particularly well-positioned to understand the context of a faculty member's contributions. At the same time, it is critical that department-level peers recognize and value the impact that may result from interdisciplinary collaborations that often bridge departments and colleges internal and external to Penn State.

Expectations for Advancement—Promotion and Tenure Criteria

The University's goal in faculty advancement is "to have a faculty appropriate to a major research university, with a commitment to teaching and service, so that the internal and external reputations of each unit are constantly improving."

At Penn State, promotion is based on recognized performance and achievement in each of the central areas of responsibility (teaching, research, and service). Tenure is based on the potential for further achievement in these areas as evidenced by performance during the provisional appointment.

While it may not be possible for faculty members' scholarship to have had demonstrable, wide-spread impact at the time of promotion to associate professor and the award of tenure, they should have demonstrated outcomes and trajectories typical of highly successful faculty. Candidates for promotion to professor are expected to have sustained high levels of performance, demonstrated the impact of their scholarship, shown a commitment to the success of their students and colleagues, assumed leadership roles within and external to the institution, and established international reputations as influential experts in their fields. Time-in-rank as an associate professor is not a factor in the decision to consider a candidate to promotion to professor.

Candidates for promotion or tenure are expected to have demonstrated an excellent record of performance in teaching or research and an overall very good to excellent record of performance. In addition, faculty are expected to abide by all University policies, including [AC47](#) General Standards

of Professional Ethics and [AD88](#) Code of Responsible Conduct which are fundamental expectations of all faculty at Penn State.

The following expectations are to be used in the College of Engineering to assess faculty performance in the three central areas of responsibility.

TEACHING AND LEARNING

Expectations for teaching include demonstration of a commitment to student success, inside and outside the classroom, and sustained records of high quality, effective, innovative, and inclusive teaching, in both content and delivery, at the undergraduate and graduate levels. Faculty are expected to contribute to a climate that is welcoming and supportive of all students and recognize the diversity of backgrounds represented by the Penn State student population. Faculty are expected to contribute to curricular innovation by keeping the content of courses current, developing new courses, and bringing knowledge from their research activities into the classroom.

Candidates for tenure or promotion are encouraged to recruit a diverse group of graduate students to their research programs, to guide and retain them in activities leading to their degrees, and to engage undergraduate students in their research. While faculty do not control all the factors that make it possible to build a diverse group of students, each faculty member is expected to provide professional growth opportunities to their advisees, including postdoctoral researchers, centered around the Penn State values. In recognition of the cross-disciplinary nature of research, advising students seeking degrees in programs outside a faculty member's tenure home department is valued.

Expectations for undergraduate student academic advising vary across departments. The college respects department practice and, therefore, does not require undergraduate advising as part of advancement. However, departments that do have an expectation for academic advising should value faculty who perform these responsibilities well.

RESEARCH

The expectation for research faculty members are: pose critical research problems in important areas; build independent, sustainable, ethical, and high-impact research programs; work with a diverse group of graduate and undergraduate students in a climate of respect in pursuing solutions to these research problems; disseminate the results of research in the most appropriate venues including external presentations and seminars; and have these results considered by experts in the field to be of very high quality and to have meaningful impact. An impactful research program may also include activity that supports industry and government agencies, the disclosure and protection of intellectual property, or technology transfer that does not lead to journal publications or other common forms of the dissemination of outcomes. Faculty may also choose to follow a research agenda designed around innovation in engineering education, or other areas at the intersection between engineering and other disciplines of societal impact. Regardless of the specific nature of a research program, information must be included in the dossier to enable evaluators to assess the quality and impact of these activities.

As faculty advance in their careers, and particularly for those seeking promotion to professor, they are expected to assume expanded

leadership roles in their research enterprise and develop an international reputation.

Faculty members are expected to apply their expertise in support of the broader peer-review research enterprise through activities such as proposal and manuscript reviews and service in editorial capacities. Faculty members must manage these activities at levels consistent with the other expectations and demands of tenure-line faculty at a research-intensive university.

At Penn State, course development and curricular innovation are part of the section of the dossier devoted to research and creative activity. In addition to the expectations discussed previously in the teaching and learning section, faculty members are encouraged to engage in curricular improvements based on new disciplinary knowledge and organized around evidence-based pedagogies.

SERVICE

Expectations for internal service are that faculty members will reliably and ably contribute to department, college, and University administration, governance, and advancement, commensurate with the other expectations of tenure-line faculty and their time in rank. As faculty members advance in their careers, they are expected to assume leadership roles in such activities. Expectations for internal service for tenure-line faculty vary across departments. The college respects department practice in this regard.

The college places high value on service activities that support Penn State's values, particularly those that advance equity and inclusion. The college expects that departments will place equally high value on these activities in their criteria.

