

## STATISTICS IS THE FASTEST-GROWING UNDERGRADUATE STEM DEGREE

ALEXANDRIA, VA, FEBRUARY 3, 2015 – Statistics—the science of learning from data—is the fastest-growing science, technology, engineering and math (STEM) undergraduate degree in the United States over the last four years, an analysis of federal government education data conducted by the American Statistical Association (ASA) revealed.

The ASA analyzed data compiled by the National Center for Education Statistics (NCES) on 160 STEM bachelor’s degree categories (based on NCES 4-digit CIP codes) granted by U.S. public and nonprofit colleges and universities. Degree categories with a minimum of 200 completions in 2013 were included in the analysis.

The ASA analysis showed undergraduate statistics degrees nearly doubled (95% growth rate) during the period spanning 2010 to 2013. The significant growth of statistics outpaced that of all computer-related disciplines, environment and psychology (see following table for the fastest growing undergraduate STEM disciplines).

### FASTEST-GROWING STEM UNDERGRADUATE DEGREES 2010–2013

Field	% Increase from 2010	# of 2013 Degrees
Statistics	95.1	1,656
Computer Info Tech Admin. & Mgmt.	92.0	1,985
Environmental/Environmental Health Engineering	86.4	1,195
Mathematics & Statistics, Other	80.0	216
Computer Programming	77.2	466
Sociology & Anthropology	76.7	454
Science Technologies/Technicians, Other	74.1	484
Computer Software and Media Applications	68.4	1,160
Research & Experimental Psychology	66.1	4,723

*Source: The listed fields represent four-digit CIP codes from the National Center for Education Statistics categorization of degrees.*

This news may be a surprise to many higher-education experts and business leaders who might expect a computer science-related area to be the fastest-growing STEM field. But the news did not come as a surprise to the ASA.

“The analysis confirms what the ASA has known for some time: Statistics is a hot career field that more and more students are choosing to enter,” said ASA President David R. Morganstein, vice president and director of the statistical staff for Westat, Inc., a statistical-services company based in Rockville, Maryland. “It’s also

important to note that this growth is not a passing fad. Across the country, universities and colleges are dedicating new resources so their respective statistics departments can expand to meet this growing demand.”

The University of Minnesota–Twin Cities (UMTC) is a prime example of this phenomenon. Enrollment in its undergraduate statistics program grew from just 34 majors in 2004 to 224 currently. Overall, the number of statistics bachelor’s degrees has grown from 526 in 2003 to 1,678 in 2013.

This significant growth and interest in statistics can be attributed to factors such as a more quantitative society, emphasis on data analytics, the advent of Big Data and the corollary growth of the Advanced Placement Statistics program. However, the primary influencer is the job market and the resulting demand for workers with statistical and analytical skills, [which LinkedIn ranked as the most important job skills in 2014](#).

The [Occupational Outlook Handbook](#), published by the Bureau of Labor Statistics, finds that the number of statisticians will grow by 27% between 2012 and 2022, far outpacing the projected 11% growth rate for all other career fields. Separately, McKinsey Global Institute, a global management consulting firm that serves leading businesses, governments, nongovernmental organizations and not-for-profits, [predicted in a report on Big Data](#) that the country will face a shortage of up to 190,000 people with deep analytics skills, such as statisticians, who are needed to manage Big Data-related projects and run data analytics and business intelligence operations in the private and public sectors.

“The main driver is the job market,” said Frederic P. Schoenberg from his frontline position as chair of the University of California, Los Angeles (UCLA) statistics department. “Our graduates are getting excellent jobs in industry with a statistics degree. Businesses throughout the country are forming analytics groups and seeing the value of data analysis. They are, therefore, hiring statisticians at a high rate and that is fueling our majors.”

Schoenberg and other leaders of college/university statistics departments said undergraduates of their programs are securing good-paying jobs at Internet, software and technology companies; finance and banking firms; analytics and consulting agencies; management and marketing organizations; biopharmaceutical and medical sciences companies; and government agencies.

To further meet this burgeoning demand, many colleges and universities are offering new undergraduate degree statistics programs. For instance, since 2003, the number of schools granting undergraduate statistics degrees has increased from 74 to more than 110 in 2013. Amherst College in Massachusetts, Arizona State University and the University of Chicago are just three of the 20 schools that recently unveiled new undergraduate degree programs in statistics ([see the complete list here](#)); additional new programs are in the works.

Another interesting finding from the ASA analysis of the NCES data is that more than 45% of undergraduate statistics degrees during the four-year timespan studied were awarded to women. Over the past four decades, women have earned more than 40% of math and statistics bachelor’s degrees. For comparison, in 2013, the share of women who graduated with an undergraduate degree in computer science was 18%; in engineering, it was 23%; and, in physics, it was 19%.<sup>1</sup>

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<sup>1</sup> <http://nces.ed.gov/ipeds/datacenter/>

[An article relaying the growth experiences of four institutions](#)—UMTC, UCLA, Grand Valley State University, and Carnegie Mellon University—is published in the February issue of *Amstat News*, the ASA’s member magazine.

***About the American Statistical Association***

The American Statistical Association is the world’s largest community of statisticians and the second-oldest continuously operating professional society in the United States. Its members serve in industry, government and academia in more than 90 countries, advancing research and promoting sound statistical practice to inform public policy and improve human welfare. For additional information about the American Statistical Association, please visit the ASA website at [www.amstat.org](http://www.amstat.org).

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