ECE Department Standards for Academic Review of Regular Ladder Rank Faculty
May 15, 2026

This departmental policy document summarizes the general expectations in terms of research, teaching, and service for tenure-track faculty in the Department of Electrical and Computer Engineering (ECE). By determining normal merit advancement criteria for its members, the department intends to provide a measurement of a candidate's achievements and to aid in evaluation when acceleration is proposed.

Research

Overview: It is critical for faculty to be active in performing high quality research. As discussed below, research performance is typically evaluated based on published peer reviewed journal papers and/or letters and/or conference papers. The quality or impact of the work is often judged by reference to the stature of the publication venue, including metrics such as journal impact factor and conference acceptance rate. Quality and impact can also be judged by paper awards, citations, and adoption of the work by other research groups, among other measures. We note that using impact factors to determine top journals is not valid across different sub-disciplines. For example, the *IEEE Transactions on Information Theory*, *IEEE Journal of Selected Topics in Quantum Electronics*, and *IEEE Transactions on Pattern Analysis and Machine Intelligence* are all top journals in their respective fields, but they have impact factors of 2.5, 4.9, and 23.6, respectively.

Beyond journal papers, letters, and conference papers, other forms of scholarly and creative contributions may be considered in the evaluation (databases, books, software, etc.), but when included they should be carefully described by the faculty, including statements on peer review, impact, degree of involvement, etc.

ECE encourages collaboration among faculty and recognizes that interdisciplinary work involving two faculty co-advisors can take as much time from each of them, and sometimes more, than research conducted by a single faculty member advising a student. Accordingly, faculty members should indicate their role on each publication; up to three senior authors can each be given full credit for research when the faculty members were each deeply involved in the work.

Different patterns of publication: ECE is a broad field which encompasses three main patterns of publication:

1. The first publication pattern consists of full-length journal papers. The papers tend to be relatively long (10-15 pages) with relatively few authors (e.g., often one faculty author and 1-2 student authors). The normative expectation is for 2 papers per year in the top journals in the field. The top journals in the field may be

determined based on either their impact factor (relative to other venues in the same sub-field) or their standing as the main journal for a learned society in the field.

2. The second publication pattern consists of short letters in prestigious letters journals, sometimes involving larger numbers of co-authors. Examples of top letters journals are the *Applied Physics Letters* and *Nano Letters*. The normative expectation is for 4 papers per year. Generally, a paper that is 2-5 pages long and appears in a journal with the word "Letters" in the title should be counted as a letter. But a publication venue with the word "Letters" in the title can include longer papers which are not letters, and venues that do not have "Letters" in the title can include letters, etc. Faculty members are expected to identify which of their publications should be counted as letters.
3. The third publication pattern focuses on full-length (e.g., 12-page) prestigious conference publications. The normative expectations are for 2 papers per year. There are certain sub-disciplines, such as machine learning, computer security, and networking, where ECE areas overlap with those of CSE; in these sub disciplines, prestigious conferences are the expected publication venues. Generally these conferences are characterized by several of the following: (1) low acceptance rates, (2) high impact factors, (3) inclusion of a rebuttal phase in the review process, (4) page counts comparable to full-length journal publications, and (5) the expectation that conference papers do not reappear in journals. Examples are CVPR and NeurIPS. While conferences in other areas might also have some of the listed characteristics, this publication pattern aims to reflect that normal productivity in computer science related disciplines is measured by conference papers.

Comments:

- *Conference papers:* Many faculty with the first two publication patterns also publish conference papers, but these are often relatively short papers that subsequently get extended and published in journals. Accordingly, it is the journal paper and not the preliminary conference paper which "counts" towards the research accomplishments. The department recognizes the value of these conference papers for timely dissemination of results, for networking opportunities for graduate students who present them, and other advantages. The reasons for not including these types of conference papers in our metrics for the first two publication patterns include that conference papers for many sub-disciplines reflect preliminary or limited results, and that decisions to publish such conference papers may depend on the ability to travel. However, the primary reason is that in certain sub disciplines, high-prestige journal publications represent a simple and well-accepted way of quantifying research productivity, whereas in other sub-disciplines (primarily those that overlap with CSE), conference papers determine normal productivity for the field.

- *Alignment with sub-disciplines:* To different degrees, these publication patterns

align with various sub-disciplines. For example, faculty in information theory, communications, and circuits often subscribe to the first pattern, those in nanoscale devices and materials are often in the second, and those in computer vision, machine learning and computer security are almost always in the third. However, it is possible for faculty members in any area of ECE to publish with any of these patterns. Also, we note that some faculty straddle different areas of research, and their publication patterns may be partly in two, or even all three of these streams.