Faculty members are also expected to contribute externally to the technical and governance missions of their professional or local communities, government and non-government organizations, and industry in ways that complement their research and teaching activities and enhance their stature within the profession. As with internal service, faculty members are expected to assume leadership roles within their professional communities as their careers advance.

Early Promotion to Associate Professor with Tenure

The decision to promote a faculty member to associate professor and award [tenure](#) is typically made in the sixth year of service in a tenure-eligible position. To consider a candidate for tenure prior to this period, a particularly strong case must be presented by the Dean to the Vice Provost for Faculty Affairs. According to the Administrative Guidelines for [AC23](#), "the number of years and achievements beyond the completion of the doctoral degree are key factors in early tenure considerations." To be considered for early tenure in the College of Engineering, a candidate must have established a record of performance as evidenced by the second- and fourth-year reviews that demonstrates the candidate will, in all likelihood, have met all the expectations for promotion to associate professor with tenure at the time of the early tenure review. Approval for consideration to conduct an early tenure review does not imply that the review will be successful. If a candidate is not successful in receiving tenure through an early review process, the candidate is not penalized in any way or disadvantaged from the

normal tenure review sequence. If during a fourth-year review, the department P&T committee, department head or college P&T committee believe a faculty member is a viable candidate for early promotion and tenure consideration, a recommendation should be included in their fourth-year review letter. These cases are expected to be rare.

Nomination for Promotion to Professor

Section V.C. of the University Administrative Guidelines ([AC23](#)) states that faculty members will be reviewed for promotion only after being nominated—in the case of faculty members tenured at a University Park college—by an appropriate academic administrator. The nomination process in the College of Engineering is as follows:

Department heads or school directors should discuss career advancement with each tenured associate professor during their annual performance evaluations. The discussion should include an assessment of the faculty member's progress towards promotion and identify aspects of the faculty member's record that may need improvement.

While time-in-rank is not a criterion for promotion to professor, by the fourth year post tenure, and with the knowledge and consent of the faculty member, a department or school committee comprised of professors should review the teaching, research and service records of tenured associate professors and make a recommendation to the department head or school director regarding possible consideration for promotion

to professor in the fifth-year post-tenure. The recommendation is advisory. Such review should be conducted every two years. The committee need not constitute the entire department or school Promotion and Tenure committee who may be reviewing the case during the next review cycle. Faculty may opt out of the biennial reviews by notifying their department head or school director, and the dean of engineering. They may opt back in by notifying the same.

The department head or school director will consider both the record of the faculty member and the recommendation of the committee in deciding whether to nominate a faculty member for promotion consideration to the dean of engineering. If the department head or school director decides not to nominate a faculty member, they should meet with the faculty member to explain the reasons for the decision.

Should a faculty member not be nominated for promotion by their department head or school director by their eighth-year post tenure, the faculty member may self-nominate to the dean of engineering. If a faculty member undergoes a formal promotion review that is unsuccessful, the faculty member must wait three years before a subsequent self-nomination. This clause does not preclude a department head or school director from nominating the faculty member sooner.

Evidence of Excellence Through Impact

This section provides suggestions of approaches for assessing the impact of a faculty member's

accomplishments, but these examples are in no way intended to be all-inclusive or the only options for evidence of impact. The intent is to encourage our faculty to be impactful, perhaps in ways that may not be captured by traditional metrics. Thus, candidates for promotion and/or tenure and evaluators are cautioned that the information presented here are suggestions of elements of a promotion and tenure evaluation. Departments are encouraged to develop frameworks that capture the various ways faculty have impact, and thus develop their own guidance based on the spectrum of disciplinary-centric achievement while being cognizant of sources of bias. Similarly, candidates for promotion are encouraged to articulate and demonstrate, beyond numbers and lists, their impact by evidence of the positive influence their scholarly endeavors are having on others.

TEACHING AND LEARNING

Teaching students in the classroom and engaging with them during office hours, in co- and extra-curricular activities, and in the research laboratory has a direct impact on their success. Indicators of impact include assessments of teaching and course materials; the record of advising undergraduate and graduate student to degree completion and job placement; postdoctoral researcher mentoring; and the record of advising undergraduate honors theses. The record of competitive awards received by advisees in recognition of the quality of their scholarship is also indicative of positive impact on students. Additional evidence of the impact of teaching includes the record of: developing critical thinking skills in our students; successfully incorporating evidence-based best practices or inclusive

teaching methodologies into the classroom or research laboratory; and fostering students' awareness of and the ability to advance diversity, equity, inclusion, and ethics. Further evidence of impact includes a faculty member's record of pursuing self-improvement as a teacher and the success of introducing the outcomes of such efforts into the classroom. Excellence in teaching is also evidenced by updating courses and developing new courses. Publication or presentation of outcomes of teaching and advising activities in professional venues and an assessment of the quality of those disseminations are also potential indicators of impact.

