



How Strong Is Physics Teacher Education at Your Institution?

Getting Started with the PTEPA Rubric

The U.S. has a severe shortage of qualified physics teachers. What can your institution do to be part of the solution? The questions listed below will help you to reflect on your program's broad strengths and areas for improvement. They serve as an entry point to the Physics Teacher Education Program Analysis (PTEPA) Rubric, which can help you to more systematically investigate these elements.

1 **Is there institutional support for your physics teacher education program and program team?**

- What support do administrators provide to the physics teacher preparation program and its leaders?
- How supportive is the climate for physics teacher education at the institution and relevant colleges?

PTEPA RUBRIC COMPONENTS: 1A: Institutional Climate and Support. 1B: Reward Structure. 1C: Resources.

2 **Do you have a strong program team?**

- Who is on the physics teacher education program team?
- Do they have the adequate positional power, knowledge of physics education, and connections to K-12 physics teachers?

PTEPA RUBRIC COMPONENTS: 2A: Program Team Members. 2B: Program Team Attributes.

3 **How is your relationship with the School of Education?**

- Is there frequent communication between physics and other units responsible for teacher education or licensure?
- Does the physics teacher education program collaborate with these units on licensure pathways, student advising, and mentoring?

PTEPA RUBRIC COMPONENT: 2C: Program Collaboration.

4 **Are you recruiting students into the program?**

- Is there an adequate pool of physics (and other STEM) majors, and do advising structures exist to refer them to the physics teacher education program?
- Do the teacher education program and physics department promote teaching careers to students?
- Are there early teaching experiences to expose students to the intellectual challenge and rewards of teaching?

PTEPA RUBRIC COMPONENTS: 3A: Recruitment Opportunities. 3B: Recruitment Activities. 3C: Early Teaching Experiences for Recruiting Teacher Candidates.

5 Are there streamlined and flexible pathways by which physics students may be certified to teach physics?

- Are there pathways by which a physics major can obtain a license to teach physics in a reasonable amount of time and for a reasonable cost, no matter when he or she decides to become a teacher?

PTEPA RUBRIC COMPONENT: 3D: Streamlined and Accessible Program Options.

6 Does the program provide strong preparation in physics and physics pedagogy?

- Do students complete a physics degree with high-quality physics courses?
- Is there coursework on physics pedagogy?
- Do students get practice applying these principles by teaching undergraduate peers?

PTEPA RUBRIC COMPONENTS: 4A: Physics Content Knowledge. 4B: Pedagogy Courses and Curriculum.

7 Does the program provide practical K–12 physics teaching experiences?

- Are there enough high-quality local physics teachers to host students in their classrooms during field experiences and student teaching?
- Does the person supervising the student teaching experience have physics teaching expertise?

PTEPA RUBRIC COMPONENT: 4C: Practical K–12 School Experiences.

8 Are future physics teachers mentored for career success?

- Are there consistent and accurate career advising and mentoring structures for physics majors and for future physics teachers?
- Do in-service teachers receive ongoing mentoring and professional development?

PTEPA RUBRIC COMPONENTS: 5A: Mentoring and Community Support Toward a Physics Degree. 5B: Mentoring and Community Support Toward Becoming a Physics Teacher. 5C: In-service Mentoring and Professional Community.

9 Is there a community for physics teachers?

- Is there a strong student community in the physics department? Of STEM teacher candidates? With in-service teachers? Of alumni?

PTEPA RUBRIC COMPONENTS: 5A: Mentoring and Community Support Toward a Physics Degree. 5B: Mentoring and Community Support Toward Becoming a Physics Teacher. 5C: In-service Mentoring and Professional Community.

10 Do you assess and communicate program outcomes to generate support?

- Does your program track numbers of students recruited and educated as physics teachers?
- Do leaders collect and analyze program data and feedback to inform future program development?
- Does the program communicate these findings to university administrators and other stakeholders in order to garner ongoing support?

PTEPA RUBRIC COMPONENTS: 6A: Program Outcomes. 6B: Program Evaluation and Improvement. 6C: Communication to Stakeholders.

SUPPORTING RESOURCES:

Physics Teacher Education Program Analysis (PTEPA) Rubricphystec.org/thriving

Effective Practices for Physics Programs (EP3) Guide: Teacher Preparation Sectionep3guide.org

National Task Force on Teacher Education in Physics (T-TEP) Report and Policy Statementphystec.org/taskforce

Other Phystec Publicationsphystec.org/publicity