

PEDAR



U.S. Department of Education
NCES 2006-154

Degree Completions in Areas of National Need, 1996-97 and 2001-02

E.D. Tab

May 2006

Sarah Krichels Goan
Alisa F. Cunningham
Institute for Higher Education Policy

C. Dennis Carroll
Project Officer
National Center for Education Statistics

U.S. Department of Education

Margaret Spellings
Secretary

Institute of Education Sciences

Grover J. Whitehurst
Director

National Center for Education Statistics

Mark Schneider
Commissioner

The National Center for Education Statistics (NCES) is the primary federal entity for collecting, analyzing, and reporting data related to education in the United States and other nations. It fulfills a congressional mandate to collect, collate, analyze, and report full and complete statistics on the condition of education in the United States; conduct and publish reports and specialized analyses of the meaning and significance of such statistics; assist state and local education agencies in improving their statistical systems; and review and report on education activities in foreign countries.

NCES activities are designed to address high-priority education data needs; provide consistent, reliable, complete, and accurate indicators of education status and trends; and report timely, useful, and high-quality data to the U.S. Department of Education, the Congress, the states, other education policymakers, practitioners, data users, and the general public. Unless specifically noted, all information contained herein is in the public domain.

We strive to make our products available in a variety of formats and in language that is appropriate to a variety of audiences. You, as our customer, are the best judge of our success in communicating information effectively. If you have any comments or suggestions about this or any other NCES product or report, we would like to hear from you. Please direct your comments to

National Center for Education Statistics
Institute of Education Sciences
U.S. Department of Education
1990 K Street NW
Washington, DC 20006-5651

May 2006

The NCES World Wide Web Home Page address is <http://nces.ed.gov>.

The NCES World Wide Web Electronic Catalog is <http://nces.ed.gov/pubsearch>.

This publication is only available online. To download, view, and print the report as a PDF file, go to the NCES World Wide Web Electronic Catalog address shown above.

Suggested Citation

Goan, S.K., and Cunningham, A.F. (2006). *Degree Completions in Areas of National Need, 1996–97 and 2001–02* (NCES 2006-154). U.S. Department of Education. Washington, DC: National Center for Education Statistics. Retrieved [date] from <http://nces.ed.gov/pubsearch>.

Content Contact

Aurora D'Amico
(202) 502-7334
aurora.d'amico@ed.gov

Foreword

This E.D. Tab focuses on degree completions in academic programs that have been deemed areas of national need by federal legislation. The analysis focuses on completions data from 1996–97 and 2001–02 and examines completions at institutions granting awards of associate’s degrees and higher. In particular, it looks at the change in the total number of degrees completed in areas of national need between the two years, as well as degree completions in these areas by gender and race/ethnicity.

The primary analysis in this E.D. Tab uses data available through the 2001–02 Integrated Postsecondary Education Data System (IPEDS) and available publicly through the online Data Analysis System (DAS). It draws data from the Institutional Characteristics (IC) component as well as from the Completions (C) component and Student Financial Aid (SFA) component. A special qualifying variable for areas of national need was created for this E.D. Tab and is available on the IPEDS DAS. In addition, estimates reflecting student characteristics were drawn from the 1999–2000 National Postsecondary Student Aid Study (NPSAS), also available as a DAS.

Acknowledgments

The authors wish to acknowledge the contribution of many individuals to the production of this report. At the Institute for Higher Education Policy, Jamie Merisotis provided valuable guidance and feedback on the report at multiple stages. At MPR Associates, Laura Horn made suggestions on the structure and format of the E.D. Tab.

At NCES, Dennis Carroll provided generous support and feedback through the report's publication, Paula Knepper and Marilyn Seastrom provided technical, methodological, and substantive reviews, and Sam Barbett helped resolve data issues. We also would like to acknowledge the thoughtful comments and other assistance provided by the following individuals at various stages of the project: Cliff Adelman, Department of Education; Lisa Bridges, Department of Education; Jacqueline King, American Council on Education; Kent Phillippe, American Association of Community Colleges; Richard Richardson, New York University; David Leslie, College of William and Mary; Daniel Goldenberg, U.S. Department of Education, Office of the Under Secretary; and Ellie Greenberg, University of Colorado.

The authors also wish to acknowledge Catherine Wegmann Wilson and Melissa Clinedinst who provided initial assistance with data analysis.

Contents

	Page
Foreword	iii
Acknowledgments	iv
List of Tables	vi
Introduction: Focus of This E.D. Tab	1
Data Sources.....	2
Selected Findings	5
Associate’s Degree Completions.....	5
Bachelor’s Degree Completions.....	5
Master’s Degree Completions	6
Doctoral Degree Completions	6
First-Professional Degree Completions.....	7
Compendium of Tables	9
References	57
Appendix A—Glossary of Variables and Terms	A-1
Glossary of IPEDS Variables	A-3
Glossary of NPSAS Variables.....	A-7
Appendix B—Technical Notes and Methodology	B-1
Data Sources.....	B-1
Accuracy of Estimates	B-2
Data Analysis System.....	B-4
Integrated Postsecondary Education Data System (IPEDS) Analysis.....	B-8
National Postsecondary Student Aid Study (NPSAS) Analysis.....	B-25

List of Tables

Table		Page
1	Associate's degree completions, by areas of national need: Academic years 1996–97 and 2001–02	10
2	Associate's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02.....	11
3	Bachelor's degree completions, by areas of national need: Academic years 1996–97 and 2001–02	19
4	Bachelor's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02.....	20
5	Master's degree completions, by areas of national need: Academic years 1996–97 and 2001–02.....	28
6	Master's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02.....	29
7	Doctoral degree completions, by areas of national need: Academic years 1996–97 and 2001–02.....	37
8	Doctoral degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02.....	38
9	First-professional degree completions, by areas of national need: Academic years 1996–97 and 2001–02	46
10	First-professional degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02.....	47
11	Students who completed an associate's degree in areas of national need, by selected characteristics: Academic year 1999–2000	49
12	Students who completed a bachelor's degree in areas of national need, by selected characteristics: Academic year 1999–2000	51
13	Students who completed a master's, doctoral or first-professional degree in areas of national need, by selected characteristics: Academic year 1999–2000.....	54

Table **Page**

Appendix Tables

B1	Survey response rates for the institutional universe: 2001–02.....	B-3
B2	Standard errors for table 11	B-6
B3	Characteristics of the institutional universe: 2001–02	B-9
B4	Areas of national need: detailed program areas and data codes	B-14

THIS PAGE INTENTIONALLY LEFT BLANK

Introduction: Focus of This E.D. Tab

Since the enactment of the National Defense Education Act of 1958, the federal government has identified certain fields that are crucial to national innovation, competitiveness, and well-being and in which not enough students complete degrees. Amendments to the Higher Education Act (HEA) of 1965 have attempted to encourage students to pursue and complete degrees in these particular *areas of national need* through a series of efforts that include loan cancellation and assistance funding. For this E.D. Tab, 12 areas of national need were generally identified by examining the areas of study for which students become eligible for Title IV loan cancellation and/or become eligible to receive Graduate Assistance in Areas of National Need (GAANN) funding, and the areas of study for which institutions are granted funds under the Minority Science and Engineering Improvement Program (MSEIP). The following areas of national need were formed:¹

1. Agriculture and conservation sciences;
2. Biological and life sciences;
3. Computer and information sciences;
4. Education (elementary, early childhood, special education, mathematics, science, foreign languages, bilingual education);
5. Engineering and engineering-related technologies;
6. Foreign languages and literature (general foreign languages and literatures, linguistics, foreign language interpretation and translation);
7. Health professions and related sciences;
8. Mathematics;
9. Nursing;
10. Physical sciences;
11. Protective services and criminal justice; and
12. Social work.

The goal of this E.D. Tab is to describe degree completions in academic programs of national need between the academic years 1996–97 and 2001–02, focusing on institutions that grant awards of associate’s degrees and higher. In particular, it examines the following: the

¹ Note that the categorical titles for each of the 12 areas do not reflect the broad two-digit Classification of Instructional Program (CIP) areas but rather the specific programs of study that are considered areas of national need. Discrepancies between the total number of completions in areas of national need and the total number of degree completions found in the *Digest of Education Statistics* may be attributed to the limited fields included in areas of national need, as well as the fact that degrees completed by nonresident alien students were excluded from this study. Table B4 in Appendix B—Technical Notes and Methodology offers a detailed list of the programs of study included in each area of need.

change in the number of degrees completed in areas of national need over the 5-year period; and degree completions in terms of gender and race/ethnicity and how they have changed over the 5-year period. Tables presenting the characteristics of students who completed degrees in areas of national need are included, by degree type, for reference purposes.

The purpose of this E.D. Tab is to present degree completions in areas of national need through the presentation of selected descriptive information. The E.D. Tab is purely descriptive in nature. Readers are cautioned not to draw causal inferences based solely on the bivariate results presented in this E.D. Tab. It is important to note that many of the variables examined in this report are related to one another, and complex interactions and relationships have not been explored here. Release of the E.D. Tab is intended to encourage more in-depth analysis of the data, using more sophisticated statistical methods.

Data Sources

Integrated Postsecondary Education Data System

The primary data source for this report is the Integrated Postsecondary Education Data System (IPEDS), which collects data from all primary providers of postsecondary education. The institution-level data can be used to describe trends in postsecondary education at the institution, state, and national levels. The IPEDS Completions component provides data about degree completions by Classification of Instructional Program (CIP) code,² level (associate's, bachelor's, master's, doctoral, and first-professional), as well as the race/ethnicity and gender of the recipient. For this report, a new variable for areas of national need³ was created from the completions data using the six-digit CIP code and is available on the IPEDS:2002 Data Analysis System (DAS). In addition, degree completion data from 1996–97⁴ were matched to the 2001–02 study universe in order to examine changes in completions over the 5-year period. The same recoding process was completed in the 1996–97 completions data file using the 1990 CIP codes.⁵

² The purpose of the Classification of Instructional Programs (CIP) is to provide a taxonomic scheme that will support the accurate tracking, assessment, and reporting of fields of study and program completions activity. CIP was originally developed by the U.S. Department of Education's National Center for Education Statistics (NCES) in 1980, with revisions occurring in 1985 and 1990. The 2000 edition (CIP-2000) is the third revision of the taxonomy and presents an updated taxonomy of instructional program classifications and descriptions.

