



Career Cornerstone News

Volume VII, Issue I

Winter, 2011

Issue Sponsor:



Career Cornerstone News is a Publication of the Sloan Career Cornerstone Center, the Premier Online Resource for Exploring Career Paths in Science, Technology, Engineering, Mathematics, and Medicine.

TI Sponsors Cornerstone State Portals

With support from Texas Instruments, the Sloan Career Cornerstone Center has launched six state portals which provide state-specific salary and employment data for STEM fields. In addition there are links to state programs, resources, and organizations that provide programs, projects, summer camps, and other resources to encourage students to explore science, technology, engineering, and mathematics in middle and high school.

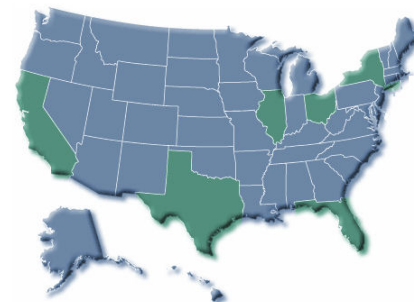
The Texas Instruments supported state portals include California, Florida, Illinois, New York, Ohio,

and Texas. Each state section also provides links to museums, which often provide opportunities to explore STEM fields with hands-on activities and experiences. There are profiles of key industries for each state, links to sample employers, and features of individuals works in STEM fields in each state.

Many counselors and students who use Cornerstone have sought state focused resources to assist those who wish to

STATE PORTALS Sloan Career Cornerstone Center

The Sloan Career Cornerstone Center has launched a series of state portals through Cornerstone content. The first six of these states, including California, Florida, Illinois, New York, Ohio, and Texas have been sponsored by Texas Instruments. Find out how your organization can sponsor a state. Select a state to explore employment and salary data, STEM education support, museums, and employers and industries.



study for a STEM career and then stay in their home state -- the new state portals provided just what these users have been asking for. Find out more at www.careercornerstone.org/states.

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Community Colleges Count!

Achieving the Dream: Community Colleges Count (ATD), has announced that seven community colleges have emerged as leaders in a national student completion movement. ATD designated these colleges as leaders for demonstrating sustained improvement and accomplishments on key student achievement indicators. ATD works on multiple fronts -- including efforts on campuses and in research, public engagement and public

policy -- and emphasizes the use of data to drive change. Launched as an initiative in 2004 with funding provided by Lumina Foundation for Education, Achieving the Dream is built on the belief that broad institutional change, informed by student achievement data, is critical to significantly improving student success rates. There are about 1200 community college in the United States serving over 7 million people. A recent White House



Summit on Community Colleges highlighted the critical role that community colleges play in developing America's workforce and reaching our educational goals. Explore many STEM careers launched at communities colleges at www.careercornerstone.org.

Academic Rigor Leads to College Readiness

More college-bound students in the class of 2010 took the SAT than in any other high school graduating class in history, the College Board announced today. Nearly 1.6 million students from this year's graduating class participated in the college-going process by taking the SAT, and their overall performance underscored the critical role that course-taking patterns and academic rigor play in college readiness.

Students in the class of 2010 who reported completing a core curriculum -- defined as four or more years of English, three or more years of mathematics, three

or more years of natural science, and three or more years of social science and history -- scored, on average, 151 points higher on the SAT than those who did not complete a core curriculum.

In addition to course-taking patterns, the rigor of a student's course work also plays a critical role in college readiness. As in previous years, students in the class of 2010 who reported taking the most demanding honors or Advanced Placement courses performed better on the SAT.

To keep your degree and career options wide open while in high school, take as many math,



science -- and AP classes -- that you can safely handle with your workload while maintaining good grades. At www.careercornerstone.org, explore other tips and ideas about precollege programs, projects, activities, summer camps, and other ways to prepare before college to keep your career and degree options broad and varied.

Degree Profile: Software Engineering

Computer software engineers design and develop software. They apply the theories and principles of computer science and mathematical analysis to create, test, and evaluate the software applications and systems that make computers work. Software engineers design and develop many types of software, including computer games, business applications, operating systems, network control systems, and middleware. Computer software engineers begin by analyzing users' needs, and then design, test, and develop software to meet those needs. During



this process they create flowcharts, diagrams, and other documentation, and may also create the detailed sets of instructions, called algorithms, that actually tell the computer what to do.

Computer software engineers can generally be divided into two categories: applications engineers and systems engineers. Computer applications software engineers analyze end users' needs and design, construct, deploy, and maintain general computer applications software or specialized utility programs. The programming languages most often used are C, C++, Java, and Python. Computer systems software engineers coordinate the construction, maintenance, and expansion of an organization's



computer systems.

A bachelor's degree commonly is required for software engineering jobs, although a master's degree is preferred for some positions. The median annual wages of computer applications software engineers is about \$85,430, while the median for systems software engineers is \$92,430. Find out more about a career as a software engineer at www.careercornerstone.org.

Making the Most of College Fairs

Every year, more than 400,000 students attend national college fairs seeking information about colleges, universities and other postsecondary institutions.

Free and open to the public, national college fairs allow students to interact with admission representatives from a wide range of postsecondary institutions to discuss course offerings, admission and financial aid requirements, college life in general, and other information pertinent to the college selection process.

