Department of Computer Science RTP Criteria

EFFECTIVE FALL 2024

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Summary of Requirements

For elaboration on the *italicized terms* in the following tables, please see the Teaching Effectiveness, Research, Scholarship, and Creative Activity, and Service sections of this document.

Note: This document is based on the 2024-25 academic reorganization, in which Computer Science will be a chaired department within a multi-department School and a larger College. Its status will be revisited annually based on enrollment. Within this document, “Department” and “School” should be read as whichever combination of Department and School actually apply to Computer Science in any given year. “College” should be read as the organizational entity headed by an academic Dean.

Reappointment

Teaching	Documentation of meeting *criteria 1-8 for teaching effectiveness, as interpreted by the CS department*, in the current review cycle. If applicable, documented plans to remedy any weaknesses.
Scholarship	*Evidence of scholarly engagement* in the current review cycle
Service	**Department and School** First year at SSU: participate in at least one *department/school project or committee* Second year at SSU: advise students (*half advising load*); participate in two or more *department/school projects or committees* Subsequent years at SSU: advise students (*full advising load*); continue to participate in two or more *department/school projects or committees*. **College** First and second years at SSU: no service expected at this level By the third year at SSU: serve on at least one committee or participate in a College-level project or initiative **University** First through third years at SSU: no service expected at this level By the fourth year at SSU: serve on at least one University-level permanent committee **Community and Profession:** First year at SSU: no service expected at this level By the second year at SSU: has identified service opportunities at this level and made preliminary efforts to engage with organizers or collaborators. By the third year at SSU: has participated in small-scale service at this level that has the potential to be developed, over the next years, into *substantive engagement with the local and/or professional community*.

Tenure and/or Promotion to Associate Professor

Teaching	**Since hire…** Documentation of meeting *criteria 1-9* for teaching effectiveness
Scholarship	**Since hire…** At least one (1) *reputable peer-reviewed publication*, and *Public dissemination of at least two (2) different research projects* with SSU students (one of which can be the aforementioned peer-reviewed publication), and *Evidence of scholarly engagement* in each reappointment review cycle prior to tenure and promotion
Service	**Since hire…** **Department/School:** ● *Academic advising comparable to current tenured faculty in the department*, and ● Participation in multiple *department/school committees or initiatives*, and ● Leadership role or substantive individual contribution in at least one *area of departmental or school service*. **College:** Committee service or participation in a College-level project or initiative **University:** At least 1 year of service on a University-level committee. **Community and Profession:** Documentation of *substantive engagement with the local and/or professional community*.

Promotion to Professor

Teaching	**Since promotion to Associate…** Documentation of meeting *criteria 1-9* for teaching effectiveness.
Scholarship	**Since promotion to Associate…** At least one (1) *reputable peer-reviewed publication*, and *Public dissemination of at least two (2) different research projects* with SSU students (one of which can be the aforementioned peer-reviewed publication), and *Additional evidence of scholarly engagement*
Service	**Since promotion to Associate…** **Department/School:** ● *Academic advising comparable to current tenured faculty in the department*, and ● Leadership role or substantive individual contribution in at least one *area of departmental or school service*. **College:** Committee service or participation in a College-level project or initiative **University:** ● At least one 3-year term on a University committee, and

	• *Leadership at the College or University level* **Community and Profession:** Documentation of *substantive engagement with the local and/or professional community.*

Detail: Teaching Effectiveness

Criteria

The University criteria for demonstrating teaching effectiveness are:

1. Displays enthusiasm for teaching their subject.
2. Presents material with clarity. Uses teaching strategies appropriate to the students and course content.
3. Clearly specifies course goals, and employs course materials to achieve course goals.
4. Enables students to participate actively in their own education.
5. Fosters appreciation for different points of view.
6. Demonstrates competence and currency in course material.
7. Consults and advises effectively outside of class.
8. Engages in professional development to enhance their teaching effectiveness.

The CS Department interprets Criteria 2 and 3 to include the use of appropriate assessment and hands-on work to prepare students for computing jobs in industry and/or for their subsequent CS coursework.

