

## Department Clarification “Framework”

Department: 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 the Physics Department, 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 for many majors at Florida Poly and, as such, special emphasis is placed on quality instruction in PHY 2048 and PHY 2049 (Physics 1 and 2). It should be noted that these are highly coordinated courses with relatively high enrollment and a variety of student interests.

Though they are taught less frequently, upper-level physics courses are vital in supporting the Engineering Physics major.

##### 1.2 (B) Instructional effectiveness

Quality instruction in physics typically involves interactive and engaging lectures. Faculty should employ a variety of pedagogical best practices that ensure student engagement. An effective use of technology that promotes student development toward concept building, critical-thinking, and problem-solving skills is the goal. The development and use of in-class demonstrations and problem-solving video supplements are all valued.

##### 1.2 (C) Student assessment of instruction

Faculty should demonstrate meaningful consideration of student evaluations. Recurring themes discussed by students are instructive in communicating the student experience in each course.

#### 1.3 Factors to consider in terms of “effort “

#### 1.4 Factors to consider in “quality”

### 1.5 Further Criterion Considerations

The department places a high value on professional development to improve instruction and course delivery. Attending and presenting at educational workshops are some examples of professional development. Physics education research-related publications or articles published in journals that specialize in physics education (e.g., American Journal of Physics or The Physics Teacher) illustrate a commitment to the educational mission of the Department of Physics.

New course development, and significant course redesign, are important ways that faculty members contribute to the department's mission.

### 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 Physics Department values the teacher-scholar model for faculty that is common at primarily undergraduate institutions. Full-time faculty are expected to perform meaningful research in any subfield of physics, interdisciplinary science, or engineering. Faculty are also encouraged to promote active participation of undergraduates in their research activities. Publications with undergraduate researchers as coauthors should be the goal when it is feasible.

As in most STEM fields, meaningful contributions to physics are primarily measured through peer reviewed publications. The minimum research output expectation is one substantive publication every other year along with an appropriate balance of other scholarship and service. The quality of a publication can be measured through the tier of the journal, the number of citations, or other indications of impact on the discipline.

### 2.2 Further Criterion Considerations

Externally funded grants are an excellent mechanism to support sustainable scholarly output. As such, the department recognizes the importance and value of externally funded grants.

Other recognized scholarly activities include:

- external recognition (e.g., society awards and fellowships),
- society service (e.g., as a meeting organizer, a session chair, or a reviewer),
- presentations at society meetings (and support for student poster presentations), and other invited talks (including seminars, colloquia, etc.),
- other scholarly publications (e.g., book chapters, reviews), and
- developing, supporting the use of, and maintaining infrastructure for scientific research.

## **2.3 Proposal and grant application**

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

### **3.2 Criterion Considerations**

The Physics Department places a high value on quality academic advising and mentoring. Committee work is highly valued because it can result in contributions to the department and university. Department leadership can take many forms. One of the most vital is coordination of introductory physics courses and labs.

Faculty who demonstrate leadership and coordination while supporting quality advising and mentoring among colleagues should be recognized for their contribution to the program. Similarly, faculty who put in time and effort to support and lead students in organizations and clubs that make a positive contribution to student's professional development should likewise be recognized.

In summary, committee service to the university, and service to the department (supporting university recruitment, hiring, faculty evaluation, etc.) are necessary. In the evaluation of service, only the service opportunities that are available should be considered.

### **3.3 Special Consideration of Administration Contribution**

### **4.0 Overall recommendation:**

Teaching is the primary function of the Physics Department faculty.