National College Fairs, such as those sponsored by the National Association of College Admission Counselors, span the U.S. from coast to coast and visit every major metropolitan area nationwide.

These fairs provide a good opportunity to compare a wide range of college and university options in one setting. They can be a bit overwhelming, so if you plan to attend a large college fair that is held in a convention center, download a map of the event ahead

of time and plan out a route through the booths that will let you explore the schools you are most interested in.

And, it is a good idea to plan out your questions in advance. For example, if you want to know what type of co-op program the engineering department

sponsors, be sure to ask that of each school. Or, if you are interested in learning about the graduation rate within the program you are considering, be sure to keep track of what responses you get from each school.

You'll also end up with loads of brochures and catalogs, so be selective in what you take because you'll end up carrying it throughout

the day. Consider pre-printing mailing labels with your name, address, and the year you'll begin college and providing these to the university reps so they can mail you appropriate materials.

Explore other precollege ideas including national programs, projects, summer camps, and links to college fairs at www.careercornerstone.org.



College fairs provide students to meet with representatives from many different college and universities at once. At this fair at Georgia Southwestern State University, over 1000 students gathered information and spoke with representatives from 49 different colleges and universities from Georgia and surrounding states. *Image Courtesy: Georgia Southwestern State University*

Sloan Career Cornerstone Center State Portals

STATE PORTALS
Sloan Career Cornerstone Center



Support from Texas Instruments has made possible a new state pathways through Sloan Career Cornerstone Center resources. Explore local resources, salary data, employment figures, activities, programs and projects, summer camps, and more to help you chart a path to a career in STEMM (science, technology, engineering, mathematics, or medicine).

Find out more at www.careercornerstone.org/states

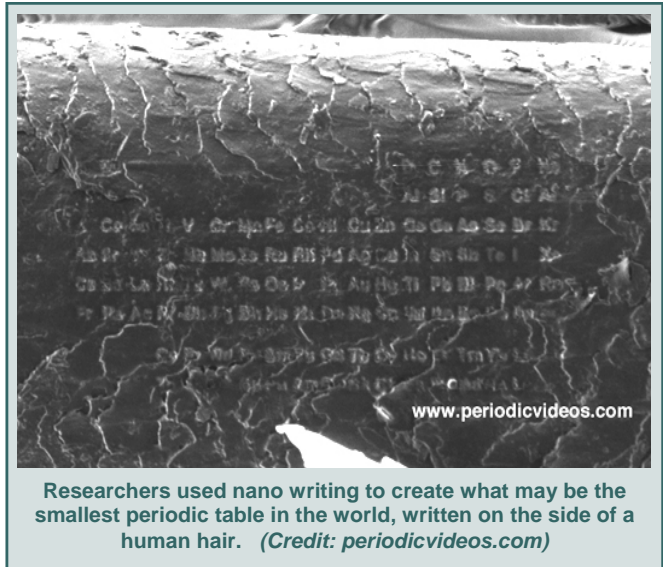
Periodic Table Printed on Human Hair

Scientists at The University of Nottingham have written what they believe is the world's smallest periodic table — on the side of a human hair. The table is so small that a million of them could be replicated on a typical post-it note. Experts from the University's Nottingham Nanotechnology and Nanoscience Centre used a sophisticated combination of ion beam writer and electron microscope to carve the symbol of all 118 elements into the strand of hair taken from the head of Professor Martyn Poliakoff, an expert in Green Chemistry. You can see how it was done by going to: <http://tiny.cc/7mytk>.

In other Periodic Table news -- and, for the first time in history -- a change will be made to the atomic weights of some elements listed on

the Periodic table of the chemical elements posted on walls of chemistry classrooms and on the inside covers of chemistry textbooks worldwide.

The new table will express atomic weights of 10 elements -- hydrogen, lithium, boron, carbon, nitrogen, oxygen, silicon, sulfur, chlorine, and thallium -- as intervals, having upper and lower bounds, to more accurately reflect how these elements are found in nature and convey variation in atomic weight.



Researchers used nano writing to create what may be the smallest periodic table in the world, written on the side of a human hair. (Credit: [periodicvideos.com](http://www.periodicvideos.com))

For example, sulfur is commonly known to have a standard atomic weight of 32.065. However, its actual atomic weight can be anywhere between 32.059 and 32.076, depending on where the element is found.

Engineering and Computer Science Among Top Majors for Class of 2011

Employers are most interested in hiring new college graduates with bachelor's degrees in engineering and computer science fields, according to results of a new survey conducted by the National Association of Colleges and Employers (NACE). Nearly 62 percent of the organizations taking part in NACE's Job Outlook 2011 survey cited plans to hire accounting graduates. Other popular degrees at the bachelor's degree level included electrical engineering (53.5 percent), computer science (53 percent), and mechanical engineering (53 percent). "The results are not surprising," says Marilyn Mackes, NACE executive director. "These degrees are consistently cited by organizations involved in college recruiting and hiring as among the most sought-after." In addition, the job market for new college graduates continues to show improvement, according to results of another NACE survey. More than half of the employers taking part in the November poll reported plans to increase the number of new college graduates they hire -- the first time a majority of poll respondents have reported such plans since NACE initiated the poll in October 2009. Explore current salary data for over 190 fields at www.careercornerstone.org.