³ For a discussion of this component and the specific programs of study included in areas of national need, please see Appendix B—Technical Notes and Methodology.

⁴ Institutions did not need to report completions data in 1996–97 to be included in the study universe.

⁵ The Completions data from 1996–97 uses the CIP codes from 1990 that were revised in 2000. Thus, there is not perfect compatibility between the programs of study included in each year; however, an analysis showed that there is little, if any, impact on the overall findings. For more information on the changes, as well as a crosswalk between years, please visit <http://nces.ed.gov/pubs2002/cip2000/>.

Because areas of national need pertain to U.S. citizens and legal residents, completions data were adjusted to exclude degrees completed by nonresident alien students in both years.

In addition, the 2001–02 IPEDS Institutional Characteristics (IC), Enrollment (EF), Finance (F), and Student Financial Aid (SFA) components provide information on the characteristics of the institutions in the study universe. The institutions examined in this report included those that were eligible for Title IV funding, were located in the 50 states and the District of Columbia, and were two-year institutions or higher. For more details describing the IPEDS surveys, data and procedures, refer to Appendix B—Technical Notes and Methodology.

The National Postsecondary Student Aid Study

The National Postsecondary Student Aid Study (NPSAS) is a comprehensive nationwide study conducted by the U.S. Department of Education’s National Center for Education Statistics (NCES) to determine how students and their families pay for postsecondary education. It also contains demographic and other characteristics of students enrolled in the 50 states, the District of Columbia, and Puerto Rico.

For this report, data are presented for undergraduate, graduate, and first-professional students from NPSAS:2000.⁶ The tables were limited to undergraduate and graduate students who completed, or expected to complete, degrees in 1999–2000⁷ at institutions that met the same criteria as the study universe in IPEDS:2002—Title IV institutions located in the 50 states and the District of Columbia in the public, private not-for-profit, and private for-profit 2-year and 4-year sectors. For more details describing the NPSAS survey, data, and procedures, refer to Appendix B—Technical Notes and Methodology.

⁶ Identifying students completing degrees in areas of national need using the most recent NPSAS:2004 data is confounded due to a change in the definition of the MAJORS variable, which combines some of the areas of interest to this study with other areas that are not of interest. Thus, the tables present data regarding students characteristics from NPSAS:2000.

⁷ The variable PROGSTAT in NPSAS:2000 indicates whether a student reported that s/he completed or expected to complete a degree program in 1999–2000. This variable was used as a filter in order to restrict the analysis to students who were likely to be degree completers.

THIS PAGE INTENTIONALLY LEFT BLANK

Selected Findings

Associate's Degree Completions

- The four areas of national need in which the most associate's degrees were awarded in 2001–02 were nursing (41,130 degrees, or 7 percent of all associate's degrees), engineering and engineering-related technologies (32,478 degrees, or 6 percent of all associate's degrees), health professions and related sciences (32,307 degrees, or 6 percent of all associate's degrees) and computer and information sciences (25,862 degrees, or 5 percent of all associate's degrees) (table 1).
- In 2001–02, women completed over 80 percent of all associate's degrees awarded in education, health professions and related sciences, nursing, and social work (table 2). Men completed 86 percent of all associate's degrees awarded in engineering and engineering-related technologies. These proportions changed little over the 5-year period.
- Between 1996–97 and 2001–02, the number of associate's degrees in areas of national need completed by Black, non-Hispanic, Hispanic, and Asian or Pacific Islander students increased by 32 percent, 37 percent, and 27 percent, respectively (table 2).

Bachelor's Degree Completions

- The four areas of national need in which the most bachelor's degrees were awarded in 2001–02 were engineering and engineering-related technologies (68,150 degrees, or 5 percent of all bachelor's degrees), education (67,628 degrees, or 5 percent of all bachelor's degrees), biological and life sciences (61,303 degrees, or 5 percent of all bachelor's degrees) and computer and information sciences (43,096 degrees, or 3 percent of all bachelor's degrees) (table 3).
- In 2001–02, men completed 73 percent of bachelor's degrees in computer and information sciences and 81 percent of bachelor's degrees in engineering and engineering-related technologies (table 4). Women completed 88 percent of bachelor's degrees in education and 91 percent of bachelor's degrees in nursing. These distributions exhibited little change over the 5-year period.
- Between 1996–97 and 2001–02, the number of bachelor's degrees completed by women increased in biological and life sciences by 6 percent, engineering and engineering-related technologies by 12 percent, physical sciences by 3 percent, and protective services and criminal justice by 22 percent, despite overall declines in these areas over the 5-year time period (table 4).

- Between 1996–97 and 2001–02, the number of bachelor’s degrees completed by Black, non-Hispanic students, and Hispanic students increased in biological and life sciences (both by 12 percent), in health professions and related sciences (by 22 percent and 5 percent, respectively), and in nursing (by 17 percent and 27 percent, respectively), despite overall declines in these areas over the 5-year time period (table 4).

Master’s Degree Completions

- In 2001–02, the four areas of national need in which the most master’s degrees were awarded were education (31,909 degrees, or 8 percent of all master’s degrees), health professions and related sciences (26,123 degrees, or 6 percent of all master’s degrees), engineering and engineering-related technologies (15,911 degrees, or 4 percent of all master’s degrees), and social work (15,426 degrees, or 4 percent of all master’s degrees) (table 5).
- Between 1996–97 and 2001–02, the number of master’s degrees completed by women increased in biological and life sciences by 7 percent, engineering and engineering-related technologies by 4 percent, and physical sciences by 5 percent, despite overall declines in these areas over the 5-year time period (table 6).
- The number of master’s degrees completed by men in nursing increased from 854 to 1,264 between 1996–97 and 2001–02, a change of 48 percent.
- Between 1996–97 and 2001–02, the number of master’s degrees completed by Black, non-Hispanic students and Hispanic students increased in biological and life sciences (by 22 percent and 36 percent, respectively) as well as engineering and engineering-related technologies (by 9 percent and 5 percent, respectively), despite overall declines in these areas over the 5-year time period (table 6).

Doctoral Degree Completions

- In 2001–02, the four areas of national need in which the most doctoral degrees were awarded were biological and life sciences (3,393 degrees, or 10 percent of all doctoral degrees), health professions and related sciences (2,446 degrees, or 7 percent of all doctoral degrees), physical sciences (2,396 degrees, or 7 percent of all doctoral degrees) and engineering and engineering-related technologies (2,267 degrees, or 7 percent of all doctoral degrees) (table 7).
- In 2001–02, women completed between 70 and 95 percent of all doctoral degrees completed in the areas of education, nursing, and social work (table 8). In the same year, men completed between 70 and 80 percent of all doctoral degrees awarded in the areas of computer and information sciences, engineering and engineering-related technologies, mathematics, and physical sciences.
- Between 1996–97 and 2001–02, the number of doctoral degrees awarded to women in health professions and related sciences increased from 785 to 1,507, a percentage increase of 92 percent.

First-Professional Degree Completions

- In 2001–02, 35,572 first-professional degrees (45 percent) were awarded in health professions and related sciences (table 9), the only area of national need in which first-professional degrees were completed.⁸
- Between 1996–97 and 2001–02, the number of first-professional degrees awarded in health professions and related sciences increased by 16 percent. Over this 5-year time period, the number of first-professional degrees awarded to women and Asian students in health professions and related sciences increased by 30 percent and 58 percent, respectively.

⁸ Health professions and related sciences includes professionals and technicians in the fields of medicine, dentistry, nutrition, and veterinary sciences. For a complete list, please see Table B4.

THIS PAGE INTENTIONALLY LEFT BLANK

Compendium of Tables

Table 1. Associate's degree completions, by areas of national need: Academic years 1996–97 and 2001–02

Areas of national need	Number of all associate's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all associate's degrees completed		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
All associate's degrees	531,303	572,938	7.8	100.0	100.0	†
All areas of national need	159,357	161,917	1.6	30.0	28.3	-1.7
Agriculture and conservation sciences	951	1,119	17.7	0.2	0.2	#
Biological and life sciences	8,004	8,288	3.5	1.5	1.4	-0.1
Computer and information sciences	8,522	25,862	203.5	1.6	4.5	2.9
Education	2,512	3,608	43.6	0.5	0.6	0.2
Engineering and engineering-related technologies	32,423	32,478	0.2	6.1	5.7	-0.4
Foreign languages and literature	344	181	-47.4	0.1	0.0	#
Health professions and related sciences	36,982	32,307	-12.6	7.0	5.6	-1.3
Mathematics	749	650	-13.2	0.1	0.1	#
Nursing	50,065	41,130	-17.8	9.4	7.2	-2.2
Physical sciences	1,981	1,735	-12.4	0.4	0.3	-0.1
Protective services and criminal justice	15,338	13,061	-14.8	2.9	2.3	-0.6
Social work	1,486	1,498	0.8	0.3	0.3	#

† Not applicable.

Rounds to zero.

NOTES: Detail may not sum to totals because of rounding. Foreign languages and literature were limited to general foreign languages and literatures, linguistics, foreign language interpretation and translation. Discrepancies between the total number of completions in areas of national need and the total number of degree completions found in the Digest of Education Statistics may be attributed to the limited fields included in areas of national need. The total degrees completed have been adjusted to exclude those completed by nonresident alien students. Associate's degrees awarded by community colleges in general studies or liberal arts and sciences are employed principally by students transferring to 4-year institutions, where they may indeed earn bachelor's degrees in an area of national need.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS:2002).

