

Physics for All: Learn and Teach Physics

Learn to Teach Physics

The nonprofit New Jersey Center for Teaching and Learning (CTL) is an international leader in closing the gap between the number of STEM teachers needed and the teaching supply. CTL invites interested teachers to enroll in PSI Algebra Based Physics for Teachers, a course designed to teach both the content and instructional techniques of algebra-based physics using the Progressive Science Initiative (PSI), a highly successful approach built by teachers for teachers.

PSI Algebra Based Physics drives major gains in student achievement in math and science. It provides the foundation for chemistry and, together with chemistry, the foundation for biology. Additionally, it provides an essential, mutually reinforcing learning experience for students studying Algebra I. It represents the keystone in achieving the goal of Physics for All: a requirement of social justice for students and international competitiveness for our country. Learn more at www.njctl.org.

Who is this Course For?

PSI Algebra Based Physics for Teachers is designed to train talented teachers of all sorts to become talented physics teachers. It is not necessary to be a math or science teacher to succeed in this course.

If You Are

PSI Algebra Based Physics for Teachers can

A New Jersey K-12 Teacher Seeking Physics Endorsement

Launch your efforts to gain a NJ physics endorsement through this first course in the year-long program that can have you teaching physics this fall and fully certified by the following fall.

Curious to Learn Something New

Give you a better understanding of the world and better tools and methods for exploring ideas with students in a collaborative environment.

A Middle School Teacher

Prepare you to instruct 8th grade algebra-based physics in your school, or simply strengthen your capacity to teach science and math.

A Science or Math Teacher Wanting to Improve Practice and Classroom Learning

Teach you to use technology to integrate curriculum, pedagogy and assessment in a way that have been shown to drive improved student outcomes.

Interested in Using Technology, Social Interaction, and Direct Instruction to Improve Learning

Immerse you in a learning environment built around these tools and approaches, and expose you to an instructor who models their use.

A PSI or PMI Graduate Wanting a Refresher

Reconnect you with PSI practices and the growing national network of practitioners,

refresh your skills, and introduce you to new aspects of the program.

Choose a Schedule and a Method that Works for You

CTL's blended learning course structure combines face-to-face instruction with virtual learning, creating flexibility for those enrolled. All students will attend class 15 hours per week for five weeks. In class, teachers will study via the same methods, content, and technology they will later use in their own classrooms. By learning as they will teach, teachers become confident and competent masters of algebra-based physics instruction.

In addition, each student may choose to participate in any or all of these options:

- Attending up to 30 hours of face-to-face Instructional Meetings convened as 3.5- hour sessions immediately before or after the first and last class each week;
- Utilizing up to 40 hours of supplemental virtual learning materials including video presentations, problems, and solutions; and/or
- Participating in video conferencing with fellow students and instructors up to five nights per week, to work together on common problems or to seek help.

These options are provided so that each teacher can use the instructional resources best suited to their situation and learning style. Regardless of their learning path, grades are based on regular, weekly testing offered during the required attendance period. Teachers wishing to improve their scores have the option of retesting as many times as they wish during Instructional Meetings.

To see what course graduates have to say about their teaching and learning experience, go to njctl.org/physicsteachers.

What is the PSI Approach?

PSI has demonstrated success in both effective classroom learning and in teacher training. The pedagogical methods used interweave direct instruction and social constructivism guided by the use of frequent, real-time formative assessment.

Traditionally, teachers have worked independently and in isolation to create individual lesson plans, course materials, and assessments. PSI makes effective use of easy-to-master, digital technology and embeds the full curriculum into interactive white board presentations. PSI teachers have created this digital curriculum by working collaboratively. As increasing numbers of teachers use PSI, student and teacher feedback drives continuous improvement.

All PSI curriculum materials are open-source and available at www.njctl.org. Any teacher, school or district is free to use any of these materials. PSI Algebra Based Physics for Teachers prepares teachers to utilize these resources effectively.

Schedules and Locations

The course is offered on three continuous days per week, with half days of instruction on days one and three and a full day in between. This schedule makes half days before and after class available for optional Instructional Meetings and reduces the number of days teachers traveling to attend must be away from home.

Optional on-line videos are available 24-7. Video conferencing with an instructor and fellow teachers is available five nights per week during the course.

The current schedule and locations for Physics for All can be found at www.njctl.org/professional-development/schedule/

Cost

Standard Enrollment: \$900

Returning PSI-PMI Graduates: No Charge

Tuition fees are low because of the support of generous underwriters including the NEA, the NEA Foundation, the Morgridge Family Foundation, Bayer USA Foundation and the New Jersey Education Association.

Inquiries and Enrollment

To learn more about additional professional development, the CTL NJ endorsement program, graduate credit or continuing education considerations, email courses@njctl.org.

Or, to register for PSI Algebra-Based Physics for Teachers, go to njctl.org/register. Note that applicants seeking to enroll in the New Jersey Physics Endorsement program should instead apply to njctl.org/teaching-endorsement.

State and District Inquiries

CTL works hard to customize its training programs to meet specific professional development needs. Contact CTL to learn how easy it is to bring trainers to your area, or to work with CTL to shape custom training options.