

College Bound

ISSUES & TRENDS FOR THE COLLEGE ADMISSIONS ADVISOR

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Cracking the Code

Getting Young Women to STEM

DEMAND FOR COMPUTER SCIENCE GRADUATES IS SOARING. That is the word from Hai Hong, program manager in the K-12 Education Outreach at Google, Inc. in Mountain View, California. He spoke at the 70th Annual National Association for College Admissions Counselors convention earlier this fall in Indianapolis, and sounded an alarm at the dearth of students in this country pursuing college degrees in computer science, particularly young women.

Hong said that about 137,000 new bachelor's degree recipients are needed in this field, yet

only 43,000 degree holders are graduating each year. By 2020, 1.4 million new jobs will be available in computer science, he noted. One million of these jobs will be unfilled.

Concerned about the lack of young women in college pursuing computer science and related fields, Google commissioned a study to find out what factors influence them. The report, "Women Who Choose Computer Science: What Really Matters," looks at what motivates girls and young women to pursue computer sciences. It found that high schools exert the

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Admissions Watch

Azusa Pacific University. Azusa Pacific U. enrolled 175 fewer freshmen this fall. Freshman enrollment reached 1,225 students. Azusa, one of the largest Christian universities in the nation, hit a peak enrollment of 1,250 freshmen in 2012. The admissions office hopes to enroll 450 transfer students next year.

California State Deadline. Applications for admission to any of the 23 California State U. campuses are due no later than November 30. Last year, CSU received 760,000 undergraduate applications. For the past several years, the system had to turn away as many as 26,000 fully-eligible applicants because of state funding restrictions. But this year, the legislature increased funding for an additional 12,000 students.

UC Berkeley. Applications to the U. of California, Berkeley have more than doubled over the past 10 years. Last year, Berkeley received over 73,000 freshman applications,

and more than 34,000 of them had a GPA of 4.0 or above.

But the total number of students admitted was below 13,000, with an admit rate below 18 percent. It was even tougher to gain entry to Berkeley's engineering school. Fewer than 9 percent of those applicants were admitted. The U. of California, Los Angeles (UCLA) admitted only 16.3 percent of its applicants. And UC Irvine's admit rate dropped from 41 percent to 35.4 percent.

DePaul's Increase. DePaul U. in Chicago, the nation's largest Catholic university, enrolled 23,799 students this fall, "surpassing its budgeted target for the fall quarter by 274 students, or 1.2 percent."

Illinois' New Dates. The U. of Illinois has established a new set of admissions and notification dates. It will no longer have two deadlines. That old approach led to large num-

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NEWS FLASH NEWS FLASH

New Enrollment Concerns

"An overwhelming number of higher education leaders are increasingly concerned about their ability to maintain current enrollment levels," according to the third annual Higher Education Outlook Survey, conducted by KPMG LLP, an international audit, tax and advisory firm. In fact, 85 percent of the 125 higher education leaders surveyed, from 79 public and 41 private institutions, said they were either "very" or "somewhat" concerned about the issue, up 19 percent since 2012. Some 66 percent said that parents'/students' ability to pay tuition was the top factor.

"Perhaps more than ever, students and parents are shopping around and comparing aid packages, facilities and curricula, as well as job placement and career outcomes," said David Gagnon, KPMG's National Audit Leader for Higher Education, Research & Other Not-for-Profits.

Other emerging trends identified by the survey: increased spending to keep up with changes in technology (63 percent) and considering highbred educational delivery models, including virtual learning (48 percent). Some 46 percent of the leaders said that online harassments/cyber stalking also was a major concern, up from 31 percent in 2013. "Higher education leaders are increasingly focused on cyber threats," said Gagnon.

Indeed, College Enrollment Declined. The Census Bureau has just reported that college *continued on page 2*

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New Recruitment Efforts

Chicago C.C. Free. Students who graduate from the Chicago Public Schools (CPS) with a 3.0 GPA or higher will be guaranteed free tuition at any of the seven campuses of the Chicago City Colleges, Mayor Rahm Emanuel announced last month. The Chicago Star Scholarship will also give waivers for fees and books to economically-qualified students. Full-time tuition, school fees and books run about \$4,400 a year for city residents.