Table 2. Associate's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02

Areas of national need, gender and race/ethnicity	Number of all associate's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all associate's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
All associate's degrees	531,303	572,938	7.8	100.0	100.0	†
Gender						
Male	203,388	227,163	11.7	38.3	39.6	1.4
Female	327,915	345,775	5.4	61.7	60.4	-1.4
Race/ethnicity						
White, non-Hispanic	397,930	395,031	-0.7	74.9	68.9	-5.9
Black, non-Hispanic	51,030	63,012	23.5	9.6	11.0	1.4
Hispanic	41,538	56,608	36.3	7.8	9.9	2.1
Asian or Pacific Islander	23,436	29,273	24.9	4.4	5.1	0.7
American Indian/Alaska Native	5,762	6,500	12.8	1.1	1.1	#
Unknown/missing	11,607	22,514	94.0	2.2	3.9	1.7
All areas of national need	159,357	161,917	1.6	100.0	100.0	†
Gender						
Male	62,123	67,295	8.3	39.0	41.6	2.6
Female	97,234	94,622	-2.7	61.0	58.4	-2.6
Race/ethnicity						
White, non-Hispanic	124,723	114,911	-7.9	78.3	71.0	-7.3
Black, non-Hispanic	13,547	17,879	32.0	8.5	11.0	2.5
Hispanic	10,151	13,953	37.5	6.4	8.6	2.2
Asian or Pacific Islander	6,145	7,828	27.4	3.9	4.8	1.0
American Indian/Alaska Native	1,655	1,785	7.9	1.0	1.1	0.1
Unknown/missing	3,136	5,561	77.3	2.0	3.4	1.5

See notes at end of table.

Table 2. Associate's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all associate's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all associate's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Agriculture and conservation sciences	951	1,119	17.7	100.0	100.0	†
Gender						
Male	514	609	18.5	54.0	54.4	0.4
Female	437	510	16.7	46.0	45.6	-0.4
Race/ethnicity						
White, non-Hispanic	886	1,042	17.6	93.2	93.1	#
Black, non-Hispanic	7	13	85.7	0.7	1.2	0.4
Hispanic	16	20	25.0	1.7	1.8	0.1
Asian or Pacific Islander	1	1	0	0.1	0.1	#
American Indian/Alaska Native	26	30	15.4	2.7	2.7	-0.1
Unknown/missing	15	13	-13.3	1.6	1.2	-0.4
Biological and life sciences	8,004	8,288	3.5	100.0	100.0	†
Gender						
Male	3,288	3,281	-0.2	41.1	39.6	-1.5
Female	4,716	5,007	6.2	58.9	60.4	1.5
Race/ethnicity						
White, non-Hispanic	6,120	6,182	1.0	76.5	74.6	-1.9
Black, non-Hispanic	594	516	-13.1	7.4	6.2	-1.2
Hispanic	480	741	54.4	6.0	8.9	2.9
Asian or Pacific Islander	637	582	-8.6	8.0	7.0	-0.9
American Indian/Alaska Native	68	88	29.4	0.8	1.1	0.2
Unknown/missing	105	179	70.5	1.3	2.2	0.8

See notes at end of table.

Table 2. Associate's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all associate's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all associate's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Computer and information sciences	8,522	25,862	203.5	100.0	100.0	†
Gender						
Male	4,659	16,782	260.2	54.7	64.9	10.2
Female	3,863	9,080	135.1	45.3	35.1	-10.2
Race/ethnicity						
White, non-Hispanic	5,880	16,560	181.6	69.0	64.0	-5.0
Black, non-Hispanic	1,013	3,392	234.8	11.9	13.1	1.2
Hispanic	687	2,548	270.9	8.1	9.9	1.8
Asian or Pacific Islander	560	1,942	246.8	6.6	7.5	0.9
American Indian/Alaska Native	139	257	84.9	1.6	1.0	-0.6
Unknown/missing	243	1,163	378.6	2.9	4.5	1.6
Education	2,512	3,608	43.6	100.0	100.0	†
Gender						
Male	226	277	22.6	9.0	7.7	-1.3
Female	2,286	3,331	45.7	91.0	92.3	1.3
Race/ethnicity						
White, non-Hispanic	1,997	2,510	25.7	79.5	69.6	-9.9
Black, non-Hispanic	202	566	180.2	8.0	15.7	7.6
Hispanic	125	244	95.2	5.0	6.8	1.8
American Indian/Alaska Native	112	168	50.0	4.5	4.7	0.2
Asian or Pacific Islander	32	36	12.5	1.3	1.0	-0.3
Unknown/missing	44	84	90.9	1.8	2.3	0.6

See notes at end of table.

Table 2. Associate's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all associate's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all associate's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Engineering and engineering-related technologies	32,423	32,478	0.2	100.0	100.0	†
Gender						
Male	28,191	27,921	-1.0	86.9	86.0	-1.0
Female	4,232	4,557	7.7	13.1	14.0	1.0
Race/ethnicity						
White, non-Hispanic	24,336	22,144	-9.0	75.1	68.2	-6.9
Black, non-Hispanic	2,920	3,470	18.8	9.0	10.7	1.7
Hispanic	2,660	3,225	21.2	8.2	9.9	1.7
Asian or Pacific Islander	1,550	2,070	33.5	4.8	6.4	1.6
American Indian/Alaska Native	280	263	-6.1	0.9	0.8	-0.1
Unknown/missing	677	1,306	92.9	2.1	4.0	1.9
Foreign languages and literature	344	181	-47.4	100.0	100.0	†
Gender						
Male	100	90	-10.0	29.1	49.7	20.7
Female	244	91	-62.7	70.9	50.3	-20.7
Race/ethnicity						
White, non-Hispanic	294	123	-58.2	85.5	68.0	-17.5
Black, non-Hispanic	7	5	-28.6	2.0	2.8	0.7
Hispanic	29	29	0	8.4	16.0	7.6
Asian or Pacific Islander	8	12	50.0	2.3	6.6	4.3
American Indian/Alaska Native	1	4	300.0	0.3	2.2	1.9
Unknown/missing	5	8	60.0	1.5	4.4	3.0

See notes at end of table.

Table 2. Associate's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all associate's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all associate's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Health professions and related sciences	36,982	32,307	-12.6	100.0	100.0	†
Gender						
Male	7,803	5,255	-32.7	21.1	16.3	-4.8
Female	29,179	27,052	-7.3	78.9	83.7	4.8
Race/ethnicity						
White, non-Hispanic	29,988	24,238	-19.2	81.1	75.0	-6.1
Black, non-Hispanic	2,682	2,990	11.5	7.3	9.3	2.0
Hispanic	1,933	2,597	34.4	5.2	8.0	2.8
Asian or Pacific Islander	1,261	1,163	-7.8	3.4	3.6	0.2
American Indian/Alaska Native	299	316	5.7	0.8	1.0	0.2
Unknown/missing	819	1,003	22.5	2.2	3.1	0.9
Mathematics	749	650	-13.2	100.0	100.0	†
Gender						
Male	419	424	1.2	55.9	65.2	9.3
Female	330	226	-31.5	44.1	34.8	-9.3
Race/ethnicity						
White, non-Hispanic	493	385	-21.9	65.8	59.2	-6.6
Black, non-Hispanic	37	27	-27.0	4.9	4.2	-0.8
Hispanic	110	105	-4.5	14.7	16.2	1.5
Asian or Pacific Islander	86	90	4.7	11.5	13.8	2.4
American Indian/Alaska Native	2	7	250.0	0.3	1.1	0.8
Unknown/missing	21	36	71.4	2.8	5.5	2.7

See notes at end of table.

Table 2. Associate's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all associate's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all associate's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Nursing	50,065	41,130	-17.8	100.0	100.0	†
Gender						
Male	6,006	4,134	-31.2	12.0	10.1	-1.9
Female	44,059	36,996	-16.0	88.0	89.9	1.9
Race/ethnicity						
White, non-Hispanic	41,302	30,593	-25.9	82.5	74.4	-8.1
Black, non-Hispanic	3,950	4,753	20.3	7.9	11.6	3.7
Hispanic	2,051	2,611	27.3	4.1	6.3	2.3
Asian or Pacific Islander	1,522	1,550	1.8	3.0	3.8	0.7
American Indian/Alaska Native	474	436	-8.0	0.9	1.1	0.1
Unknown/missing	766	1,187	55.0	1.5	2.9	1.4
Physical sciences	1,981	1,735	-12.4	100.0	100.0	†
Gender						
Male	970	975	0.5	49.0	56.2	7.2
Female	1,011	760	-24.8	51.0	43.8	-7.2
Race/ethnicity						
White, non-Hispanic	1,389	1,247	-10.2	70.1	71.9	1.8
Black, non-Hispanic	142	131	-7.7	7.2	7.6	0.4
Hispanic	143	157	9.8	7.2	9.0	1.8
Asian or Pacific Islander	219	95	-56.6	11.1	5.5	-5.6
American Indian/Alaska Native	22	18	-18.2	1.1	1.0	-0.1
Unknown/missing	66	87	31.8	3.3	5.0	1.7

See notes at end of table.

Table 2. Associate's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all associate's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all associate's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Protective services and criminal justice	15,338	13,061	-14.8	100.0	100.0	†
Gender						
Male	9,776	7,386	-24.4	63.7	56.6	-7.2
Female	5,562	5,675	2.0	36.3	43.4	7.2
Race/ethnicity						
White, non-Hispanic	11,097	9,006	-18.8	72.3	69.0	-3.4
Black, non-Hispanic	1,657	1,679	1.3	10.8	12.9	2.1
Hispanic	1,831	1,490	-18.6	11.9	11.4	-0.5
Asian or Pacific Islander	258	276	7.0	1.7	2.1	0.4
American Indian/Alaska Native	161	151	-6.2	1.0	1.2	0.1
Unknown/missing	334	459	37.4	2.2	3.5	1.3

See notes at end of table.

Table 2. Associate's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all associate's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all associate's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Social work	1,486	1,498	0.8	100.0	100.0	†
Gender						
Male	171	161	-5.8	11.5	10.7	-0.8
Female	1,315	1,337	1.7	88.5	89.3	0.8
Race/ethnicity						
White, non-Hispanic	941	881	-6.4	63.3	58.8	-4.5
Black, non-Hispanic	336	337	0.3	22.6	22.5	-0.1
Hispanic	86	186	116.3	5.8	12.4	6.6
Asian or Pacific Islander	11	11	0.0	0.7	0.7	#
American Indian/Alaska Native	71	47	-33.8	4.8	3.1	-1.6
Unknown/missing	41	36	-12.2	2.8	2.4	-0.4

† Not applicable.