- *Overlap with other departments:* We note that some faculty in ECE have research profiles that align strongly with other engineering departments, especially NE, CSE, and MAE. For such faculty in areas of intersection, we generally view alignment of standards as appropriate. It would be a source of concern if ECE faculty in areas of intersection could receive promotions or accelerated advancement based on lower standards than those of our sister departments. It would also be of concern if ECE faculty could not receive appropriate credit for discipline-specific publication venues. This is why conferences that meet certain criteria in certain areas (e.g., machine learning, computer security, networking) are included as one of the publication patterns.

- *Additional publication patterns:* The three main publication patterns listed above do not exhaustively cover ECE sub-disciplines. For example, areas such as robotics and control theory, as well as other areas, may be imperfect fits. This document does not attempt to enumerate additional patterns to cover all current and future sub-disciplines. Rather, it is the responsibility of the faculty member in such cases to propose and justify, in his or her personal statement, a definition of normative productivity and typical publication venues for the sub-discipline via discussions with the department chair. For sub-disciplines that cross departmental boundaries, invoking standards of other departments such as MAE or BE could be a component of such a justification. It is likewise the responsibility of the ad hoc committee to discuss and opine on the suitability of the standards for that case, and a similar responsibility exists for the AP committee in its advisory role.

- *Flexibility:* The normative expectations presented above in numerical terms are intended to be general guidelines and not hard-and-fast rules. For a variety of reasons, individual faculty members may deserve regular merit advancement with publication rates below these, or may deserve accelerated advancement with rates below 2X. Some of these reasons might include especially impactful work (where impact could be shown by best paper awards, licensed patents, prestigious venues, etc.), creation of other products such as books or software, or exceptionally long papers (publications in *Science* or *Nature* that include extensive peer-reviewed supplemental material might be considered exceptionally long). Each research profile should be examined holistically in terms of both productivity and quality / impact. We also note that a case for

accelerated advancement may rest on two legs of the stool, or on all three.

Teaching

Workload: The ECE Department has a teaching workload policy for tenure-track faculty of 3.5 courses per year. Courses with large enrollment (e.g., over 150 students) can count for more than one teaching credit. All tenure-track faculty must teach at least one undergraduate course each year unless the needs of the teaching schedule require an exception, and all tenure-track faculty are expected to teach at least one course with enrollment over 40 students. Course relief and the counting of teaching credits in the Department are modified on an ad hoc basis at the discretion of the Chair. For example, when a faculty member acquires a course, that first-time teaching typically counts as 1.5 teaching credits, and the Chair may give credit for serving on time-consuming committees at the departmental, school, or campus level.

Evaluation: The ECE Department believes that evaluation of teaching requires a holistic view of a candidate's file, and this view must include the student voice. The department encourages the use of broad-based surveys of students that permit open-ended long form answers (rather than just numerical ratings), as well as teaching statements and self-reflections. We acknowledge that students will tend to rate professors highly for creating low-workload classes and giving high grades and believe that faculty should not be penalized for having high expectations in their courses. We expect a faculty member to show intentional design and updating of course materials, engagement with pedagogical methods, effort towards each course and towards continuous improvement, and reflection on student comments and outcomes, while maintaining the academic rigor necessary to prepare students for future coursework and careers. Grade distributions should reflect that standard rather than any particular target.

Documents that are not encouraged:

- The department does not encourage the use of individual letters from students. As stated in the 2022 *Where CAP Stood*, "unsolicited letters are usually glowing, because the student is preparing to ask for a recommendation letter, while letters solicited from a subset of students are invariably glowing when the instructor carefully chooses the subset to solicit. Thus broad-based representation of the student voice is an important component of teaching evaluation."
- The department also does not encourage the use of peer teaching evaluations as part of the review process. Peer teaching evaluations are of use for teaching improvement, but when the evaluation letter is included in the review file it is invariably supportive as faculty members are reluctant to criticize another instructor's teaching performance in the context of academic review.

Service

Expectations for service rise with rank and step. While assistant professors may be considered to have adequate service by participating on a couple of departmental committees, associate professors should begin engagement at wider levels, including committees for the Jacobs School of Engineering, the Academic Senate, the Colleges, or other service opportunities that transcend the ECE Department. The Academic Senate Committee on Academic Personnel has stated in *Where CAP Stood* documents that Full rank appointees are expected to provide University-wide service outside of one's own research area, and this includes Academic Senate committees, committees for the colleges, Senate-Administration Workgroups, and system-wide committees. For faculty at Step VI and above, especially for faculty Above Scale, leadership is expected in these service roles, and university-wide service is expected in each review period. We also consider mentoring junior faculty to be an important part of departmental service, and such service should be discussed in addition to explicit departmental committee service.

The ECE Department is in alignment with campus CAP on these service expectations. Faculty will be judged on their effort and leadership in their activities, and faculty are expected to document their service contributions in terms of specific time commitments, descriptions of the impact of the committee's work to the department or school, and the particular contributions made by the candidate.