The option will be open to undocumented students as well, to help make Chicago, “the most immigrant-friendly city” in the United States, the mayor proclaimed. Some 4,500 CPS students now participate in CCC’s “dual enrollment” program.

According to the *Chicago Sun-Times*, “If every one of the 2,000 CPS students the mayor says has a grade-point average of 3.0 or better who do not currently go on to college took advantage of the city’s offer, that would cost \$22 million.”

The Mayor told city students, “If you get good grades, I don’t want cost to be a prohibi-

tive factor in going to college.” Emanuel has a lofty goal of making CPS students “100 percent college-ready and 100 percent college-bound.”

Syracuse and Buffalo Guarantee College Money. The Syracuse Promise, launched in 2008, and the Buffalo version of the program, both sponsored by Say Yes to Education, a New York foundation, have already helped 3,600 graduates, many from low-income families, go to college. “We hope we’re creating a movement,” Mary Anne Schmitt-Carey, president, recently told the *Washington Post*.

Some 69 private colleges and universities participate in the program, including eight new partners: Stanford U., U. of Southern California, Texas Christian U., Colorado, Davidson, Occidental, Pitzer and Franklin & Marshall colleges.

See, <http://www.sayyestoeducation.org>.

University Innovation Alliance. The University Innovation Alliance (UIA) is a network of 11 universities “committed to

making high-quality college degrees accessible to a diverse body of students, primarily first-generation and low-income students.” The network includes the U. of Central Florida, Oregon State U., Arizona State U., the U. of Kansas, Georgia State U., Purdue U., the Ohio State U., U. of California Riverside, Iowa State U., the U. of Texas at Austin and Michigan State U. For info, see, www.theuia.org.

North Alabama Fee Waiver. Beginning with next year’s class, the U. of North Alabama can lift the out-of-state tuition fee for students who receive a scholarship of at least \$1,000. Those out-of-state students who fail to get a waiver will end up paying double the in-state tuition rate. The new rule means UNA will be able to recruit out-of-state students more aggressively, particularly those from Tennessee.

UMass Waives Tuition. Students with a 3.0 or better grade-point average and an associate’s degree from any of the 15 community colleges in Massachusetts can have their tuition waived at UMass Dartmouth. The program is effective Jan. 15. See, www.umassd.edu. ■

ADMISSIONS WATCH

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bers of students being deferred from the first group. Many of those students chose another school because they were deferred.

The U. of I. thinks the practice led to a lower yield for in-state students, which last year fell to 42 percent, a record low. In 2006, 6,385 U. of I. freshmen came from Illinois. But this fall, that number dropped to 4,974. Last year, Illinois received over 35,000 total applications, roughly 17,000 from Illinois students.

The new application deadline for all students is December 1, with a universal notification date of February 13. This way the university feels that no student will feel like a second-tier admit.

St. Lawrence U. This year, 4,327 students applied to St. Lawrence U. in New York and 2,062, or about 48 percent, were admitted. About 610 enrolled. Some 14 percent of it’s Class of 2018 is made up of students of color. Females make up 52 percent, and only 38 percent come from New York State. Its 67 international students represent 26 nations, with China and Canada leading the way.

About 66 percent of the incoming class ranked in the top fifth of high school graduating classes, 90 percent played high school sports and more than 80 percent participated in community service. About 68 percent came from public high schools.

Utah is Steady. Enrollment in Utah’s public colleges and universities remained steady this year at about 167,317 students. ■

ENROLLMENT CONCERNS

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enrollment declined by 463,000 students, between 2012 and 2013. Enrollment of students 21 and younger fell by 261,000, mostly in two-year colleges which experienced a 10 percent decline. Hispanic student enrollment, which had increased from 2007-2012, did not grow. In 2013, 19.5 million students enrolled in college, 5.3 million in two-year colleges, 10.5 million in four-year colleges. Hispanics comprised 16.5 percent of students at the college level, blacks 14.7 percent and Asians 8.1 percent. For more data, see, <http://www.census.gov>.

