



*Partnership to Improve Student Achievement in Physical Science:
Integrating STEM Approaches (PISA²)*



PISA² SCHOLARS PROGRAM OVERVIEW

PISA² is a five-year, \$11.5 million National Science Foundation-sponsored, Math Science Partnership program that aims to increase student achievement in science and engineering and student acquisition of 21st century skills by enhancing teachers' science content knowledge and pedagogical content knowledge. The PISA² program: provides models to integrate science inquiry and the engineering design process for teacher learning and classroom practice; introduces teachers to research in the learning sciences; and acquaints teachers with high-leverage, literacy-based teaching practices to foster students' ability to make thinking visible through discourse and writing and to develop and refine oral and written explanations supported by evidence. Moreover, the program seeks to increase the number of teachers holding the *Elementary School Endorsement with Science Specialization*, by offering five innovative, graduate courses in science and engineering that present STEM concepts within the context of contemporary global challenges such as energy and global climate change.

Program Eligibility: 3rd-8th grade teachers in partner school districts who teach science as all or part of their curricula are invited to submit an application to be a **PISA² Scholar**.

PISA² Scholars participate over a two year period as a cohort in the following program activities: graduate coursework in science and engineering; professional development workshops; classroom support visits; and program-related assessments/evaluations.

Graduate Courses: PISA² Scholars enroll in a 15 credit Graduate Certificate program: *Science and Engineering Foundations for Education*. Five, 3 credit courses comprise the program: Fundamental Principles of Physical Science (Summer 2014); Fundamental Principles of Earth Science (Summer 2014); Understanding Global Climate Change (Summer 2015); Energy Production & Consumption (Summer 2015); Engineering Solutions to the Challenges of Energy and Global Climate Change (Fall 2016).

Science Teaching Certification: Upon successful completion of the five-course certificate program, PISA² Scholars are eligible to take the science *Praxis II* and apply for the NJDOE *Elementary School Endorsement with Science Specialization* to teach science in grades 5-8. An additional course, *Adolescent Psychology (or its equivalent)*, is required for NJDOE certification. This course is offered at many state/private colleges, however, St. Peter's College, a partner in this grant program, will provide a reduced tuition rate to PISA² Scholars.

PISA² Scholar Benefits:

- 15 graduate credits (value > \$18,000) paid through grant funds (contingent upon satisfactory academic standing)
- Eligibility for the NJ *Elementary School Endorsement with Science Specialization*
- Monthly classroom support visits and engagement in a learning community of PISA² Scholars
- Two professional development workshops per school year
- \$1,000 per course completion stipend (\$5,000 total)
- \$200 in classroom materials per course. (\$1,000 total)
- Reimbursement of travel cost to course sessions (as per Stevens and federal government guidelines)

PISA² Scholar Commitments:

- Attend all course sessions and PD workshops
- Complete all coursework, homework and projects to earn a passing grade
- Utilize technology for online coursework and cohort communication/collaboration
- Plan and actively participate in classroom support visits with PISA² Curriculum/PD Specialists
- Implement PISA² research-based STEM activities in the classroom
- Participate in required evaluation and research effort

PARTNER SCHOOL DISTRICTS

Bayonne Board of Education
Brick Township Public Schools
Camden City Public Schools
Cherry Hill Public Schools
Hoboken Public Schools
Howell Township Public Schools
Jersey City Public Schools
Lakewood School District
Margate City School District
Morris School District
Mustard Seed School (Private)
Princeton Regional Schools
Red Bank Borough Public Schools
Toms River Regional Schools
West New York School District