The CS Department interprets Criterion 5 to include fostering a classroom climate that is welcoming to students from all backgrounds, including those historically marginalized in higher education and/or in CS specifically.

For promotion to Associate or Full, the CS department has an additional criterion:

9. Significant content updates to a course – for example, changing the programming language used – or design of a new course, including a new special-topics course.

While the principles of computer science are well established, the technologies used in the field are constantly changing. The successful candidate for promotion will have significantly revised one or more courses, or introduced a course, in order to maintain curricular currency.

Appropriate Evidence

The assessment of teaching should focus primarily on courses taught at SSU in the current review cycle. Courses taught through other organizations or institutions may count as secondary teaching activities or as service; it is up to the candidate to make the case for their choice. Teaching innovations that are publicly disseminated may double-count as scholarship. Candidates are advised to confer with the Department RTP committee for guidance.

Evidence for teaching effectiveness will include

1. Student evaluations of teaching, as required by the Collective Bargaining Agreement and by the University RTP policy
2. Peer observations of teaching, as required by the University RTP policy and as governed by the CS Department Peer Observation Procedures
3. The candidate's self-assessment, as required by the University RTP policy. The self-assessment should make the case that the candidate has met these criteria. It should discuss curricular and content choices and pedagogical approaches, as well as plans for addressing any areas of weakness identified by student evaluations or peer observations.
4. Participation in professional development opportunities for teaching, including professional development opportunities focusing on equity and inclusion, as documented in the candidate's CV, self-assessment, and/or evidence file
5. Participation in activities to maintain disciplinary currency, as documented in the candidate's CV, self-assessment, and/or evidence file

We are aware of numerous problems with student evaluations, including low response rates and documented biases against female and minority faculty.[1] Student evaluations should be considered in the context of the response rate for a given course and the student population of that course (upper- vs. lower-division, majors vs GE, core vs. elective). For student evaluations to constitute strong evidence toward one or more of the criteria for teaching effectiveness, we require a pattern of qualitative and quantitative responses across a range of courses.

[1] The American Sociological Association's Statement on Student Evaluations of Teaching (September 2019) provides an overview of studies that have documented such biases, as well as examples of how to appropriately use SETEs as part of a holistic teaching evaluation.

Detail: Research, Scholarship, and Creative Activity

Peer-Reviewed Publication

The CS department requires one (1) ***reputable peer-reviewed publication*** per promotion cycle. We define a reputable peer-reviewed publication as a full paper in a journal or conference proceedings that has been reviewed by experts and whose acceptance was not guaranteed.

The conference or journal does not have to be highly selective or international: the proceedings of the Computer Science Conference for CSU Undergraduates and the Journal of Computing Sciences in Colleges (CCSC) are both acceptable, alongside traditional CS publishers such as the Association for Computing Machinery (ACM), USENIX, and the Institute of Electrical and Electronics Engineers (IEEE). It is up to the candidate to provide sufficient detail on their publications to establish that they meet this criterion.

Please see the Appendix for information on the unique quirks of CS publication culture.

Timing: Scholarly works that have been accepted but not yet published fulfill this requirement. However, the same publication cannot be used in two review cycles. Work done prior to the candidate's start date at SSU qualifies, provided that it (a) is published after the candidate signed the offer letter from SSU and (b) shows SSU as the candidate's institutional affiliation.

Publicly Disseminated Research with SSU Students

The CS department also requires ***publicly disseminated research with SSU student collaborators*** during each **promotion** cycle. This public dissemination can be either internal to SSU or external. Public talks, posters, open-source software releases, as well as traditional peer-reviewed publications all qualify. If a peer-reviewed publication has SSU student coauthors, it counts in both categories: it constitutes one peer-reviewed publication *and* one instance of publicly disseminated research with SSU students.

