

Academies Aim to Invigorate U.S. Innovation

Professional engineers aren't the only ones who are troubled by the critical shortage of homegrown engineers in the U.S. The National Academy Foundation recently placed its focus on this issue with the launch of 13 Academy of Engineering pilot high schools to encourage more students to choose engineering careers.

"We want to create a sustainable and rigorous, relevant educational pipeline to prepare students with engineering curriculum so that we can get them into engineering colleges and technology programs," says Jon Reinhard, an associate in the NAF's Center for School Design department.

One major goal of the academies will be to increase the participation of women and underrepresented minorities in the study of engineering. The long-term plan of NAF is to open 110 academies by 2010. The pilot schools are conducting a year of planning to prepare for a 2008 opening with its first class of ninth-grade students. During this year of planning, science and technology teachers

industry partnerships and postsecondary transition support. NACME will also provide materials for students and their families on college preparation and financial aid and establish a network of corporate and university program supporters.

"NACME is concerned about America's place in the competitive global environment that this nation finds itself in relative to innovation and technology, and we are convinced that meeting the increased demand for engineering talent and improving America's competitive position can only occur if all of our talents have an opportunity to be developed," says John Brooks Slaughter, NACME's president and CEO.

Slaughter points out that only 4% of the 700,000 minority high school students who graduate each year have taken the necessary math and science courses to be considered by universities to study engineering. "It is very, very clear that we have to do something, and do something fairly

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-Jon Reinhard

will receive professional development at local universities, structure the curriculum, and develop a student recruitment plan. Each school will also search for local leaders in business, engineering, and technology to serve on an advisory committee and serve as mentors and tutors.

The science, technology, engineering, and mathematics focused academies will be guided by several mandates. All academies will be stand-alone schools or serve as small learning communities in urban schools, and they will be open to students of all academic abilities. Each grade will have between 75 and 100 students who will be prepared to succeed at a four-year institution.

The schools will use Project Lead The Way's "Pathway to Engineering" curriculum, and the National Action Council for Minorities in Engineering will provide

quickly in order to increase the numbers of African-Americans, Latinos, and American Indians who are involved in science and technology enterprises in this country," he says. "This is something that this nation cannot let stand if it is serious about maintaining a position of leadership in science and technology globally."

NAF previously opened career academies focusing on finance, hospitality and tourism, and information technology. The academies are funded by a \$3 million grant from the Bill & Melinda Gates Foundation. Additional support of \$1 million each is being provided by the Motorola Foundation, the Verizon Foundation, and Xerox. Each school will receive \$48,000 over four years in seed money for professional development. Additional costs for technology must be funded by the school district.

Engineering Academies

The National Academy Foundation has selected 13 pilot sites for academies of engineering. The foundation plans a 2008 opening for ninth graders, and its long-term plan is to open 110 academies by 2010. The foundation's goal is to encourage more students to choose engineering careers.

Construction Trades, Engineering & Architecture School
New York City

Frederick Douglass High School
Atlanta

AJ Moore Academy
Waco, Texas

H. Grady Spruce High School
Dallas

East High School on Arcadia
Columbus, Ohio

University High School
Los Angeles

EDT Academy Morse High School, Patrick Henry High School, and James Madison High School
San Diego

Porterville Charter Academy
Strathmore, California

Burton High School
San Francisco

Northwest Career and Technical Academy
Las Vegas

Evergreen High School
Burien, Washington

