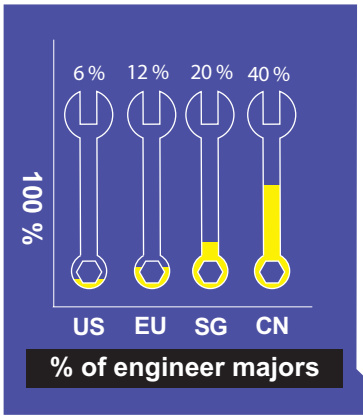
NAVAL STEM SCIENCE TECHNOLOGY ENGINEERING MATHEMATICS

Why Naval STEM? – 12 Facts

America is the world's technology leader, however, in recent years, the supply of graduates in science, technology, engineering and mathematics (STEM) education has not kept up with increasing demand. This trend threatens America's future economic security and our ability to provide naval forces with the breakthrough technologies that give Sailors and Marines their edge.



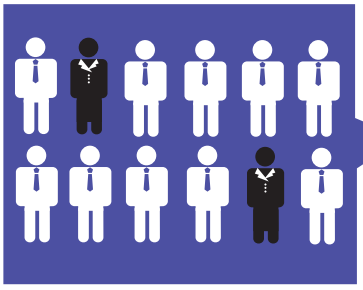
1 **Jobs requiring math are increasing** four times faster than overall job growth (Program for International Student Assessment test, 2004).

2 Only **33% of eighth graders are interested in STEM** majors and careers and **only 6% of high school seniors** will get a bachelor's degree in a STEM field.

3 **Only 18% of high school seniors** are rated as science proficient and 33% as math proficient (Digest of Education Statistics, 2009).

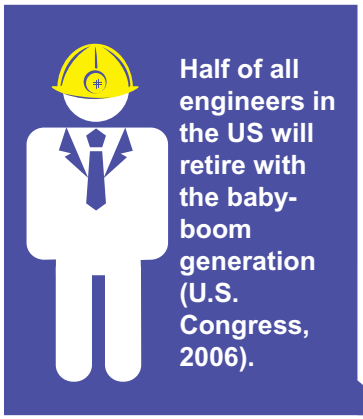
4 **30% of high school mathematics students and 60% of high school physical sciences students** have a teacher who did not major in that subject or is not certified to teach it (National Center for Education Statistics).

5 The **U.S. is ranked 27th (out of 29)** for the rate of STEM bachelor's degrees awarded in developed countries (Organization for Economic Cooperation and Development, 2009), 6% of undergraduates major in engineering in U.S. compared with 12% in Europe, 20% in Singapore, and 40% in China (Rising above the Gathering Storm).



6 In 2007, **men earned a majority of bachelor's degrees awarded** in engineering, computer sciences and physics, (81%, 81%, and 79%, respectively) (National Center for Education Statistics).

7 Undergraduate programs in **science and engineering report the lowest retention rates among all academic disciplines,** with fewer than half of undergraduates who entered college intending to major in a STEM field and completing a degree in one of those subjects (National Center for Education Statistics and National Science Board).

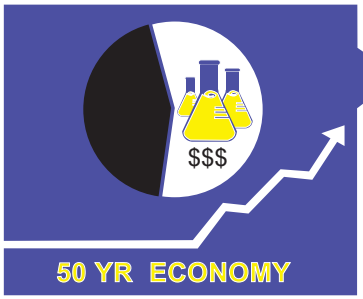


8 Students with bachelor's degrees in engineering had the highest average starting salary offers compared with students with bachelor's degrees in other subjects (National Association of Colleges and Employers). The **median salary of STEM workers** is more than double the median salary of the total U.S. Workforce (NSF, 2010).

9 More S&P 500 CEOs obtained their undergraduate degrees in engineering than in any other field ("2004 CEO Study: A statistical Snapshot of Leading CEOs," 2005).

10 89% of middle school students would rather do their chores than their math homework (Raytheon Survey, 2010).

11 More than 30% of current DoD Science and Technology professionals are expected to retire by 2020 (Seng, Institute for Defense Analysis, 2009). For security reasons, DoN must rely on U.S. citizens for classified technology work, which presents a unique challenge.



12 Scientific innovation has produced roughly half of all US economic growth over the past 50 years (NSF, 2004).

Our STEM advantage enables the success of naval missions, yet, America is losing its STEM lead. To help address this shortfall, the Department of the Navy's STEM program aims to increase, inspire and support the talent pool from which the next-generation of great Sailors, naval engineers and scientists will come.

Office of Naval Research ONR Science & Technology

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