Promotion requires public dissemination of at least **two separate projects** with SSU students during the review cycle. A colloquium talk and a poster on the same material would count as one project, not two. We recognize that a single collaboration, grant, or other line of inquiry can support multiple research questions and multiple teams of students, and we recognize those as separate projects as long as the findings, results, or deliverables can be meaningfully distinguished. It is up to the candidate to make the case for the projects' distinctiveness.

Evidence of Scholarly Engagement

Finally, the Department requires ***evidence of scholarly engagement*** in each review cycle, including annually for reappointment. This can take many forms, including but not limited to:

- Peer-reviewed publication (see above)
- Internal and external talks and poster presentations
- Supervision of student projects (CS 495, CS 496, etc.)

- Application for internal or external funding
- Consultancy (paid or unpaid) in area of research
- Development and dissemination of open-source software in area of research
- Reviewing for conferences or journals
- Service on conference program committees or journal editorial boards
- Service on boards or committees of technical organizations (e.g., ACM, IEEE, AAAI)

In the first two years at SSU, conference attendance and professional development in the candidate's research area can also be used as evidence of scholarly engagement.

Detail: Service

Department and School Service

Academic Advising

Academic advising in Computer Science is complex due to the vertical structure of the major, as well as the high percentage of transfer students, whose prior CS courses may have used different languages and technologies than the equivalent courses at SSU.

The CS Department assigns each tenured or tenure-track faculty member a roughly equal number of academic advisees, with some exceptions. For example, faculty members in the first year of their tenure-track appointment are excused from academic advising, and faculty members in the second year have half as many advisees as their more senior colleagues.

The CS Department expects faculty to become familiar with the CS and general education curricula in order to provide effective support to their academic advisees. Faculty should respond to questions from their advisees in a timely manner and increase their advising availability in the weeks around fall and spring registration.

Other Areas of Department and School Service

Other areas of department and school service include, but are not limited to, the following:

- Curriculum committee membership
- Curricular revisions or new course development
- Contribution to program review
- Contribution to program assessment
- Policy creation and revision
- Contribution to the physical or virtual presence of the Department and/or School: physical displays on campus; contributions to or maintenance of websites; design of brochures, posters, or other outreach material
- Contribution to the design, maintenance, or refresh of department physical space
- Contribution to the design, maintenance, or refresh of department IT resources and lab equipment
- Participation in faculty hiring processes

- Participation in advising events for new or continuing students, including first-year and transfer orientations
- Participation in departmental outreach to prospective students
- Participation in departmental outreach to K-12 schools and community colleges; this may also count as community service.
- Service as the advisor to department-based student organizations
- Peer observation of faculty
- Supervision of independent study and contract courses (CS 495/496/497) if those units go beyond a standard teaching load and are not otherwise compensated
- Participation on graduate committees within the School
- Participation on hiring committees for temporary faculty or staff within the School
- Serving as Department or School Chair or Coordinator (highly discouraged for pre-tenure faculty)
- (Associate to Full only) RTP committee membership for any department in the School
- (Associate to Full only) Tenure-track search committee membership for any department in the School

We also recognize the role of *cultural taxation* for minoritized faculty[2] in computer science, a discipline in which there is a nationwide shortage of female, Native, Black, and Latinx/Latine faculty.

Leadership at the College or University Level

Chairing a faculty governance committee or subcommittee, serving on the Executive Committee of the Academic Senate, or chairing a College-level committee automatically fulfills this requirement.

Other examples might include leading a faculty learning community or developing a program through the Center for Teaching and Educational Technology (CTET), chairing a task force, or leading a college- or university-level program or initiative.

Substantive Engagement with the Local and/or Professional Community

Faculty may define their "community" as best fits each individual (their own city of residence, a cultural community, North Bay, etc). Community service should relate to the candidate's disciplinary expertise and/or enhance the University's reputation in the community.

Substantive engagement means either a sustained commitment of at least a year, or an accumulation of related shorter-term commitments.

Examples of engagement with the local and/or professional community include:

- Organizing community or professional conferences and events
- Presentations to community organizations

[2] For a definition of cultural taxation and a description of its implications for faculty workload, see Cecil Canton. The "cultural taxation" of faculty of color in the Academy. *California Faculty* magazine, Fall 2013.