Impact in advising may be indicated by timely completion of advisees' degree programs; providing mentoring and professional growth opportunities for advisees including postdoctoral researchers; post-graduation placement of advisees; advancing equity and inclusion within a faculty member's research group; competitive awards received by advisees; and teaching and advising awards received by the faculty member. A faculty member's commitment to student success may also be demonstrated through support for co- and extra-curricular activities, such as global experiences, student competitions and clubs, or other form of student engagement.

RESEARCH

The dissemination of research results are essential activities for faculty members at research intensive universities. However, the assessment should not be based solely on numbers, e.g., the number of publications or citations. Rather, the assessment should consider the totality of the information provided in the dossier, including the candidate's narrative statement, record of publication, other

research outcomes (e.g., patents or other examples of translation to practice), and the opinions of external evaluators. The quantity of publications provides insight into the contemporary importance and trajectory of a faculty member's research program. However, the quantity should be part of a holistic assessment that includes the quality and reputation of the publication venue and its ability to reach the intended audience; the list of authors and the contribution of the candidate; evidence of effective student advising; and whether the venue is consistent with the vision and goals of a candidate's research program as laid out in the narrative statement.

Similarly, the assessment of a candidate's record of securing research support should not be based solely upon the amount of funding obtained by the candidate. Funding should be considered a means of achievement and impact, not the ends. An assessment of a candidate's funding should take into consideration the nature of the candidate's research, the opportunities for funding in that field. The assessment should also consider whether a candidate's level of funding is sufficient to support the candidate's research vision and the department's expectation for supporting graduate and undergraduate researchers. External funding does provide some information regarding the importance, quality, and timeliness of a faculty member's ideas and record of achievement. In addition, the record of funding is an indicator of a faculty member's professional growth and likelihood of continuing contribution. Faculty members should also demonstrate that they are fully capable of managing all aspects of a research program.

Penn State and the College of Engineering strongly encourage faculty to engage in collaborative research with internal and external collaborators. The impact of one faculty member upon the success of others is often valuable and important, yet difficult to quantify. Faculty members are expected to establish themselves as thought leaders for significant parts of collaborative research projects and to demonstrate how their participation led to impacts that are greater than the sum of those of the individual participants working alone. Faculty members who lead successful multi-investigator and center-type research projects merit additional recognition. However, it is equally important not to discount or overlook contributions made by tenure-track faculty members when a colleague who is more advanced in their career is a member of the same team.

External seminars at peer institutions, government laboratories and agencies, industry laboratories, and invited presentations at top conferences may also be good indicators of a faculty member's standing within their research community. Opportunities and expectations for such activities might vary by field, as mentioned in Section III. Expectations for advancement, candidates for promotion to professor are expected to demonstrate evidence commensurate with international stature in their fields.

Other factors relevant to the assessment of research contributions include the synergy that a faculty member has brought to collaborations, and whether a faculty member's work has garnered external recognition or awards for its quality and influence.

SERVICE AND THE SCHOLARSHIP OF SERVICE

The impact of a faculty member's internal service activities may be demonstrated by: meaningful participation in department, college, or university administration, governance or advancement; furthering a culture and climate of equity and inclusion; supporting extracurricular activities of our students; mentoring colleagues; supporting global programs; and advancing a culture of sustainability. Candidates for promotion should describe their level of engagement in and important outcomes of their activities.

The impact of a faculty member's external service may be demonstrated by active participation in professional organizations that

ultimately leads to professional growth opportunities for members of those organizations. Examples include holding elected office, taking leadership roles in conference organization, developing position papers, etc. Faculty members should describe their level of engagement and important outcomes of such activities. Evidence of a faculty member's international visibility and professional reputation are also indicators of impact.

Service may also involve membership on or leadership of government, non-government or industry panels, review boards, visiting teams, and commissions, etc. Initiative-focused service, such as launching a new activity to improve culture, creating a new journal or conference, proposing and or

leading research centers or councils, etc., is also valued. Major research centers often include educational and outreach components. Therefore, it may be the case aspects of these types of initiatives are reported in the teaching and learning, and the research and creative accomplishments sections of the dossier.

There are many ways for our faculty to have impact through service. They are encouraged to propose, lead or participate in activities they are passionate about and that make a positive influence the stakeholders of these activities. Similarly, evaluators should take a broad perspective on what constitutes service and reward faculty for the impacts they are having.



Appendix A

THE NARRATIVE STATEMENT

The narrative statement is a critical part of a candidate for promotion's dossier.

