

# WEB TABLES

U.S. DEPARTMENT OF EDUCATION  
OCTOBER 2012 NCES 2013-152

## STEM in Postsecondary Education: Entrance, Attrition, and Coursetaking Among 2003–04 Beginning Postsecondary Students

Science, technology, engineering, and mathematics (STEM) fields are widely regarded as critical to the national economy (National Science Board 2010). Growing concern about America's ability to maintain its competitive position in the global marketplace has prompted calls for the U.S. education system to produce more graduates with training and expertise in STEM fields (National Academy of Science 2005; National Governors Association 2007; National Science Board 2007; President's Council of Advisors on Science and Technology 2012). Despite this national sense of urgency and the billions of federal dollars being spent to encourage students to enter STEM fields (Government Accountability Office 2012), the percentage of U.S. undergraduates pursuing and earning STEM degrees has changed little over recent years (Snyder and Dillow 2011;

Staklis and Chen 2010).<sup>1</sup> To provide a nationally representative portrait of undergraduate students' experiences in STEM education, these Web Tables summarize longitudinal data from a cohort of first-time, beginning students who started postsecondary education in a bachelor's or associate's degree program in 2003–04. In the tables, we examine students' entrance into and attrition from STEM fields and the extent to which they participated in undergraduate STEM coursework over a period of 6 academic years, from 2003–04 to 2008–09.

Specifically, tables 1 through 4 present data regarding students' entrance into and attrition from STEM fields. Table 1 provides an overview of students' entrance into various fields, including STEM fields and five non-STEM fields—social/behavioral sciences, humani-

ties, business, education, and health sciences—during 6 years of college enrollment between 2003 and 2009. Table 2 shows attrition in both STEM fields and selected non-STEM fields. Table 3 displays the field in which students last enrolled after they switched out of STEM or non-STEM fields. Table 4 shows the demographic, high school, and postsecondary enrollment characteristics of students who left STEM fields.

Tables 5 through 17 present data concerning students' participation in undergraduate STEM coursework and their performance in STEM courses. Tables 5 through 9 focus on students' STEM coursetaking and grade point averages (GPAs) in their first year of enrollment, and tables 10 through 17 present these data over 6 years of enrollment. Specifically, these tables show the extent to which students

This report was prepared for the National Center for Education Statistics under Contract No. ED-07-CO-0104 with MPR Associates, Inc. Mention of trade names, commercial products, or organizations does not imply endorsement by the U.S. Government. These Web Tables were authored by Xianglei Chen and Phoebe Ho of MPR Associates, Inc. The NCES Project Officer was Matthew Soldner. For questions about content or to view this report online, go to <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2013152>.

# National Center for Education Statistics

Table 7.

**HIGHEST MATH COURSE IN FIRST YEAR: Percentage distribution of the highest level of mathematics in which 2003–04 beginning bachelor’s and associate’s degree students earned credits, by STEM entrance and persistence through 2009**

STEM entrance and persistence through 2009	Beginning bachelor’s degree students				Beginning associate’s degree students			
	No math	Precollege-level math only <sup>1</sup>	Introductory college-level math <sup>2</sup>	Calculus and advanced math	No math	Precollege-level math only <sup>1</sup>	Introductory college-level math <sup>2</sup>	Calculus and advanced math
<b>Total</b>	<b>40.1</b>	<b>8.7</b>	<b>30.1</b>	<b>21.2</b>	<b>49.2</b>	<b>24.5</b>	<b>22.9</b>	<b>3.4</b>
<b>Students who entered STEM fields in first year</b>								
STEM leavers <sup>3</sup>	34.3	9.3	24.0	32.4	44.2	21.2	28.4	6.2
Students who left PSE without a degree/certificate	39.9	12.1	20.2	27.8	50.5	16.2	28.0	5.3 !
Students who switched major to a non-STEM field	29.7	7.0	27.1	36.2	36.8	27.1	28.9	7.2 !
STEM persisters/completers	14.3	3.1 !	19.3	63.3	25.1	13.9	33.4	27.6
Students who completed a STEM degree/certificate	13.7	2.1 !	15.0	69.2	16.8 !	12.2 !	44.0	27.1
<b>Students who entered STEM fields after first year</b>								
STEM leavers <sup>3</sup>	36.4	10.7	30.1	22.8	43.5	22.5	30.6	3.3 !
Students who left PSE without a degree/certificate	34.6	11.4 !	36.1	18.0	48.9	27.9	19.7	‡
Students who switched major to a non-STEM field	37.6	10.3 !	26.4	25.7	35.8	14.9 !	46.3	‡
STEM persisters/completers	27.1	5.4	20.0	47.6	37.5	17.8	27.4	17.3
Students who completed a STEM degree/certificate	24.2	4.3 !	17.4	54.1	18.5 !	12.6 !	37.0	31.9 !

See notes at end of table.