

Program Standards for Applied Physics

This policy covers all members of the **Applied Physics** faculty, including tenure-track faculty, non-tenure track faculty, and part-time faculty.

Preamble

The faculty of the **Applied Physics** program support the University and School (NAMS) standards and intend for the elements of this document to further elucidate the areas of teaching, scholarship, and service from the perspective of physics.

6.0 ELABORATION OF PROGRAM STANDARDS FOR TEACHING FACULTY

6.1 Teaching

6.1.1 Educating students, both inside and outside the classroom, studio, or laboratory is the University's primary purpose. Therefore, performance in teaching carries the greatest weight in the evaluation of faculty. All aspects of teaching, including preceptorial teaching as applicable, will be evaluated in order to gain a clear understanding of each faculty member's performance. Same as University and School standards.

6.1.2 The Physics Program adheres to the School of Natural Sciences and Mathematics (NAMS) standard, emphasizing diverse methods to demonstrate teaching effectiveness. An exemplary physics teacher in our program engages and motivates students, fostering enthusiasm for learning while embodying scientific inquiry. We recognize the importance of various instructional approaches, including traditional classroom teaching, independent studies, and laboratory work. To showcase teaching excellence, faculty members are encouraged to use multiple indicators beyond IDEA evaluations, such as innovative instructional methods, active student engagement, adaptability to diverse teaching environments, regular reflection on teaching practices, and contribution to curriculum development. Our commitment is to provide a supportive and inclusive atmosphere, valuing both traditional and non-traditional pathways to effective teaching within the ever-evolving landscape of physics education. In broad terms excellence in teaching is characterized by:

6.1.2.1 A thorough and current command of the subject matter, teaching techniques, and methodologies in physics education. Syllabi, teaching portfolios, and other course

materials may be submitted as indicators, as well as peer evaluations of teaching.

- 6.1.2.2 Sound course design and delivery in all teaching assignments—whether program or General Studies, introductory or advanced offerings—as evident in clear learning goals and expectations, content reflecting the best available scholarship or artistic practices, and teaching techniques aimed at student learning. Syllabi, teaching portfolios and other evidence, such as assessment results and that indicated in Section 6.1.2.2 of this Policy, may be submitted as indicators. Faculty may submit evaluation of one's course materials and content by members of their program or of General Studies who do not participate in the formal “Peer Evaluation of Teaching” as described in Section 7.3.3 of the Procedures. Same as School Standards.
 - 6.1.2.3 The ability to organize course material and to communicate this information effectively. The development of a comprehensive syllabus for each course taught, including expectations, grading, and attendance policies and the timely provision of copies to students. Syllabi and peer evaluations along with student evaluations and assessment (such as IDEA, informal assessment, and formal assessment administered by outside observers) may be submitted as indicators. Same as School Standards.
 - 6.1.2.4 Excellence in teaching also entails respect for students as members of the Stockton academic community, the effective response to student questions, and the timely evaluation of and feedback to students. Same as University and School Standards.
- 6.1.3 Where appropriate, additional measures of teaching excellence are (Same as School Standards):
- 6.1.3.1 Ability to use technology in teaching.
 - 6.1.3.2 The capacity to relate the subject matter to other fields of knowledge.
 - 6.1.3.3 Seeking opportunities outside the classroom to enhance student learning of the subject matter.
 - 6.1.3.4 The ability to lead, promote, and/or participate in

successful credit-bearing experiences in community engagement, service-learning, international education, and global engagement.

6.1.3.5 Ability to create an inclusive and respectful environment.

6.1.3.6 Evidence of effectiveness for alternate assignments and/or non-teaching responsibilities should be demonstrated.

6.2 Scholarly and Creative Activity.¹

6.2.1 The teacher-scholar model emphasizes a dedicated and ongoing commitment to scholarly and creative activities in the discipline. This commitment, consistent with rank and assigned responsibilities, serves as the cornerstone for enriching teaching and achieving sustained excellence in the classroom. In addition to scholarship within one's specialty, consideration is given to scholarly contributions in interdisciplinary areas, fostering intellectual and scholastic development. This aligns with Stockton's mission as a liberal arts college. Faculty members are encouraged to engage in scholarly work both on and off campus, recognizing that such endeavors may take place in various teaching environments, including the classroom, teaching laboratories, or tutorials. Faculty members are further encouraged to involve students in their research programs whenever feasible, promoting a holistic integration of scholarship and teaching within the physics education experience.