Rounds to zero.

¹Within each area of need, degree completions by gender and race are presented as a percentage of the total degrees awarded in that area of need in order to present a distribution of degree completions within that field of study.

NOTES: Detail may not sum to totals because of rounding. Foreign languages and literature were limited to general foreign languages and literatures, linguistics, foreign language interpretation and translation. Discrepancies between the total number of completions in areas of national need and the total number of degree completions found in the Digest of Education Statistics may be attributed to the limited fields included in areas of national need. The total degrees completed have been adjusted to exclude those completed by nonresident alien students. Associate's degrees awarded by community colleges in general studies or liberal arts and sciences are employed principally by students transferring to 4-year institutions, where they may indeed earn bachelor's degrees in an area of national need.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS:2002).

Table 3. Bachelor's degree completions by areas of national need: Academic years 1996–97 and 2001–02

Areas of national need	Number of all bachelor's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all bachelor's degrees completed		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
All bachelor's degrees	1,124,877	1,242,310	10.4	100.0	100.0	†
All areas of national need	390,441	391,637	0.3	34.7	31.5	-3.2
Agriculture and conservation sciences	12,025	12,975	7.9	1.1	1.0	#
Biological and life sciences	65,373	61,303	-6.2	5.8	4.9	-0.9
Computer and information sciences	22,539	43,096	91.2	2.0	3.5	1.5
Education	67,221	67,628	0.6	6.0	5.4	-0.5
Engineering and engineering-related technologies	68,831	68,150	-1.0	6.1	5.5	-0.6
Foreign languages and literature	1,337	1,776	32.8	0.1	0.1	#
Health professions and related sciences	37,140	30,214	-18.6	3.3	2.4	-0.9
Mathematics	12,350	12,213	-1.1	1.1	1.0	-0.1
Nursing	43,867	36,539	-16.7	3.9	2.9	-1.0
Physical sciences	18,435	16,829	-8.7	1.6	1.4	-0.3
Protective services and criminal justice	26,095	27,422	5.1	2.3	2.2	-0.1
Social work	15,228	13,492	-11.4	1.4	1.1	-0.3

† Not applicable.

Rounds to zero.

NOTES: Detail may not sum to totals because of rounding. Foreign languages and literature were limited to general foreign languages and literatures, linguistics, foreign language interpretation and translation. Discrepancies between the total number of completions in areas of national need and the total number of degree completions found in the Digest of Education Statistics may be attributed to the limited fields included in areas of national need. The total degrees completed have been adjusted to exclude those completed by nonresident alien students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS:2002).

Table 4. Bachelor's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02

Areas of national need, gender and race/ethnicity	Number of all bachelor's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all bachelor's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
All bachelor's degrees	1,124,877	1,242,310	10.4	100.0	100.0	†
Gender						
Male	492,919	522,688	6.0	43.8	42.1	-1.7
Female	631,958	719,622	13.9	56.2	57.9	1.7
Race/ethnicity						
White, non-Hispanic	871,108	908,692	4.3	77.4	73.1	-4.3
Black, non-Hispanic	91,344	110,619	21.1	8.1	8.9	0.8
Hispanic	60,483	78,523	29.8	5.4	6.3	0.9
Asian or Pacific Islander	66,729	78,799	18.1	5.9	6.3	0.4
American Indian/Alaska Native	7,170	8,660	20.8	0.6	0.7	0.1
Unknown/missing	28,043	57,017	103.3	2.5	4.6	2.1
All areas of national need	390,441	391,637	0.3	100.0	100.0	†
Gender						
Male	169,946	166,612	-2.0	43.5	42.5	-1.0
Female	220,495	225,025	2.1	56.5	57.5	1.0
Race/ethnicity						
White, non-Hispanic	303,154	286,250	-5.6	77.6	73.1	-4.6
Black, non-Hispanic	30,440	34,093	12.0	7.8	8.7	0.9
Hispanic	17,818	22,016	23.6	4.6	5.6	1.1
Asian or Pacific Islander	28,017	30,707	9.6	7.2	7.8	0.7
American Indian/Alaska Native	2,544	2,873	12.9	0.7	0.7	0.1
Unknown/missing	8,468	15,698	85.4	2.2	4.0	1.8

See notes at end of table.

Table 4. Bachelor's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all bachelor's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all bachelor's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Agriculture and conservation sciences	12,025	12,975	7.9	100.0	100.0	†
Gender						
Male	6,661	6,158	-7.6	55.4	47.5	-7.9
Female	5,364	6,817	27.1	44.6	52.5	7.9
Race/ethnicity						
White, non-Hispanic	10,693	11,208	4.8	88.9	86.4	-2.5
Black, non-Hispanic	329	424	28.9	2.7	3.3	0.5
Hispanic	366	420	14.8	3.0	3.2	0.2
Asian or Pacific Islander	297	328	10.4	2.5	2.5	0.1
American Indian/Alaska Native	89	113	27.0	0.7	0.9	0.1
Unknown/missing	251	482	92.0	2.1	3.7	1.6
Biological and life sciences	65,373	61,303	-6.2	100.0	100.0	†
Gender						
Male	30,208	24,009	-20.5	46.2	39.2	-7.0
Female	35,165	37,294	6.1	53.8	60.8	7.0
Race/ethnicity						
White, non-Hispanic	47,591	43,036	-9.6	72.8	70.2	-2.6
Black, non-Hispanic	4,233	4,724	11.6	6.5	7.7	1.2
Hispanic	2,911	3,252	11.7	4.5	5.3	0.9
Asian or Pacific Islander	8,785	7,409	-15.7	13.4	12.1	-1.4
American Indian/Alaska Native	353	424	20.1	0.5	0.7	0.2
Unknown/missing	1,500	2,458	63.9	2.3	4.0	1.7

See notes at end of table.

Table 4. Bachelor's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all bachelor's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all bachelor's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Computer and information sciences	22,539	43,096	91.2	100.0	100.0	†
Gender						
Male	16,417	31,296	90.6	72.8	72.6	-0.2
Female	6,122	11,800	92.7	27.2	27.4	0.2
Race/ethnicity						
White, non-Hispanic	15,459	26,486	71.3	68.6	61.5	-7.1
Black, non-Hispanic	2,354	4,628	96.6	10.4	10.7	0.3
Hispanic	1,047	2,244	114.3	4.6	5.2	0.6
Asian or Pacific Islander	2,749	6,917	151.6	12.2	16.1	3.9
American Indian/Alaska Native	96	221	130.2	0.4	0.5	0.1
Unknown/missing	834	2,600	211.8	3.7	6.0	2.3
Education	67,221	67,628	0.6	100.0	100.0	†
Gender						
Male	8,816	7,862	-10.8	13.1	11.6	-1.5
Female	58,405	59,766	2.3	86.9	88.4	1.5
Race/ethnicity						
White, non-Hispanic	57,333	56,620	-1.2	85.3	83.7	-1.6
Black, non-Hispanic	4,696	3,989	-15.1	7.0	5.9	-1.1
Hispanic	2,898	3,381	16.7	4.3	5.0	0.7
Asian or Pacific Islander	843	1,060	25.7	1.3	1.6	0.3
American Indian/Alaska Native	607	661	8.9	0.9	1.0	0.1
Unknown/missing	844	1,917	127.1	1.3	2.8	1.6

See notes at end of table.

Table 4. Bachelor's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all bachelor's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all bachelor's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Engineering and engineering-related technologies	68,831	68,150	-1.0	100.0	100.0	†
Gender						
Male	57,127	55,099	-3.5	83.0	80.8	-2.1
Female	11,704	13,051	11.5	17.0	19.2	2.1
Race/ethnicity						
White, non-Hispanic	51,433	49,064	-4.6	74.7	72.0	-2.7
Black, non-Hispanic	4,398	4,265	-3.0	6.4	6.3	-0.1
Hispanic	3,450	3,876	12.3	5.0	5.7	0.7
Asian or Pacific Islander	7,509	7,792	3.8	10.9	11.4	0.5
American Indian/Alaska Native	350	397	13.4	0.5	0.6	0.1
Unknown/missing	1,691	2,756	63.0	2.5	4.0	1.6
Foreign languages and literature	1,337	1,776	32.8	100.0	100.0	†
Gender						
Male	404	476	17.8	30.2	26.8	-3.4
Female	933	1,300	39.3	69.8	73.2	3.4
Race/ethnicity						
White, non-Hispanic	1,013	1,283	26.7	75.8	72.2	-3.5
Black, non-Hispanic	42	77	83.3	3.1	4.3	1.2
Hispanic	119	203	70.6	8.9	11.4	2.5
Asian or Pacific Islander	105	102	-2.9	7.9	5.7	-2.1
American Indian/Alaska Native	10	12	20.0	0.7	0.7	-0.1
Unknown/missing	48	99	106.3	3.6	5.6	2.0

See notes at end of table.

Table 4. Bachelor's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all bachelor's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all bachelor's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Health professions and related sciences	37,140	30,214	-18.6	100.0	100.0	†
Gender						
Male	9,612	6,004	-37.5	25.9	19.9	-6.0
Female	27,528	24,210	-12.1	74.1	80.1	6.0
Race/ethnicity						
White, non-Hispanic	30,047	22,566	-24.9	80.9	74.7	-6.2
Black, non-Hispanic	2,259	2,753	21.9	6.1	9.1	3.0
Hispanic	1,488	1,560	4.8	4.0	5.2	1.2
Asian or Pacific Islander	2,501	2,007	-19.8	6.7	6.6	-0.1
American Indian/Alaska Native	239	170	-28.9	0.6	0.6	-0.1
Unknown/missing	606	1,158	91.1	1.6	3.8	2.2
Mathematics	12,350	12,213	-1.1	100.0	100.0	†
Gender						
Male	6,608	6,511	-1.5	53.5	53.3	-0.2
Female	5,742	5,702	-0.7	46.5	46.7	0.2
Race/ethnicity						
White, non-Hispanic	9,535	8,993	-5.7	77.2	73.6	-3.6
Black, non-Hispanic	1,063	909	-14.5	8.6	7.4	-1.2
Hispanic	551	676	22.7	4.5	5.5	1.1
Asian or Pacific Islander	876	1,077	22.9	7.1	8.8	1.7
American Indian/Alaska Native	55	56	1.8	0.4	0.5	#
Unknown/missing	270	502	85.9	2.2	4.1	1.9

See notes at end of table.