In-State and Out-of-Luck. A recent *Wall Street Journal* analysis of 559 public four-year colleges and universities found that at 454 of the schools, in-state freshman enrollment fell by more than 10 percent between fall 2008 and 2012. Non-resident enrollment increased by 10 percent or more. “The phenomena was most prevalent at flagship universities,” the article said. The average in-state student pays about \$9,000 a year while the average out-of-state student contributes \$22,000.

Alabama Out-of-State Influx. However, enrollment at the U. of Alabama grew this year to 35,000 students. More than half of the new students were from out-of-state, for the third year in a row.

Nebraska Experiences New Growth. Meanwhile, more than half of student enrollment increases at the U. of Nebraska-Lincoln took place in the College of Engineering,

which saw enrollment jump by 8.5 percent, and the College of Journalism and Mass Communications, whose enrollment increased by 8 percent. Over the past decade, the engineering college enrollment surged by 43 percent, while journalism jumped by 19 percent. During the same period, the overall student population rose by 15 percent.

Throughout the university, the increase in enrollment is attributed to the growing number of non-Nebraska residents attending UNL, according to *The Lincoln Journal Star*.

Purdue Graduation Rates Rise. Since 2013, four-year graduation rates at Purdue U. climbed from 46.8 percent to 49.2 percent, while six-year graduation rates increased from 70.7 percent to 73.8 percent, according to Indiana’s “College Completion Report.” To make even better progress, Purdue is embracing the Indiana statewide “15 to Finish” campaign.

Research shows that Purdue students who take 15 to 16 credits per semester earn higher GPAs than students who enroll in 12 to 14 hours. Administrators are pointing out that each additional year a student spends in an institution costs them, on average, an extra \$50,000.

To help boost graduation rates, Purdue instituted Supplemental Instruction, redesigned more than 120 courses (with more than 150 yet to be redesigned in the next two years), expanded learning communities and boosted summer course offerings. That led to a recent \$2.3 million Dept. of Education grant to study the effect of active learning strategies on retention, graduation and success rates. ■

WOMEN TO STEM

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major influence on who studies computer science. And, high school girls and college women need positive reinforcement and exposure to the range of careers open to them.

Hong said that Google cares because it needs to hire computer scientists. But, he noted, it is also in the national interest. He added that boys in Europe are 10 times more likely to pursue computer science than women in the U.S., where women earn 56 percent of the bachelor's degrees, but are only 18 percent of computer science majors.

To promote more interest in the computer sciences, Google is supporting new initiatives aimed at increasing the number of young women interested in studying this field once they get to college. In fact, it is investing \$50 million in its efforts.

- Madewithcode.com is a video launched last June designed to encourage young women to try computer coding. It shows all the ways codes are used.

- Rise Awards is a Google initiative for "girls, underrepresented minorities and other students under age 18 facing socio-economic barriers." Google awards grants ranging from \$15,000 to \$50,000 to extracurricular computer science programs or STEM organizations that target girls and/or underrepresented minority students before they enroll in college.

- Computer Science First is an after-school club Google promotes to increase student access and exposure to computer science through after school, in school and summer programs. Google piloted the program in grades four to eight, but is expanding it to the upper grades. It also provides teachers, schools and volunteers with materials.

For links to these and other programs, see, <https://www.google.com/edu/programs/>.

What Else Can Schools Do? Marie Schwartz, president of TeenLife Media, also spoke at NACAC and said that educating parents comes first. A number of computer science and STEM Summer Programs can introduce young women to computer science. She noted some schools are offering online courses and coding classes. *Teen Life* published its 2014 "Guide to STEM Programs." It includes a directory of STEM Programs and Colleges. Free. See, www.teenlife.com.

Living Learning Centers. Jennifer Groh, associate director of the Women in Engineering Program at Purdue U., argued that universities need to give additional support to young women interested in computer science and other STEM fields, Purdue's College of Engineering has a Mentee and Mentor Program that pairs first-year students with sophomore, junior and seniors who serve as role models. There are monthly meetings, guest speakers and social activities. The program provides young women with support to improve the retention in STEM fields. See, <https://education/purdue.edu>.