6.2.2 Publications and creative work in support of reappointment and tenure are those achieved during the tenure candidate's probationary period. Activity in support of a post-tenure promotion or range adjustment is that work completed since the most recent promotion or range adjustment. Same as University and School standards.

6.2.3 The University recognizes a wide variety of scholarly vehicles: disciplinary or interdisciplinary research, pedagogical research, applied research, integrative scholarship, community engagement, service-learning, artistic or creative activity, and grant writing. Scholarly or creative activities may take many forms and use different vehicles to communicate with the broader academic community. Same as University and School standards.

6.2.3.1 **The Applied Physics Program recognizes that the time and effort required to complete scholarly or artistic projects**

¹ Instructors and Non-Tenure Track Teaching Professionals are not required to engage in scholarly or creative activity.

may vary markedly among sub-disciplines of Physics. The Physics Program PRC is best equipped to evaluate the rate and quality of scholarly dissemination.

6.2.4 The burden is always on the candidate to document the excellence of one's work. In cases of shared or multiple authorship, clarification of the degree of one's participation is expected. In cases of conference presentations or proceedings, clarification should be provided with regard to the selectivity of the review process. Same as University and School standards.

Typically, central to judgments regarding scholarly and creative activity are:

- 6.2.4.1 The capacity to bring scholarly or creative projects to completion may be demonstrated by a publication and presentation record, as well as by periodic grant reports. For projects that have not yet resulted in publication, current unpublished manuscripts and comments by knowledgeable peers both internal and external to the University are appropriate to include in the candidate's file.
- 6.2.4.2 A mix of scholarly activities appropriate to one's appointment e.g., in some cases scholarly activity will be primary, in others creative activity. Same as School Standards.
- 6.2.4.3 Judgments of the worth and significance of the candidate's scholarship, given the laboratory space and equipment available, provided by knowledgeable peers; professional organizations; funding agencies; conference organizers; and refereeing panels.
- 6.2.4.4 Documentation of the impact of one's work (Same and School Standards):
 - with students
 - inclusion into the classroom or teaching laboratory
 - within the scholarly area
 - within higher education generally
 - on documented standards of best practices in pedagogy
 - in the application of one's work
 - as evident in citations of one's work

- on public policy or institutions
- in the artistic/cultural realm
- or in educational settings

6.2.4.5 Just as in the case of traditional scholarship involving the discovery of new knowledge, when one's work consists of pedagogical, integrative, or applied scholarship, its significance may be documented by demonstration of clear goals, adequate preparation, appropriate methods, significant results, effective presentation, and reflective critique. Presentation before peers and colleagues and advancing the discipline are also expectations of alternate forms of scholarship. Same as the University and School Standards.

6.2.4.6 The University understands excellence in a variety of scholarly or creative activities to embody the following:

6.2.4.6.1 Books should be published by reputable academic or trade presses and reviewed in appropriate journals. Same as University and School Standards.

6.2.4.6.2 Articles and other scholarly works should be published in appropriate journals or conference proceedings. The quality and importance of the journal/proceedings may be judged by knowledgeable faculty. University publications, such as laboratory manuals and other teaching materials, should be evaluated by knowledgeable peers, who may be external to the University. The quality of material submitted to or contained in government documents should be judged by the level of its pre-publication review. The main criteria should be the quality of the work, not the number of publications and presentations.

6.2.4.6.3 Scholarly activity that involves students as co-authors and co-presenters is valued regardless of the venue. Although all venues are valued, there is a hierarchy with peer reviewed or highly cited work being of higher value.

6.2.4.6.4 A presentation should be evaluated on the quality of its content and on the prestige of the meeting where it was delivered. Qualitative judgments are best made when copies of presentations are made available. National and

regional meetings should rank higher than local meetings in most instances. Scholarly presentations should be ranked more highly than non-scholarly ones. Competitive selections as well as presentations receiving disciplinary acknowledgement for excellence should be noted. In most disciplines a record of scholarship based on presentations alone will not be evaluated as highly as one including refereed publications. Same as University and School Standards.

6.2.4.6.5 Work in the arts may be evaluated by a number of different measures: assessment of its quality by peers or professional critics; the reputation of the gallery, museum, or other artistic venue where it is shown or presented; the respect afforded the organization for which it is performed or under contract; or some other measure of its success or impact (e.g. royalties, awards, or impact on public debate or on other artists). Same as University and School Standards.