Table 4. Bachelor's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all bachelor's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all bachelor's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Nursing	43,867	36,539	-16.7	100.0	100.0	†
Gender						
Male	4,925	3,331	-32.4	11.2	9.1	-2.1
Female	38,942	33,208	-14.7	88.8	90.9	2.1
Race/ethnicity						
White, non-Hispanic	35,736	27,352	-23.5	81.5	74.9	-6.6
Black, non-Hispanic	3,444	4,027	16.9	7.9	11.0	3.2
Hispanic	1,454	1,841	26.6	3.3	5.0	1.7
Asian or Pacific Islander	1,800	1,649	-8.4	4.1	4.5	0.4
American Indian/Alaska Native	271	286	5.5	0.6	0.8	0.2
Unknown/missing	1,162	1,384	19.1	2.6	3.8	1.1
Physical sciences	18,435	16,829	-8.7	100.0	100.0	†
Gender						
Male	11,492	9,696	-15.6	62.3	57.6	-4.7
Female	6,943	7,133	2.7	37.7	42.4	4.7
Race/ethnicity						
White, non-Hispanic	14,654	12,948	-11.6	79.5	76.9	-2.6
Black, non-Hispanic	1,083	1,071	-1.1	5.9	6.4	0.5
Hispanic	535	657	22.8	2.9	3.9	1.0
Asian or Pacific Islander	1,608	1,293	-19.6	8.7	7.7	-1.0
American Indian/Alaska Native	97	106	9.3	0.5	0.6	0.1
Unknown/missing	458	754	64.6	2.5	4.5	2.0

See notes at end of table.

Table 4. Bachelor's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all bachelor's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all bachelor's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Protective services and criminal justice	26,095	27,422	5.1	100.0	100.0	†
Gender						
Male	15,556	14,559	-6.4	59.6	53.1	-6.5
Female	10,539	12,863	22.1	40.4	46.9	6.5
Race/ethnicity						
White, non-Hispanic	18,745	17,944	-4.3	71.8	65.4	-6.4
Black, non-Hispanic	3,933	4,556	15.8	15.1	16.6	1.5
Hispanic	2,086	2,748	31.7	8.0	10.0	2.0
Asian or Pacific Islander	576	745	29.3	2.2	2.7	0.5
American Indian/Alaska Native	222	295	32.9	0.9	1.1	0.2
Unknown/missing	533	1,134	112.8	2.0	4.1	2.1

See notes at end of table.

Table 4. Bachelor's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all bachelor's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all bachelor's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Social work	15,228	13,492	-11.4	100.0	100.0	†
Gender						
Male	2,120	1,611	-24.0	13.9	11.9	-2.0
Female	13,108	11,881	-9.4	86.1	88.1	2.0
Race/ethnicity						
White, non-Hispanic	10,915	8,750	-19.8	71.7	64.9	-6.8
Black, non-Hispanic	2,606	2,670	2.5	17.1	19.8	2.7
Hispanic	913	1,158	26.8	6.0	8.6	2.6
Asian or Pacific Islander	368	328	-10.9	2.4	2.4	#
American Indian/Alaska Native	155	132	-14.8	1.0	1.0	#
Unknown/missing	271	454	67.5	1.8	3.4	1.6

† Not applicable.

Rounds to zero.

¹Within each area of need, degree completions by gender and race are presented as a percentage of the total degrees awarded in that area of need in order to present a distribution of degree completions within that field of study.

NOTES: Detail may not sum to totals because of rounding. Foreign languages and literature were limited to general foreign languages and literatures, linguistics, foreign language interpretation and translation. Discrepancies between the total number of completions in areas of national need and the total number of degree completions found in the Digest of Education Statistics may be attributed to the limited fields included in areas of national need. The total degrees completed have been adjusted to exclude those completed by nonresident alien students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS:2002).

Table 5. Master's degree completions, by areas of national need: Academic years 1996–97 and 2001–02

Areas of national need	Number of all master's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all master's degrees completed		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
All master's degrees	366,615	415,029	13.2	100.0	100.0	†
All areas of national need	118,521	126,012	6.3	32.3	30.4	-2.0
Agriculture and conservation sciences	2,054	2,348	14.3	0.6	0.6	#
Biological and life sciences	5,852	5,714	-2.4	1.6	1.4	-0.2
Computer and information sciences	6,239	8,354	33.9	1.7	2.0	0.3
Education	31,706	31,909	0.6	8.6	7.7	-1.0
Engineering and engineering-related technologies	17,955	15,911	-11.4	4.9	3.8	-1.1
Foreign languages and literature	721	521	-27.7	0.2	0.1	-0.1
Health professions and related sciences	19,053	26,123	37.1	5.2	6.3	1.1
Mathematics	2,743	2,201	-19.8	0.7	0.5	-0.2
Nursing	11,347	10,972	-3.3	3.1	2.6	-0.5
Physical sciences	3,818	3,531	-7.5	1.0	0.9	-0.2
Protective services and criminal justice	1,817	3,002	65.2	0.5	0.7	0.2
Social work	15,216	15,426	1.4	4.2	3.7	-0.4

† Not applicable.

Rounds to zero.

NOTES: Detail may not sum to totals because of rounding. Foreign languages and literature were limited to general foreign languages and literatures, linguistics, foreign language interpretation and translation. Discrepancies between the total number of completions in areas of national need and the total number of degree completions found in the Digest of Education Statistics may be attributed to the limited fields included in areas of national need. The total degrees completed have been adjusted to exclude those completed by nonresident alien students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS:2002).

Table 6. Master's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02

Areas of national need, gender and race/ethnicity	Number of all master's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all master's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
All master's degrees	366,615	415,029	13.2	100.0	100.0	†
Gender						
Male	148,726	159,828	7.5	40.6	43.6	3.0
Female	217,889	255,201	17.1	59.4	69.6	10.2
Race/ethnicity						
White, non-Hispanic	286,424	297,302	3.8	78.1	71.6	-6.5
Black, non-Hispanic	26,797	36,547	36.4	7.3	8.8	1.5
Hispanic	14,514	20,314	40.0	4.0	4.9	0.9
Asian or Pacific Islander	17,799	22,806	28.1	4.9	5.5	0.6
American Indian/Alaska Native	1,840	2,380	29.3	0.5	0.6	0.1
Unknown/missing	19,241	35,680	85.4	5.2	8.6	3.3
All areas of national need	118,521	126,012	6.3	100.0	100.0	†
Gender						
Male	41,021	41,231	0.5	34.6	32.7	-1.9
Female	77,500	84,781	9.4	65.4	67.3	1.9
Race/ethnicity						
White, non-Hispanic	92,358	90,785	-1.7	77.9	72.0	-5.9
Black, non-Hispanic	8,066	10,073	24.9	6.8	8.0	1.2
Hispanic	4,534	6,084	34.2	3.8	4.8	1.0
Asian or Pacific Islander	7,220	9,350	29.5	6.1	7.4	1.3
American Indian/Alaska Native	595	733	23.2	0.5	0.6	0.1
Unknown/missing	5,748	8,987	56.4	4.8	7.1	2.3

See notes at end of table.

Table 6. Master's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all master's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all master's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Agriculture and conservation sciences	2,054	2,348	14.3	100.0	100.0	†
Gender						
Male	1,135	1,184	4.3	55.3	50.4	-4.8
Female	919	1,164	26.7	44.7	49.6	4.8
Race/ethnicity						
White, non-Hispanic	1,710	1,969	15.1	83.3	83.9	0.6
Black, non-Hispanic	86	76	-11.6	4.2	3.2	-1.0
Hispanic	56	71	26.8	2.7	3.0	0.3
Asian or Pacific Islander	77	83	7.8	3.7	3.5	-0.2
American Indian/Alaska Native	12	19	58.3	0.6	0.8	0.2
Unknown/missing	113	130	15.0	5.5	5.5	#
Biological and life sciences	5,852	5,714	-2.4	100.0	100.0	†
Gender						
Male	2,768	2,423	-12.5	47.3	42.4	-4.9
Female	3,084	3,291	6.7	52.7	57.6	4.9
Race/ethnicity						
White, non-Hispanic	4,578	4,242	-7.3	78.2	74.2	-4.0
Black, non-Hispanic	248	303	22.2	4.2	5.3	1.1
Hispanic	196	266	35.7	3.3	4.7	1.3
Asian or Pacific Islander	570	533	-6.5	9.7	9.3	-0.4
American Indian/Alaska Native	29	37	27.6	0.5	0.6	0.2
Unknown/missing	231	333	44.2	3.9	5.8	1.9

See notes at end of table.

Table 6. Master's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all master's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all master's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Computer and information sciences	6,239	8,354	33.9	100.0	100.0	†
Gender						
Male	4,418	5,605	26.9	70.8	67.1	-3.7
Female	1,821	2,749	51.0	29.2	32.9	3.7
Race/ethnicity						
White, non-Hispanic	3,946	4,493	13.9	63.2	53.8	-9.5
Black, non-Hispanic	375	587	56.5	6.0	7.0	1.0
Hispanic	191	256	34.0	3.1	3.1	#
Asian or Pacific Islander	1,252	1,936	54.6	20.1	23.2	3.1
American Indian/Alaska Native	27	30	11.1	0.4	0.4	-0.1
Unknown/missing	448	1,052	134.8	7.2	12.6	5.4
Education	31,706	31,909	0.6	100.0	100.0	†
Gender						
Male	4,657	4,738	1.7	14.7	14.8	0.2
Female	27,049	27,171	0.5	85.3	85.2	-0.2
Race/ethnicity						
White, non-Hispanic	25,410	23,794	-6.4	80.1	74.6	-5.6
Black, non-Hispanic	2,637	2,819	6.9	8.3	8.8	0.5
Hispanic	1,468	1,809	23.2	4.6	5.7	1.0
Asian or Pacific Islander	491	774	57.6	1.5	2.4	0.9
American Indian/Alaska Native	150	204	36.0	0.5	0.6	0.2
Unknown/missing	1,550	2,509	61.9	4.9	7.9	3.0

See notes at end of table.

