

## Or Maybe Major In Comp Lit?

**Don't believe the hype. Contrary to reports, the United States isn't suffering a shortage of scientists.**

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Let's not exaggerate: science and engineering are not the new Comp Lit or philosophy, those undergraduate majors for which employment prospects are so dicey that parents practically beg their kids to go to a trade school instead. But about those claims that the United States suffers from a shortage of scientists and engineers—claims such as the National Science Foundation's warning in 2004 of "an emerging and critical problem of the science and engineering labor force"—Vivek Wadhwa, founder of Relativity Technologies and executive-in-residence at Duke University, has a terse response: "It's a lie."

So why do people keep telling students there's such a shortage of scientists and engineers that they'll have their pick of jobs? Partly because even a whiff of a shortfall in S&E leads policymakers and corporate titans to issue apocalyptic warnings of a kind no one does when the United States comes up short in, say, marketers. "Science and engineering are perceived as so crucial to our economic engine and national security, it's easy to get people panicked over the possibility of a shortage," says demographer Michael Teitelbaum of the Alfred P. Sloan Foundation. But those who do not have a financial stake in getting more students to choose S&E (the more job hunters, the less you have to pay them) are catching on. Science magazine recently noted "the striking discrepancy between the glutted market for early-career scientists and the numerous prestigious reports [about] ... a looming shortage."

So, first the good news for students drawn to S&E. The overall unemployment rate for scientists and engineers in the United States was a mere 2.5 percent in 2006 (the last year for which data are available)—the lowest since the early 1990s. Overall unemployment was 4.7 percent.

Now the bad news (a longer paragraph). Demand for scientists and, especially, engineers rises and falls more sharply and unpredictably than in any other sector. Unemployment was 2.6 percent in 1993—and 50 percent higher in 2003 before it fell again. Even that undercounts the jobless: you're not included if you gave up on finding a job in, say, electrical engineering and instead became a real-estate agent. S&E jobs rise and fall for the same reasons they do in other sectors, including overall economic conditions, but also booms and busts in military spending, NASA projects and the budgets of the National Institutes of Health and the Department of

Energy. In 2008, DOE cutbacks led to unpaid furloughs at the Fermi National Accelerator Lab, and a decline in NIH spending since 2003 has forced even top biomedical labs to lay off technicians and reject postdocs. A 2008 report by the RAND Corporation, requested by the office of the secretary of Defense, concluded that "there is no evidence of a current shortage of S&E workers." To their credit, students seem to have gotten wise to the mismatch between rhetoric and reality: bachelor's degrees in S&E have been hovering at about 32 percent of undergrad degrees, compared with 35 percent in the 1960s, as many students smart enough to master Hamiltonians or the Hardy-Weinberg Law realize they can put their brainpower to more lucrative ends on, say, Wall Street.

There may be shortages in suddenly hot areas—Wadhwa cites biofuels and renewable energy. But it's tricky to plot a career based on that, given how long it takes to get a science degree, especially a master's or Ph.D. By the time you have your sheepskin, your once hot field may be stone cold ... or staffed through outsourcing to India. As any economist can tell you, if there were a shortage of scientists and engineers, salaries would rise. Instead, real wages in S&E have fallen over the past 20 years. That is "suggestive of surpluses," Teitelbaum told a congressional committee: "More scientists and engineers graduate [about 450,000 every year] than can find attractive career openings."

In a globalized work force, "soft skills" will count in S&E just as they do elsewhere. As jobs in drug development, cell-phone design, aerospace engineering and more move offshore, S&E survivors will have management know-how, communication skills and expertise in intellectual property or marketing. Study science or engineering if you love it, but don't expect an employment guarantee. Kind of like Comp Lit.

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