



**STEVENS**  
INSTITUTE of TECHNOLOGY  
THE INNOVATION UNIVERSITY

## **Producing Well-Rounded Innovators & Leaders: STEM Skills and Beyond** *The Stevens Indicator, Summer 2015*

When he was the representative for New Jersey's 12th Congressional district, Rush Holt, Jr. often quipped that he was one-third of Congress's "physics caucus." Congressman Holt's retirement in 2014 left Congress with only two other Ph.D.'s in the natural or hard sciences. While the number of scientists and engineers in the nation's legislative branch has never been high — lawyers and business executives comprise the dominant occupations in Congress — many of the complex problems facing our society today are inherently scientific or technology-based, highlighting the need for greater technical expertise among key decision makers and policy makers at all levels of government.

As Congressman Holt and many Stevens alumni have demonstrated, a STEM (science, technology, engineering and mathematics) degree can be a launching pad to a wide variety of occupations not traditionally associated with the STEM disciplines, from politics, law and finance, to journalism, art and entertainment. A Stevens engineering degree prepared Richard Reeves '60 to go on to become a prolific author, historian and award-winning telejournalist. That same degree equipped Joseph J. Kaminski '60 with the tools to go from holding a leadership position at an industrial gas and chemical company to providing philanthropic support for humanitarian efforts in South Africa. Stevens alumni also find success as artists, investment bankers, physicians, restaurateurs, lawyers and more.

A wide range of occupations increasingly rely on some of the same skills and capabilities that are part of a rigorous STEM degree program: quantitative analysis and a disciplined approach to problem-solving, among others. A February 2015 report of the National Science Board, "Revisiting the STEM Workforce," noted that it is becoming increasingly difficult to define the occupations associated with America's modern STEM workforce, simply because technical proficiency is becoming mandatory in a diverse body of occupations. The report states:

"STEM knowledge and skills are used in many more occupations than those traditionally thought of as science and engineering ... In 2010, about 5 million U.S. workers were officially classified as having an 'S&E' occupation. Yet an estimated 16.5 million college-educated individuals, including many working in sales, marketing and management, reported that their job required at least a bachelor's degree level of S&E training. Additionally, in recent years, more jobs have come to require these capabilities..."

As you read this issue of *The Stevens Indicator*, you will see that these skills open doors for our alumni in any of the paths they pursue. Increasingly, prospective students are attracted to Stevens not only for the extraordinary education and potential ROI, but also for the breadth of options that become available to them. For Fall 2015, undergraduate applications increased by 33 percent to the College of Arts and Letters and 18 percent to the School of Business.

These programs build on Stevens' distinctive and rigorous technology foundation. For example, the College of Arts and Letters' Master of Arts in Policy & Innovation is an interdisciplinary program

which blends the humanities, social sciences and management and educates future leaders in ethics, management and decision-making aspects of technological innovation. Undergraduate majors in the College of Arts and Letters such as Science, Technology and Society; Music and Technology; and Visual Arts and Technology integrate Stevens' strengths in technology with humanities, arts and social sciences perspectives. Other examples are the newer majors in the School of Business: Finance, Quantitative Finance, Marketing and Economics, along with the well-established Business and Technology program.

Our mission, "to inspire, nurture and educate leaders in tomorrow's technology-centric environment while contributing to the solution of the most challenging problems of our time," elucidates the philosophy behind these new offerings. Society's current challenges require technical literacy, innovative approaches, ethical behavior and an appreciation of diversity of all kinds. Whether in STEM, business, humanities or the arts, these are the distinctive characteristics of Stevens graduates, yesterday, today and far into the future.

Per aspera ad astra,

A handwritten signature in black ink, appearing to read "N. Farvardin". The signature is fluid and cursive, with a large initial "N" and a long, sweeping underline.

Nariman Farvardin

President, Stevens Institute of Technology