Table 6. Master's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all master's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all master's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Engineering and engineering-related technologies	17,955	15,911	-11.4	100.0	100.0	†
Gender						
Male	14,541	12,348	-15.1	81.0	77.6	-3.4
Female	3,414	3,563	4.4	19.0	22.4	3.4
Race/ethnicity						
White, non-Hispanic	13,169	10,857	-17.6	73.3	68.2	-5.1
Black, non-Hispanic	735	802	9.1	4.1	5.0	0.9
Hispanic	696	733	5.3	3.9	4.6	0.7
Asian or Pacific Islander	2,352	2,219	-5.7	13.1	13.9	0.8
American Indian/Alaska Native	54	60	11.1	0.3	0.4	0.1
Unknown/missing	949	1,240	30.7	5.3	7.8	2.5
Foreign languages and literature	721	521	-27.7	100.0	100.0	†
Gender						
Male	241	140	-41.9	33.4	26.9	-6.6
Female	480	381	-20.6	66.6	73.1	6.6
Race/ethnicity						
White, non-Hispanic	541	390	-27.9	75.0	74.9	-0.2
Black, non-Hispanic	16	9	-43.8	2.2	1.7	-0.5
Hispanic	60	51	-15.0	8.3	9.8	1.5
Asian or Pacific Islander	42	33	-21.4	5.8	6.3	0.5
American Indian/Alaska Native	2	4	100.0	0.3	0.8	0.5
Unknown/missing	60	34	-43.3	8.3	6.5	-1.8

See notes at end of table.

Table 6. Master's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all master's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all master's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Health professions and related sciences	19,053	26,123	37.1	100.0	100.0	†
Gender						
Male	4,726	6,357	34.5	24.8	24.3	-0.5
Female	14,327	19,766	38.0	75.2	75.7	0.5
Race/ethnicity						
White, non-Hispanic	15,590	19,567	25.5	81.8	74.9	-6.9
Black, non-Hispanic	900	1,572	74.7	4.7	6.0	1.3
Hispanic	541	1,078	99.3	2.8	4.1	1.3
Asian or Pacific Islander	1,103	2,228	102.0	5.8	8.5	2.7
American Indian/Alaska Native	83	119	43.4	0.4	0.5	#
Unknown/missing	836	1,559	86.5	4.4	6.0	1.6
Mathematics	2,743	2,201	-19.8	100.0	100.0	†
Gender						
Male	1,548	1,244	-19.6	56.4	56.5	0.1
Female	1,195	957	-19.9	43.6	43.5	-0.1
Race/ethnicity						
White, non-Hispanic	2,114	1,602	-24.2	77.1	72.8	-4.3
Black, non-Hispanic	157	117	-25.5	5.7	5.3	-0.4
Hispanic	63	81	28.6	2.3	3.7	1.4
Asian or Pacific Islander	248	226	-8.9	9.0	10.3	1.2
American Indian/Alaska Native	14	9	-35.7	0.5	0.4	-0.1
Unknown/missing	147	166	12.9	5.4	7.5	2.2

See notes at end of table.

Table 6. Master's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all master's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all master's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Nursing	11,347	10,972	-3.3	100.0	100.0	†
Gender						
Male	854	1,264	48.0	7.5	11.5	4.0
Female	10,493	9,708	-7.5	92.5	88.5	-4.0
Race/ethnicity						
White, non-Hispanic	9,541	8,518	-10.7	84.1	77.6	-6.4
Black, non-Hispanic	647	856	32.3	5.7	7.8	2.1
Hispanic	280	364	30.0	2.5	3.3	0.8
Asian or Pacific Islander	321	516	60.7	2.8	4.7	1.9
American Indian/Alaska Native	66	60	-9.1	0.6	0.5	#
Unknown/missing	492	658	33.7	4.3	6.0	1.7
Physical sciences	3,818	3,531	-7.5	100.0	100.0	†
Gender						
Male	2,553	2,199	-13.9	66.9	62.3	-4.6
Female	1,265	1,332	5.3	33.1	37.7	4.6
Race/ethnicity						
White, non-Hispanic	3,102	2,783	-10.3	81.2	78.8	-2.4
Black, non-Hispanic	142	136	-4.2	3.7	3.9	0.1
Hispanic	106	138	30.2	2.8	3.9	1.1
Asian or Pacific Islander	303	241	-20.5	7.9	6.8	-1.1
American Indian/Alaska Native	15	19	26.7	0.4	0.5	0.1
Unknown/missing	150	214	42.7	3.9	6.1	2.1

See notes at end of table.

Table 6. Master's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all master's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all master's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Protective services and criminal justice	1,817	3,002	65.2	100.0	100.0	†
Gender						
Male	1,067	1,612	51.1	58.7	53.7	-5.0
Female	750	1,390	85.3	41.3	46.3	5.0
Race/ethnicity						
White, non-Hispanic	1,410	2,027	43.8	77.6	67.5	-10.1
Black, non-Hispanic	251	449	78.9	13.8	15.0	1.1
Hispanic	57	155	171.9	3.1	5.2	2.0
Asian or Pacific Islander	28	58	107.1	1.5	1.9	0.4
American Indian/Alaska Native	7	24	242.9	0.4	0.8	0.4
Unknown/missing	64	289	351.6	3.5	9.6	6.1

See notes at end of table.

Table 6. Master's degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all master's degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all master's degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Social work	15,216	15,426	1.4	100.0	100.0	†
Gender						
Male	2,513	2,117	-15.8	16.5	13.7	-2.8
Female	12,703	13,309	4.8	83.5	86.3	2.8
Race/ethnicity						
White, non-Hispanic	11,247	10,543	-6.3	73.9	68.3	-5.6
Black, non-Hispanic	1,872	2,347	25.4	12.3	15.2	2.9
Hispanic	820	1,082	32.0	5.4	7.0	1.6
Asian or Pacific Islander	433	503	16.2	2.8	3.3	0.4
American Indian/Alaska Native	136	148	8.8	0.9	1.0	0.1
Unknown/missing	708	803	13.4	4.7	5.2	0.6

† Not applicable.

Rounds to zero.

¹Within each area of need, degree completions by gender and race are presented as a percentage of the total degrees awarded in that area of need in order to present a distribution of degree completions within that field of study.

NOTES: Detail may not sum to totals because of rounding. Foreign languages and literature were limited to general foreign languages and literatures, linguistics, foreign language interpretation and translation. Discrepancies between the total number of completions in areas of national need and the total number of degree completions found in the Digest of Education Statistics may be attributed to the limited fields included in areas of national need. The total degrees completed have been adjusted to exclude those completed by nonresident alien students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS:2002).

Table 7. Doctoral degree completions, by areas of national need: Academic years 1996–97 and 2001–02

Areas of national need	Number of all doctoral degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all doctoral degrees completed		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
All doctoral degrees	34,199	33,220	-2.9	100.0	100.0	†
All areas of national need	14,007	12,939	-7.6	41.0	38.9	-2.0
Agriculture and conservation sciences	396	395	-0.3	1.2	1.2	#
Biological and life sciences	3,510	3,393	-3.3	10.3	10.2	#
Computer and information sciences	498	428	-14.1	1.5	1.3	-0.2
Education	469	355	-24.3	1.4	1.1	-0.3
Engineering and engineering-related technologies	3,168	2,267	-28.4	9.3	6.8	-2.4
Foreign languages and literature	168	111	-33.9	0.5	0.3	-0.2
Health professions and related sciences	1,562	2,446	56.6	4.6	7.4	2.8
Mathematics	618	453	-26.7	1.8	1.4	-0.4
Nursing	437	414	-5.3	1.3	1.2	#
Physical sciences	2,894	2,396	-17.2	8.5	7.2	-1.2
Protective services and criminal justice	43	55	27.9	0.1	0.2	#
Social work	244	226	-7.4	0.7	0.7	#

† Not applicable.

Rounds to zero.

NOTES: Detail may not sum to totals because of rounding. Foreign languages and literature were limited to general foreign languages and literatures, linguistics, foreign language interpretation and translation. Discrepancies between the total number of completions in areas of national need and the total number of degree completions found in the Digest of Education Statistics may be attributed to the limited fields included in areas of national need. The total degrees completed have been adjusted to exclude those completed by nonresident alien students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS:2002).

Table 8. Doctoral degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02

Areas of national need, gender and race/ethnicity	Number of all doctoral degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all doctoral degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
All doctoral degrees	34,199	33,220	-2.9	100.0	100.0	†
Gender						
Male	18,420	16,206	-12.0	53.9	48.8	-5.1
Female	15,779	17,014	7.8	46.1	51.2	5.1
Race/ethnicity						
White, non-Hispanic	26,982	25,309	-6.2	78.9	76.2	-2.7
Black, non-Hispanic	1,786	2,268	27.0	5.2	6.8	1.6
Hispanic	1,061	1,351	27.3	3.1	4.1	1.0
Asian or Pacific Islander	2,510	2,184	-13.0	7.3	6.6	-0.8
American Indian/Alaska Native	167	175	4.8	0.5	0.5	#
Unknown/missing	1,693	1,933	14.2	5.0	5.8	0.9
All areas of national need	14,007	12,939	-7.6	100.0	100.0	†
Gender						
Male	9,023	7,438	-17.6	64.4	57.5	-6.9
Female	4,984	5,501	10.4	35.6	42.5	6.9
Race/ethnicity						
White, non-Hispanic	10,644	9,937	-6.6	76.0	76.8	0.8
Black, non-Hispanic	414	500	20.8	3.0	3.9	0.9
Hispanic	393	420	6.9	2.8	3.2	0.4
Asian or Pacific Islander	1,724	1,319	-23.5	12.3	10.2	-2.1
American Indian/Alaska Native	43	48	11.6	0.3	0.4	0.1
Unknown/missing	789	715	-9.4	5.6	5.5	-0.1

See notes at end of table.