More STEM Approaches. Other attendees at the NACAC workshop highlighted the seemingly simple ways to introduce young women to the world of computer science, no matter the locale of their school. These include field trips to local employers or water filtration plants, high school internships and career fairs. Science clubs and 4H clubs also expose students to the world of science. Science Club for Girls, for example, is an after-school program now in five cities across the country. Summer programs at various universities provide students

with courses that may not be available at their local high school. The U. of Pennsylvania, for example, has a Summer Academy in Applied Science & Technology, with courses in computer science, nanotechnology and robotics.

And another program highlighted was Black Girls Code, a non-profit organization that is expanding around the country to get young women of color interested in computer programming. See, <http://www.blackgirlscode.com>.

NEW STEM PROGRAMS

Science Sleuths. DoSomething.org last month launched a partnership with the 3M company to encourage young women to pursue careers in STEM. The two organizations created Science Sleuth, a crime-solving challenge that encourages students to use STEM concepts to solve a crime using text messaging. Students catch a thief and recover a mascot using scientific methods.

Citing a National Science Foundation study, the sponsors of the program note that 66 percent of fourth-grade girls and 68 percent of fourth-grade boys report they like science and math. But by eighth grade, girls are half as interested in these subjects as boys. Yet, DoSomething.org argues that another study found that when girls are shown what engineers actually do, 76 percent become interested in engineering. See, www.DoSomething.org.

Native Science and Engineering Program. Alaska Airlines recently pledged \$1 million to support STEM education in rural Alaska through the Alaska Native Science and Engineering Program. In the next three years, students will be transported to Anchorage to attend the Middle School Academy at the U. of Alaska Anchorage. Students take classes that focus on problem solving, research and communication skills in biology, chemistry, physics, environmental sciences, earth sciences, engineering and design. The goal is to increase the number of students completing Algebra 1 and to enable them to advance one full level in math or science during a five-week summer program. Students who complete the programs can earn the Alaska Performance Scholarship regardless of where they live. See, www.ansep.net.

Enhancing Diversity in Biomedical Fields. Xavier U. in New Orleans recently received a \$19.6 million grant from the National Institutes of Health to expand its biomedical programs and support students interested in research. Xavier is one of 10 institutions in a new Building Infrastructure Leading to Diversity Initiative. It gives scholarships, mentorship opportunities and resources to undergraduate students, who are known as BUILD Scholars. The aim is to increase the number of minority students, including young women, interested in the sciences. See, www.xula.edu.

Robotics Competition. And, the Robotics Education & Competition Foundation is another organization bent on getting students interested in Science, Technology, Engineering and Math. It sponsors the VEX Robotics Competition for middle and high schools students throughout the country. Students are given an engineering challenge, build robots in small teams and then compete in matches. The foundation also provides Online Challenges in robot or engineering design, essays and video production. Students can earn Pre-engineering and Robotics certifications as well as scholarships. See, www.roboticseducation.org. ■

CURRICULUM CAPSULES

Software Engineering. The U. of Central Oklahoma is offering a new B.S. degree in software engineering. The program was created in response to recent U.S. Dept. of Labor Statistics reports that the field will grow by 22 percent from 2012 to 2022. See, www.uco.edu/cms.

Contemporary Theater. The Boston Conservatory is offering a new B.F.A. in contemporary theater. The program is designed for students interested in a multidisciplinary, entrepreneurial, ensemble-based approach to theater. Graduates of the program will be prepared to write, produce and perform in new

media formats, work in theater education, or apply ensemble theater practice to social justice issues and organizations. The application process requires both an individual audition and in-person ensemble audition, which are held in Boston, Chicago and San Francisco throughout January and February 2015.

Public Health/Community Health. The U. of Michigan-Dearborn's College of Education, Health and Human Services has launched a B.S. degree program in public health and a B.A. degree in community health education. It has also introduced a master's degree in health information technology. For more info, see, <http://www.umdearborn.edu>.

New Paltz' Mechanical Engineering. SUNY New Paltz is offering a new bachelor's degree in mechanical engineering to address a critical shortage of engineers in the Mid-Hudson Valley. "As the only option for engineering in the region, public or private, SUNY New Paltz is stepping up to fill a gap by offering a rich range of academic choices that will result in solid jobs for our graduates in fields as diverse as aerospace, biomedical, energy production, prosthetics development, automotive and building engineering," said Dan Freedman, dean of the School of Science and Engineering.

