

NSTA

Reports

National Science Teachers Association



Turning Teachers

Into Teacher-Leaders pg 10

Meeting the Demand for Future STEM Teachers

The University of Virginia (U Va.) made headlines in August when it announced its new five-year, undergraduate dual-degree program that will allow students to earn a bachelor's degree in engineering and a master's degree in teaching, along with a license and endorsement in chemistry, physics, or math. U Va. joins other universities around the country in offering these programs to meet the demand for science, technology, engineering, and math (STEM) teachers.

"The impetus [for U Va.'s new program] is the *Next Generation Science Standards (NGSS)*," says Jennifer Chiu, assistant professor in the university's Curry School of Education. The new standards "place a lot of emphasis on engineering, but most science teachers have a background in science, not engineering [The dual degree provides] an opportunity to encourage those with an engineering background to become science teachers and to incorporate engineering into science classrooms," she explains.

The dual degree also was created "out of student interest," says Chiu. Advisors have reported that engineering students have expressed interest in teaching, with many "suggesting a possible career pathway [of using] their engineering degree for the benefit of society," she relates.

Students who complete the program "come out with an engineering



COURTESY OF HOFSTRA UNIVERSITY

Third graders in Hofstra University's STEM Studio ponder how to display the data generated from their pre-exercise/post-exercise pulse rate experiment.

multiple content areas in Virginia." They earn endorsements in physics, chemistry, and math because engineering degrees require a lot of basic foundation courses in those subjects, "biology and Earth science endorsements involve courses not as prevalent in the engineering major," she explains.

U Va. is offering scholarships to students who apply for the program. Ten \$10,000 scholarships were awarded this semester, and "five or six" that will "fully fund the students for the master's portion" are expected to be awarded next year, according to Chiu. "We're

The university also offers experiences to support students in becoming practicing teachers. "Field placements provide opportunities to teach peers science and engineering in methods courses, and weekly student teacher seminars present strategies and solutions to engage students in ways that reflect the practices of the NGSS," she notes.

Recruiting Engineering Students

Last winter, Philadelphia's Drexel University launched Dragons Teach, a new program that gives STEM majors the opportunity to minor in STEM edu-