Table 8. Doctoral degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all doctoral degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all doctoral degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Agriculture and conservation sciences	396	395	-0.3	100.0	100.0	†
Gender						
Male	277	243	-12.3	69.9	61.5	-8.4
Female	119	152	27.7	30.1	38.5	8.4
Race/ethnicity						
White, non-Hispanic	312	337	8.0	78.8	85.3	6.5
Black, non-Hispanic	21	12	-42.9	5.3	3.0	-2.3
Hispanic	15	16	6.7	3.8	4.1	0.3
Asian or Pacific Islander	27	13	-51.9	6.8	3.3	-3.5
American Indian/Alaska Native	2	0	-100.0	0.5	0	-0.5
Unknown/missing	19	17	-10.5	4.8	4.3	-0.5
Biological and life sciences	3,510	3,393	-3.3	100.0	100.0	†
Gender						
Male	1,936	1,866	-3.6	55.2	55.0	-0.2
Female	1,574	1,527	-3.0	44.8	45.0	0.2
Race/ethnicity						
White, non-Hispanic	2,697	2,592	-3.9	76.8	76.4	-0.4
Black, non-Hispanic	97	111	14.4	2.8	3.3	0.5
Hispanic	112	122	8.9	3.2	3.6	0.4
Asian or Pacific Islander	407	385	-5.4	11.6	11.3	-0.2
American Indian/Alaska Native	5	14	180.0	0.1	0.4	0.3
Unknown/missing	192	169	-12.0	5.5	5.0	-0.5

See notes at end of table.

Table 8. Doctoral degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all doctoral degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all doctoral degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Computer and information sciences	498	428	-14.1	100.0	100.0	†
Gender						
Male	404	320	-20.8	81.1	74.8	-6.4
Female	94	108	14.9	18.9	25.2	6.4
Race/ethnicity						
White, non-Hispanic	384	278	-27.6	77.1	65.0	-12.2
Black, non-Hispanic	5	21	320.0	1.0	4.9	3.9
Hispanic	11	19	72.7	2.2	4.4	2.2
Asian or Pacific Islander	66	74	12.1	13.3	17.3	4.0
American Indian/Alaska Native	2	1	-50.0	0.4	0.2	-0.2
Unknown/missing	30	35	16.7	6.0	8.2	2.2
Education	469	355	-24.3	100.0	100.0	†
Gender						
Male	118	85	-28.0	25.2	23.9	-1.2
Female	351	270	-23.1	74.8	76.1	1.2
Race/ethnicity						
White, non-Hispanic	360	267	-25.8	76.8	75.2	-1.5
Black, non-Hispanic	35	40	14.3	7.5	11.3	3.8
Hispanic	19	15	-21.1	4.1	4.2	0.2
Asian or Pacific Islander	24	16	-33.3	5.1	4.5	-0.6
American Indian/Alaska Native	2	3	50.0	0.4	0.8	0.4
Unknown/missing	29	14	-51.7	6.2	3.9	-2.2

See notes at end of table.

Table 8. Doctoral degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all doctoral degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all doctoral degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Engineering and engineering-related technologies	3,168	2,267	-28.4	100.0	100.0	†
Gender						
Male	2,676	1,813	-32.2	84.5	80.0	-4.5
Female	492	454	-7.7	15.5	20.0	4.5
Race/ethnicity						
White, non-Hispanic	2,366	1,597	-32.5	74.7	70.4	-4.2
Black, non-Hispanic	88	80	-9.1	2.8	3.5	0.8
Hispanic	86	88	2.3	2.7	3.9	1.2
Asian or Pacific Islander	456	358	-21.5	14.4	15.8	1.4
American Indian/Alaska Native	12	6	-50.0	0.4	0.3	-0.1
Unknown/missing	160	138	-13.8	5.1	6.1	1.0
Foreign languages and literature	168	111	-33.9	100.0	100.0	†
Gender						
Male	75	41	-45.3	44.6	36.9	-7.7
Female	93	70	-24.7	55.4	63.1	7.7
Race/ethnicity						
White, non-Hispanic	121	86	-28.9	72.0	77.5	5.5
Black, non-Hispanic	2	2	0	1.2	1.8	0.6
Hispanic	11	7	-36.4	6.5	6.3	-0.2
Asian or Pacific Islander	20	11	-45.0	11.9	9.9	-2.0
American Indian/Alaska Native	2	0	-100.0	1.2	0	-1.2
Unknown/missing	12	5	-58.3	7.1	4.5	-2.6

See notes at end of table.

Table 8. Doctoral degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all doctoral degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all doctoral degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Health professions and related sciences	1,562	2,446	56.6	100.0	100.0	†
Gender						
Male	777	939	20.8	49.7	38.4	-11.4
Female	785	1,507	92.0	50.3	61.6	11.4
Race/ethnicity						
White, non-Hispanic	1,054	1,934	83.5	67.5	79.1	11.6
Black, non-Hispanic	50	89	78.0	3.2	3.6	0.4
Hispanic	45	75	66.7	2.9	3.1	0.2
Asian or Pacific Islander	321	233	-27.4	20.6	9.5	-11.0
American Indian/Alaska Native	4	9	125.0	0.3	0.4	0.1
Unknown/missing	88	106	20.5	5.6	4.3	-1.3
Mathematics	618	453	-26.7	100.0	100.0	†
Gender						
Male	438	319	-27.2	70.9	70.4	-0.5
Female	180	134	-25.6	29.1	29.6	0.5
Race/ethnicity						
White, non-Hispanic	483	374	-22.6	78.2	82.6	4.4
Black, non-Hispanic	7	15	114.3	1.1	3.3	2.2
Hispanic	18	9	-50.0	2.9	2.0	-0.9
Asian or Pacific Islander	81	25	-69.1	13.1	5.5	-7.6
American Indian/Alaska Native	2	2	0.0	0.3	0.4	0.1
Unknown/missing	27	28	3.7	4.4	6.2	1.8

See notes at end of table.

Table 8. Doctoral degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all doctoral degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all doctoral degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Nursing	437	414	-5.3	100.0	100.0	†
Gender						
Male	23	27	17.4	5.3	6.5	1.3
Female	414	387	-6.5	94.7	93.5	-1.3
Race/ethnicity						
White, non-Hispanic	373	358	-4.0	85.4	86.5	1.1
Black, non-Hispanic	23	19	-17.4	5.3	4.6	-0.7
Hispanic	7	1	-85.7	1.6	0.2	-1.4
Asian or Pacific Islander	20	15	-25.0	4.6	3.6	-1.0
American Indian/Alaska Native	1	2	100.0	0.2	0.5	0.3
Unknown/missing	13	19	46.2	3.0	4.6	1.6
Physical Sciences	2,894	2,396	-17.2	100.0	100.0	†
Gender						
Male	2,202	1,688	-23.3	76.1	70.5	-5.6
Female	692	708	2.3	23.9	29.5	5.6
Race/ethnicity						
White, non-Hispanic	2,276	1,901	-16.5	78.6	79.3	0.7
Black, non-Hispanic	54	72	33.3	1.9	3.0	1.1
Hispanic	60	63	5.0	2.1	2.6	0.6
Asian or Pacific Islander	288	181	-37.2	10.0	7.6	-2.4
American Indian/Alaska Native	10	9	-10.0	0.3	0.4	#
Unknown/missing	206	170	-17.5	7.1	7.1	#

See notes at end of table.

Table 8. Doctoral degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all doctoral degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all doctoral degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Protective services and criminal justice	43	55	27.9	100.0	100.0	†
Gender						
Male	19	28	47.4	44.2	50.9	6.7
Female	24	27	12.5	55.8	49.1	-6.7
Race/ethnicity						
White, non-Hispanic	33	45	36.4	76.7	81.8	5.1
Black, non-Hispanic	5	5	0.0	11.6	9.1	-2.5
Hispanic	2	1	-50.0	4.7	1.8	-2.8
Asian or Pacific Islander	1	1	0.0	2.3	1.8	-0.5
American Indian/Alaska Native	1	0	-100.0	2.3	0.0	-2.3
Unknown/missing	1	3	200.0	2.3	5.5	3.1

See notes at end of table.

Table 8. Doctoral degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all doctoral degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all doctoral degrees completed ¹		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Social work	244	226	-7.4	100.0	100.0	†
Gender						
Male	78	69	-11.5	32.0	30.5	-1.4
Female	166	157	-5.4	68.0	69.5	1.4
Race/ethnicity						
White, non-Hispanic	185	168	-9.2	75.8	74.3	-1.5
Black, non-Hispanic	27	34	25.9	11.1	15.0	4.0
Hispanic	7	4	-42.9	2.9	1.8	-1.1
Asian or Pacific Islander	13	7	-46.2	5.3	3.1	-2.2
American Indian/Alaska Native	0	2	0.0	0.0	0.9	0.9
Unknown/missing	12	11	-8.3	4.9	4.9	-0.1

† Not applicable.

Rounds to zero.

¹Within each area of need, degree completions by gender and race are presented as a percentage of the total degrees awarded in that area of need in order to present a distribution of degree completions within that field of study.

NOTES: Detail may not sum to totals because of rounding. Foreign languages and literature were limited to general foreign languages and literatures, linguistics, foreign language interpretation and translation. Discrepancies between the total number of completions in areas of national need and the total number of degree completions found in the Digest of Education Statistics may be attributed to the limited fields included in areas of national need. The total degrees completed have been adjusted to exclude those completed by nonresident alien students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS:2002).

Table 9. First-professional degree completions, by areas of national need: Academic years 1996–97 and 2001–02

Areas of national need	Number of all first-professional degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all first-professional degrees completed		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
All first-professional degrees	75,729	78,520	3.7	100.0	100.0	†
Health professions and related sciences	30,724	35,572	15.8	40.6	45.3	4.7

† Not applicable.

NOTES: Detail may not sum to totals because of rounding. Foreign languages and literature were limited to general foreign languages and literatures, linguistics, foreign language interpretation and translation. Discrepancies between the total number of completions in areas of national need and the total number of degree completions found in the Digest of Education Statistics may be attributed to the limited fields included in areas of national need. The total degrees completed have been adjusted to exclude those completed by nonresident alien students. The only first-professional degrees completed in an area of national need were in health professions and related sciences.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS:2002).