The narrative statement is an opportunity for candidates to explain what is not in the dossier that they want evaluators to know about their scholarship. What are their career goals and how are they advancing towards achieving their goals? What do they want the impacts of their teaching, research, and service to be...and why? What is their plan for achieving these impacts, what is their progress along this plan, what have their successes been so far, and what metrics do they use and recommend others use, to assess the impact? A discussion of not only accomplishments and their impact, but also of the candidate's trajectory, is encouraged. A candidate might also describe accomplishments of which they are most proud, or which best represent their impactful contributions. Candidates might also consider addressing how they foster the Penn State values through their teaching, research, and service. Narrative statements that repeat numerical summaries of the content of the dossier are strongly discouraged.

A primary audience for the narrative statement is evaluators at the college- and University-levels who almost certainly will not have backgrounds in the faculty member's area of specialization. Therefore, highly technical descriptions of research are not particularly effective. It is important for a candidate to explain the "why" behind their research—why are they pursuing it and, if are successful, how will the outcomes benefit people and society?

The section on teaching might explain a candidate's approach to teaching, what they have learned through their experience that has made them better teachers and what their plans for future development

as a teacher. They might consider addressing their approach to student advising and mentoring.

In the section on service, rather than recounting all the committees a candidate has served on, they may wish instead to provide examples of where they believe that they been particularly effective or influential in service. They should also highlight leadership roles. It is recognized that many service activities are assigned. However, others are voluntary. Faculty members might explain what they wish to achieve through these voluntary activities.

Appendix B

PENN STATE VALUES

Integrity. We act with integrity in accordance with the highest academic, professional, and ethical standards.

Respect. We respect and honor the dignity of each person; embrace civil discourse; and foster a diverse, inclusive, and safe community.

Responsibility. We act responsibly and hold ourselves accountable for our decisions, actions, and their consequences.

Discovery. Through advanced research and scholarship, we seek and create new knowledge and understanding and foster creativity and innovation, for society's benefit.

Excellence. We strive for excellence in all our endeavors as individuals, an institution, and a leader in higher education and research.

Community. We work together for the betterment of our University, the communities we serve, and the world.

MISSION OF THE COLLEGE OF ENGINEERING

The Penn State College of Engineering is a recognized world leader in impactful teaching and learning; research; and service to the University, the profession, and society.

We promote a culture of equity and inclusion, wherein everyone is welcome; everyone is respected; everyone's opinion and contributions are valued; and everyone strives for excellence in themselves, in their colleagues, and in the institution.

We deliver purposeful residential and online programming that prepares undergraduate and graduate students from around the world for life-long learning and impactful careers in the public and private sectors. These programs recognize the importance of both deep disciplinary knowledge as well as transdisciplinary, team-based thinking and problem solving, and global awareness.

We provide innovative and supportive experiences designed to foster a more welcoming community; one that makes a career in engineering more accessible and achievable for talented and hardworking students, post-docs, staff and faculty from a range of backgrounds; and that inspires a commitment to excellence and ethics.

We provide the resources, infrastructure, and collaborative pathways that enable faculty to thrive as world renown educators and pursue transformational research agendas. In collaboration with industry, non-profit organizations, governmental agencies, other academic institutions, and partners around the globe, our faculty-led research initiatives across all areas of engineering create jobs, fuel economic growth, inform policy, solve global problems, and positively impact humanity.

VISION FOR THE COLLEGE OF ENGINEERING

The Penn State College of Engineering will be recognized locally, regionally, nationally, and internationally as a leading influence in creating a diverse and welcoming community that achieves excellence in engineering education, research and service with the power to inspire

Appendix C

DEVELOPMENT PROCESS

These guidelines were created with an open-source, iterative, and engaging process that encouraged all tenure-line faculty and other stakeholders to contribute actively.

- Separate Microsoft Teams sites were created in spring 2021 for the following groups: 1) tenure-line faculty members who had replied to a faculty forum devoted to promotion and tenure, 2) current and recent members of the college's promotion and tenure committee, 3) current members of department promotion and tenure committees, 4) department heads and school directors, and 5) the dean and associate deans.
- A survey was sent to the remaining tenure-system faculty members to identify if they wanted to participate and if so, how (reviewing and editing the guidelines online in a Teams group, participation in a small focus group, and/or participation in a larger group discussion).
- We also consulted with the Office of Educational Equity.
- In April 2021, we held a faculty forum on faculty advancement and received additional feedback in breakout rooms.
- All these forms of input resulted in a revised draft in May 2021.
- A second participation survey was sent to all tenure line faculty members in June 2021, asking for their interest in reviewing the revised draft, if so, how, and, in consideration that it was summer, if they preferred to participate in July, August, or September.
- Focus groups were created based on the responses.
- The revised guidelines underwent another round of review by the dean and associate deans.
- The Engineering Faculty Council (EFC) was consulted early in the process, prior to the first of two faculty input rounds, and informed of progress along the way.
- The final version of the guidelines were presented to the EFC in early 2022 and EFC gave consensus approval of the document during its April 12, 2022 meeting.