Shippensburg's Electrical Engineering. Shippensburg U. is launching the first electrical engineering B.A. degree program in the Pennsylvania state system. Its set to begin in fall 2015. The program will prepare students for careers in semiconductor design, mixed-signal embedded systems, and industrial controls and communications systems engineer. "This program will help fill unmet needs, and in addition, will be an affordable alternative," said Shippensburg's interim president Jody Harpster.

Eastern Michigan's Media Studies and Journalism. Eastern Michigan U. is offering a new undergraduate degree in media studies and journalism. Students will have a choice of majoring or minoring in journalism or electronic media and film studies.

Carol Schlagheck, the program's coordinator, explained, "Gone are the days when journalists chose between print and broadcast careers. Now all our students must be prepared to write, blog, tweet, shoot and edit video, do live stand-ups, give interviews, as well as conduct them and take photographs. Our new program will help students adapt to the ever-changing demands of the profession."

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FINANCIAL AID FLASH

More Affluent Borrowers. According to the Pew Research Center, 69 percent of 2012 college graduates took out student loans, twice the number of two decades ago. Surprisingly, the greatest increase in borrowing took place among affluent families. In fact, half of the 2012 graduates from high-income families borrowed money for college, twice the number who borrowed in 1992-93.

Hidden Debt. Federal PLUS loans that are taken out in a parent's name when grants, scholarships and other federal loans aren't enough to cover college costs, do not turn up on reports of total debt for a graduating class. At the U. of Iowa, for example, roughly 40 to 45 percent of parents requested PLUS loans. The PLUS loans have variable interest rates,

which fluctuate over time and can reach over 10 percent. Since they are in the parents' names, it is the parent who faces repercussions if the loans go into default.

Last March, the federal government released national parent PLUS loan default rates. The rate has tripled in recent years, reaching 5.1 percent for borrowers who entered repayment in fiscal year 2010. "Twenty or 30 years ago, people could go to school by working full time over the summer, but that's not true anymore," Sara Harrington, assistant director of student financial aid at the U. of Iowa told WCFCourier.com. "The Pell grants haven't kept up with costs. Federal student loans haven't kept up. There is a gap, and some families are finding that students alone can't cover that gap," she said.

NEWS YOU CAN USE

Big Ten Athletic Support. Addressing an old complaint, the athletic directors of the Big Ten conference voted to guarantee scholarship aid for all student athletes through their graduation. Scholarships will not be reduced or canceled because a student is injured or can no longer compete, as long as he or she remains a member in good standing with their university and athletic department. Currently, the 14 Big Ten institutions provide nearly \$200 million in direct aid to almost 9,500 student-athletes on 350 teams in 42 different sports. See, www.bigten.org.

Graduate Hiring Up. Good news. Employers are recruiting new college graduates at levels not seen since the end of last century, according to a new study from Michigan State U.'s College Employment Research Institute, which estimates hiring will increase by 16 percent this year. Six employment sectors report double-digit growth for graduates, including a 51 percent surge for information services, 31 percent jump in finance and insurance, a 24 percent increase in professional, business and scientific services, 24 percent rise in government hiring, a 17 percent increase

in manufacturing and a 16 percent increase among nonprofits.

Endicott's Single Parent Focus. Endicott C. in Massachusetts has opened a Center for Residential Student Parent Programs. The center will serve as a national hub for single-parent programs and will form partnerships with colleges and universities across the country on research efforts and policy advocacy.

College Board Stats. The 2014 College Board Program Results note that the number of high schools participating in the Advanced Placement program grew from 477,487 in 2004 to 892,362 in 2014. However, the SAT class of 2014 produced "stagnant performance for all students and persistent gaps in preparation particularly for underrepresented minority students."

Some 47 percent of this year's test takers were minority students. But only 42 percent of all test takers met the SAT College and Career Readiness Benchmark. Only 16 percent of African-American, 23 percent of Hispanic and 33 percent of Native American SAT takers met the benchmarks.