

Department Clarification “Framework”

Department: Engineering Physics

Clarifications formally approved on: _____

Departmental clarifications:

1.0 Instruction

Core Criterion: A faculty member must clearly be contributing to the instructional mission by demonstrating proficiency and breadth in instructional quality and capacity.

In Engineering Physics, high quality teaching is the top departmental priority.

1.2 Overall Criterion Considerations & Requirements

1.2 (A) A faculty member must clearly be contributing to the instructional mission

Physics is foundational to nearly all Florida Poly curricula and, as such, special emphasis is placed on excellence in delivery of Physics 1 and Physics 2 and related labs

As Physics 1 is part of the STEM Core, faculty are expected to prioritize this effort over other responsibilities. Physics 2, while not technically STEM Core, is essential to many of Poly’s degree programs and similarly demands focused attention beyond delivery time and office hours. Collaboration on course coordination and responsiveness to demands of the common course are paramount expectations. Physics 1 and 2 courses (and labs) are comparatively high enrollment (48) and require multiple guided study sessions (recitations) to complement class time and facilitate learning and student success. In addition, these are highly coordinated courses, requiring consistency in content, delivery, and evaluation methods across all sections.

Upper-level Physics courses are being newly delivered over the next few years and additional preparation and development time is expected as responsibility for delivering these courses. The program’s first set of upper-division courses were delivered in spring 2021 and from this point should undergo review and revision for several future offering cycles. Therefore, emphasis on development of content, including creation of educational materials such as handouts, projects, quizzes, exams, review materials, and contribution to course reviews as part of ABET quality review process are considered integral to a successful teaching portfolio.

1.2 (B) Instructional effectiveness

Faculty should employ best and varied pedagogical practices that ensure student engagement, which includes an effective use of technology that promotes student development toward concepts-building, critical-thinking, and problem-solving skills in physics and engineering disciplines.

1.2 (C) Student assessment of instruction

Faculty should demonstrate meaningful consideration of student evaluations. Positive student evaluations are valued by the department, as are changes in instructional practice that are a result of student feedback.

1.3 Factors to consider in terms of “effort “

Faculty effort can be demonstrated in part by the large number of students they teach, the time spent participating in course coordination, and the creation of educational materials such as handouts, projects, quizzes, exams, and recitation or guided study sessions coordinated, developed, and delivered. While faculty receive some grading support, it is important for the candidate to clarify the percentage of grading they are actively doing (i.e. student versus instructor, by percentage).

1.4 Factors to consider in “quality”

A preference may be shown to places where faculty conceptualize and deliver course content and materials of their own (in collaboration) creation rather than utilizing pre-packaged resources. Use of such resources must be customized to the course outcomes and educational expectations of the department and the university rather than drive the instructional decisions.

1.5 Further Criterion Considerations

The department places a high value on professional development intended to improve instruction and course delivery.

New course development, and significant course redesign, is an important way that faculty members contribute to the department’s mission and is highly valued.

2.0 Research or Other Creative/Scholarly Activities

Core Criterion: a faculty member has a **unique and scholarly expertise in their field** and has activity that **aligns with this professional direction.**

The Engineering Physics department’s primary focus for the first few years of the new degree program is undergraduate teaching. The department does not have a track in any master’s program at this stage nor does it currently contribute to any existing master’s programs.

The program does encourage development of undergraduate students’ knowledge and skills in research laboratory support but does not hold the expectation that undergraduate students will perform research in physics or engineering physics at a level beyond this.

2.2 Further Criterion Considerations

Multi-author publications in Physics are the norm. Multi-investigators and multi-institutional and even international collaborations are common in the field. Higher ranked faculty who are able to establish a well-defined research group backed by extramural funding and external and internal cross-departmental collaborators would be especially notable.

Patents are far less common in physics and a patent obtained would be notable. A commercialized patent relevant to physics/engineering physics would be exceptional.

2.3 Proposal and grant application

None specified.

Proposals for external funding are important in Engineering Physics and Physics generally. Emphasis in review should be placed on proposal activity in any of the following ways: activity that aligns with a faculty member's stated research plan; support the evolving research profile of the department; be affiliated with a research group in a way that shows a growing reputation for Florida Poly; or other positive impact on the institution and program curricula.

3.0 Service: a faculty member is contributing to their department and profession in a positive way.

3.2 Criterion Considerations

The department places a high value on quality academic advising and mentoring including related professional development to support these efforts. Faculty who demonstrates leadership and coordination in supporting quality advising and mentoring among colleagues should be recognized for their contribution to the health of the program and the department. Similarly, faculty who put in time and effort to support and lead students in disciplinary organizations and related clubs that make a positive contribution to student's disciplinary and professional development should likewise be recognized.

3.3 Special Consideration of Administration Contribution

None specified.

4.0 Overall recommendation: criteria notes, appropriate to rank and reappointment and/or reappointment: strong, ongoing contribution to the University, ability to perform their full suite of duties with a high degree of quality and independence by demonstrating accomplishment in teaching, appropriate trajectory in research, and service that positively advances the University, department, and program

No clarifications added.