6.2.4.6.6 Other forms of scholarly activity appearing in emerging media, such as online journals, websites, forums, and blogs, may be included, provided the quality of the work is evaluated by knowledgeable peers, who may be external to the University.

6.2.4.6.7 Reviews (if submitted as documentation) from appropriate journals and other outlets specified at the School and Program level may be included. Where reviews are included in a file as evidence of the worth of scholarly or artistic work, attention should be given to the professional credentials of the reviewer and the reputation of the journal or publication. Same as University and School Standards.

6.2.4.6.8 Professional activities undertaken as a practitioner or consultant are considered scholarly activity when they go beyond the routine application of knowledge to the creation of new knowledge and the development of new standards for practice. Such qualities distinguish between scholarship and professional service. Those making the judgments regarding the standards for applied research necessarily involve more than clients and include academic peers familiar with the area of practice under consideration. These activities may

include but are not limited to serving as a peer reviewer or an external program or department reviewer, serving on editorial boards of scientific or other professional journals and publications, and conducting contract research with the appropriate evaluation by the contracting government agency or private company.

6.2.4.6.9 In those disciplines with strong expectations of practice to maintain current competency, appropriate standards for determining the significance of this work will be developed at the Program level and approved through the standard procedure. Same as University and School Standards.

6.2.4.6.10 Grants or monetary awards that are funded or reviewed as fundable from governmental or non- governmental organizations are considered examples of scholarship if those grants and awards are subject to external peer review. In addition, grant applications that receive positive reviews from the external evaluators and the College faculty may be included as evidence of scholarship.

6.2.4.6.11 Faculty engaged in community outreach can make a difference in the communities and beyond by defining or resolving relevant social problems or issues, by facilitating organizational development, by improving existing practices or programs, and by enriching the cultural life of the community. Scholarship may take the form of widely disseminating the knowledge gained in community-based projects in appropriate professional venues in order to share its significance with those who do not benefit directly from the project. Same as University School Standards.

6.3 University and Community Service

6.3.1 A faculty member in the Applied Physics Program may contribute to the achievement of the University 's mission by effectively collaborating in activities at the Program, School, or University level. The Program evaluates these contributions based on their quality rather than their number. Contributions outside of the Program may require the capacity to work collaboratively with other members of the University, profession and other off-campus communities and may include activities related to the University 's Foundation or Alumni Association.

- 6.3.2 Faculty may also contribute in broader arenas such as state, regional, national or international organizations and disciplinary/professional associations. In addition, faculty may contribute to the University's public mission through service to our community, region, state, or nation. Per the Carnegie definition, community engagement and service-learning that enriches scholarship, research, and creative activity; enhances curriculum, teaching, and service-learning; prepares educated, engaged citizens; strengthens democratic values and civic responsibility; addresses critical societal issues; contributes to the public good; and enriches scholarship. Community engagement and service-learning are particularly valued at Stockton. Same as University and School Standards.
- 6.3.3 The University expects faculty in their first five years of service to serve the University and community at levels commensurate with their rank. Faculty who are tenured, have multi-year contracts, and/or are of senior rank would be expected to have more substantial records in this area, as demonstrated by achievements in leadership on campus, in the community, to their disciplines, and to professional organizations. Same as University and School Standards.
- 6.3.4 Evaluation of achievements in this area focuses on the significance of participation, the impact of service, the scope of responsibilities, the effectiveness of participation, and contributions to the functioning, administration, and development of the University and other entities. Clear goals, adequate preparation, and appropriate methods of providing service, significant results of the service, and reflection on the contribution and its use to improve the quality of future service are all aspects of documenting achievement in campus and community service. Sustained, significant service is expected to meet the minimum requirement for this responsibility. The University standards state that compensated service is generally not sufficient to meet the minimum requirements. However, NAMS values all service irrespective of whether it is compensated or uncompensated. Same as School Standards.
- 6.3.5 Evidence of effectiveness in University or community service may include such items as (Same as University and School Standards):
- 6.3.5.1 One or more instances when one has used one's professional skills or knowledge for the benefit of the University, or of a non-University group or individual.
 - 6.3.5.2 Contributions to professional organizations that are focused on service or professional responsibility as

opposed to scholarship, research, or artistic/creative work. For example, an officership or service on a professional board may be more appropriately listed here, whereas editing a special issue of a journal may be more appropriately listed under the section on scholarship.

6.3.5.3 General civic or community activities to which one has contributed one's professional skills or a significant amount of time, talent, energy, and involvement beyond that which might be expected by the usual citizen or member.