- Pro bono or reduced-rate technical consulting for nonprofit and community organizations
- Speaking to local media, businesses or civic organizations
- Serving in local community or government leadership positions
- Volunteering and leadership in professional organizations

Appendix: Publication in Computer Science

Computer Science, due to its relative youth as an academic discipline and the speed at which it moved in its early years, has a unique publication culture. One of the most important quirks is the role of conference proceedings as first-class publication venues. In peer-reviewed CS conference proceedings, authors send full papers to conferences, which are then reviewed by 3-6 experts selected from the conference's program committee. The program committee ultimately discusses the reviews and selects the final slate of accepted papers for the conference. The most selective conferences have acceptance rates below 20%. In the 21st century, some scholars have argued for moving to a more journal-like model, but conferences remain dominant in most subfields.

The CS Department at Sonoma State University supports our faculty's ability to choose the most meaningful peer-reviewed venues for disseminating their research, whether those are conference proceedings or journals. We also endorse the following findings from Meyer et al.:

- *Computer science is an original discipline combining science and engineering. Researcher evaluation must be adapted to its specificity.*
- *A distinctive feature of CS publication is the importance of selective conferences and books. Journals do not necessarily carry more prestige.*
- *To assess impact, artifacts such as software can be as important as publications.*

Please also note that, in most computer science subfields, research is highly collaborative. **Most subfields of CS do not distinguish single-authored publications from coauthored publications.** We also do not distinguish between single-authored and coauthored publications by our RTP candidates. When a publication has multiple authors, we rely on the candidate to describe their specific contribution in their self-assessment.

We also endorse this finding from Meyer et al.: *The order in which a CS publication lists authors is generally not significant. In the absence of specific indications, it should not serve as a factor in researcher evaluation.*

Bibliometric research has found that the most prolific researchers in CS are neither the most highly cited nor the recipients of the most prestigious awards. We endorse these further two findings from Meyer et al.:

- *Publication counts are not adequate indicators of research value. They measure productivity, but neither impact nor quality.*
- *In assessing publications and citations, ISI Web of Science is inadequate for most of CS and must not be used. Alternatives include Google Scholar, CiteSeer, and (potentially) ACM's Digital Library.*

Further resources on this topic include

- Two best practice memos from the Computing Research Association:
    a. "Incentivizing Quality and Impact: Evaluating Scholarship in Hiring, Tenure, and Promotion" from February 2015. Argues that, even at the most prestigious research universities, candidates for tenure and promotion should be evaluated on their most impactful 3-5 publications only.
    b. "Evaluating Computer Scientists and Engineers For Promotion and Tenure" from August 1999 but still promulgated by CRA. Describes the importance of conference proceedings in CS and argues that publications are just a proxy for the ultimate goal of impact. Argues for the inclusion of industry researchers in academic evaluation processes as appropriate.
- Bertrand Meyer, Christine Choppy, Jørgen Staunstrup, and Jan van Leeuwen. Viewpoint: Research evaluation for Computer Science. *Communications of the ACM* 52, 4 (April 2009), 31–34. https://doi.org/10.1145/1498765.1498780
- Massimo Franceschet. The role of conference publications in CS. *Communications of the ACM* 53, 12 (December 2010), 129–132. https://doi.org/10.1145/1859204.1859234
- Jacques Wainer, Michael Eckmann, Siome Goldenstein, and Anderson Rocha. How productivity and impact differ across computer science subareas. *Communications of the ACM* 56, 8 (August 2013), 67–73. https://doi.org/10.1145/2492007.2492026
- Moshe Y. Vardi. Conferences vs. journals in computing research. *Communications of the ACM* 52, 5 (May 2009), 5. https://doi.org/10.1145/1506409.1506410
- George Vrettas and Mark Sanderson. (2015), Conferences vs. Journals in Computer Science. *Journal of the Association for Information Science and Technology* 66, 12 (December 2015), 2674-2684. https://doi.org/10.1002/asi.23349