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Explaining the Science of Everyday Life

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The Rising Value of a Science Degree

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If you're trying to figure out what to study in college, [a new report](#) suggests you would do well choosing a major in science, technology, engineering or math.

The report, based on Census and National Science Foundation data analyzed by the Georgetown University Center on Education and the Workforce, shows that professions that depend heavily on skills learned in these fields are the second-fastest growing occupational group in the United States, after health care.

While traditional fields like computer engineering and laboratory research make up about 5 percent of the work force, demand for science, technology, engineering and math skills is spreading far beyond, to occupations in manufacturing, utilities, transportation and mining, as well as to sales and management. As a result, the study, by Anthony P. Carnevale, Nicole Smith and Michelle Melton, argues that there is a shortage of so-called STEM workers.

The scientific and technological disciplines have "become the common currency in the labor market," Mr. Carnevale said. With more companies concentrating on technology, "if you're going to sell in a technical world you've got to be credible," even to be in sales, he said. "You can't sell to an engineer unless an engineer thinks you're also an engineer."

With a shortage of people trained in such fields, many technology and scientific companies in the United States are forced to recruit from abroad, the study's authors say.

According to the study, people with talent in science, technology, engineering or math don't often major in such disciplines during college in the first place. And even if they start out doing so, many switch majors. Of those graduating with such degrees, only 10 percent go into related fields such as engineering, physical science or architecture.

Compared with many other fields outside of these disciplines, STEM workers can earn higher wages. On average, 65 percent of those who hold a bachelor's degree in such fields will earn more than those who hold master's degrees in other subjects. Among those with associate's degrees in the science and technical fields, 63 percent earn more than those who hold bachelor's degrees in other subjects.

But there are bigger lures. While engineers, technicians and lab researchers may start out earning more than their peers in other fields, they can top out by the middle of their careers. So by age 35, a STEM worker with a graduate degree will make about \$50,000 less a year than a doctor or other health care professional with a graduate degree, leading many of those with engineering, science or math degrees to choose medicine as a career. Not surprisingly, managers also make more than technicians, so talented engineers often move into the C-suite to increase their salaries.

“What’s striking to me is that I’m used to thinking of liberal arts as the foundational degree that gives you lots of options in a career,” Mr. Carnevale said. Increasingly, he said, science, technology, engineering and math are crucial to a wide-ranging career. “You get a bigger bump going in, and almost at every stage you have other options,” he said.

But don’t count philosophy or literature out, either. Mr. Carnevale said that in surveys of employers, one of the biggest complaints about technical workers is that they “can’t talk and can’t write a memo and have horrible interpersonal skills.” So maybe the best course of study is a double major. Physics and poetry, anyone?