Table 10. First-professional degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02

Areas of national need, gender and race/ethnicity	Number of all first-professional degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all first-professional degrees completed		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
All first-professional degrees	75,729	78,520	3.7	100.0	100.0	†
Gender						
Male	43,391	41,242	-5.0	57.3	52.5	-4.8
Female	32,338	37,278	15.3	42.7	47.5	4.8
Race/ethnicity						
White, non-Hispanic	57,781	55,646	-3.7	76.3	70.9	-5.4
Black, non-Hispanic	5,131	5,419	5.6	6.8	6.9	0.1
Hispanic	3,500	3,731	6.6	4.6	4.8	0.1
Asian or Pacific Islander	7,149	9,169	28.3	9.4	11.7	2.2
American Indian/Alaska Native	498	553	11.0	0.7	0.7	0.0
Unknown/missing	1,670	4,002	139.6	2.2	5.1	2.9

See notes at end of table.

Table 10. First-professional degree completions, by areas of national need, gender and race/ethnicity: Academic years 1996–97 and 2001–02—Continued

Areas of national need, gender and race/ethnicity	Number of all first-professional degrees completed		Percentage change between 1996–97 and 2001–02	Percentage of all first-professional degrees completed		Percentage point change between 1996–97 and 2001–02
	1996–97	2001–02		1996–97	2001–02	
Health professions and related sciences ²	30,724	35,572	15.8	100.0	100.0	†
Gender						
Male	17,417	18,240	4.7	56.7	51.3	-5.4
Female	13,307	17,332	30.2	43.3	48.7	5.4
Race/ethnicity						
White, non-Hispanic	22,994	24,182	5.2	74.8	68.0	-6.9
Black, non-Hispanic	1,794	2,101	17.1	5.8	5.9	0.1
Hispanic	1,192	1,418	19.0	3.9	4.0	0.1
Asian or Pacific Islander	4,107	6,482	57.8	13.4	18.2	4.9
American Indian/Alaska Native	194	268	38.1	0.6	0.8	0.1
Unknown/missing	443	1,121	153.0	1.4	3.2	1.7

† Not applicable.

Rounds to zero.

¹Within each area of need, degree completions by gender and race are presented as a percentage of the total degrees awarded in that area of need in order to present a distribution of degree completions within that field of study.

²The only first-professional degrees completed in an area of national need were in health professions and related sciences.

NOTES: Detail may not sum to totals because of rounding. Foreign languages and literature were limited to general foreign languages and literatures, linguistics, foreign language interpretation and translation. Discrepancies between the total number of completions in areas of national need and the total number of degree completions found in the Digest of Education Statistics may be attributed to the limited fields included in areas of national need. The total degrees completed have been adjusted to exclude those completed by nonresident alien students.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS:2002).

Table 11. Students who completed an associate's degree in areas of national need, by selected characteristics: Academic year 1999–2000

Student characteristics	All areas of study	All areas of national need	Computer and information sciences	Engineering and engineering-related technologies	Health professions and related sciences	Nursing
Total	100.0	100.0	100.0	100.0	100.0	100.0
Student age as of 1999						
21 or younger	30.5	26.9	27.9	12.7	19.5	13.4
22 - 24	18.1	19.2	14.1	12.8	24.0	25.6
25 - 29	17.7	19.8	23.3	32.0	16.4	20.4
30 or older	33.8	34.0	34.7	42.5	40.1	40.6
Attendance intensity, Fall 1999						
Full-time	61.1	61.3	53.2	47.5	73.3	47.3
Half-time	26.1	26.3	34.2	17.9	15.9	40.4
Less than half-time	12.8	12.5	12.6	34.7	10.8	12.4
Dependency status, 1999–2000						
Dependent	37.9	35.2	35.8	24.8	31.7	19.6
Independent without Dependent	28.4	28.2	31.8	31.0	29.0	28.4
Independent with Dependent	33.7	36.7	32.4	44.2	39.3	52.0
Income, dependent, 1998						
Less than \$25,000	22.4	24.1	29.9	‡	‡	‡
\$25,000 - \$49,999	26.5	32.0	36.2	‡	‡	‡
\$50,000 - \$79,999	28.7	23.5	22.8	‡	‡	‡
More than \$80,000	22.4	20.4	11.1	‡	‡	‡
Income, independent, 1998						
Less than \$15,000	25.2	24.0	11.7	‡	42.6	15.0
\$15,000 - \$29,999	28.5	27.4	30.6	‡	22.2	39.4
\$30,000 - \$49,999	24.7	24.3	16.6	‡	23.9	29.9
More than \$50,000	21.7	24.4	41.1	‡	11.3	15.7
Institution type						
Public 2-year	65.2	59.3	46.4	53.4	51.3	68.6
Private not-for-profit less-than-4-year	2.3	2.6	3.9	2.2	2.3	2.4
Public 4-year or more	9.4	10.5	5.6	19.5	7.5	14.7
Private not-for-profit 4-year or more	3.5	4.1	6.7	5.2	3.5	3.4
Private for-profit 2-year or more	12.9	17.1	31.9	18.6	29.5	4.8
Attended more than one institution	6.8	6.5	5.6	1.1	5.9	6.0

See notes at end of table.

Table 11. Students who completed an associate's degree in areas of national need, by selected Academic year 1999–2000—Continued

Student characteristics	All areas of study	All areas of national need	Computer and information sciences	Engineering and engineering-related technologies	Health professions and related sciences	Nursing
Cumulative loans through 2000						
Less than \$10,000	84.4	80.1	78.2	78.7	70.9	74.4
\$10,000 - \$14,999	9.0	10.3	12.9	10.0	15.9	10.9
\$15,000 - \$19,999	4.1	7.0	6.6	9.2	11.7	4.8
More than \$20,000	2.5	2.7	2.3	2.1	1.6	10.0
Estimated price of attendance						
Less than \$5,000	29.6	28.2	31.0	38.6	26.3	37.1
\$5,000 - \$9,999	40.7	37.0	18.9	21.0	31.6	43.2
\$10,000 - \$14,999	17.4	20.5	25.6	25.9	21.6	13.8
\$15,000 - \$19,999	8.7	10.6	20.0	13.0	12.9	5.1
More than \$20,000	3.7	3.8	4.6	1.4	7.6	0.8
Received Stafford Loan, 1999–2000						
No Stafford Loan	75.0	71.0	67.1	75.3	62.5	65.6
Received Stafford Loan	25.0	29.0	32.9	24.8	37.5	34.4
Received Perkins Loan, 1999–2000						
No Perkins Loan	98.6	98.7	96.6	100.0	98.8	98.6
Received Perkins Loan	1.4	1.3	3.4	#	1.2	1.4
Received Pell Grant, 1999–2000						
No Pell Grant	76.3	75.6	76.2	84.4	72.8	75.7
Received Pell Grant	23.8	24.4	23.8	15.6	27.2	24.3

‡ Reporting standards not met. (Too few cases for a reliable estimate.)

Rounds to zero.

NOTES: Detail may not sum to totals because of rounding. Degree completers in NPSAS:2000 are students who reported that they completed or intended to complete a degree in 1999–2000. Some students may have completed associate's degrees at 4-year schools that offer both 2-year and 4-year degrees. The following areas contained too few cases and were excluded: agriculture and conservation sciences, education, foreign language and literature, biological and life sciences, mathematics, physical sciences, protective services and criminal justice, and social work. Dependent students are undergraduates under age 24 who are not married, have no dependents, are not veterans, and are not orphans or ward of the courts. Independent students are age 24 or over and students under 24 who are married, have dependents, are veterans, or are an orphan or ward of the courts. Other undergraduates under age 24 are considered to be dependent. For dependent students, income is the income of their parents. Independent student income includes the income of a spouse if the student is married. Prior year (1998) income is used in federal need analysis. Stafford loans include those administered through the Federal Family Education Loan and the William D. Ford Federal Direct Loan program. Students may receive both subsidized and unsubsidized loans. Subsidized loans are need-based and students are not charged interest while they are enrolled. Estimates include students at postsecondary institutions in the 50 states and the District of Columbia.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table 12. Students who completed a bachelor's degree in areas of national need, by selected characteristics: Academic year 1999–2000

Student characteristics	All areas of study	All areas of national need	Agriculture sciences and conservation	Biological and life sciences	Computer and information sciences	Education	Engineering and engineering-related technologies	Foreign languages and literature	Health professions and related sciences	Nursing	Mathematics	Physical sciences	Protective services and criminal justice	Social Work
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Student age as of 1999														
21 or younger	25.3	23.2	23.5	37.6	20.1	22.4	16.9	28.8	19.0	14.2	35.7	38.0	23.3	18.1
22 - 24	42.5	43.5	62.1	44.9	35.3	48.0	53.6	37.7	44.1	29.1	47.7	33.5	38.2	39.9
25 - 29	14.6	15.3	12.7	11.9	18.3	15.1	16.7	15.9	14.5	18.2	6.2	11.4	19.9	14.5
30 or older	17.6	18.1	1.7	5.6	26.2	14.5	12.9	17.6	22.5	38.5	10.4	17.2	18.6	27.5
Attendance intensity, Fall 1999														
Full-time	82.9	84.0	80.5	91.3	75.1	92.0	87.2	74.2	81.1	73.0	86.0	82.1	80.8	85.0
Half-time	13.0	12.5	17.9	6.4	18.7	7.1	9.7	23.7	14.6	19.4	11.1	12.9	16.7	10.5
Less than half-time	4.2	3.5	1.6	2.3	6.3	0.9	3.1	2.0	4.4	7.7	2.8	5.1	2.5	4.5
Dependency status, 1999–2000														
Dependent	56.1	53.1	72.1	68.2	45.6	51.8	59.4	51.7	47.5	34.3	71.8	62.4	46.9	47.4
Independent without Dependent	26.9	27.5	20.2	24.1	30.0	22.0	29.7	38.0	32.2	29.0	13.6	30.7	30.1	29.4
Independent with Dependent	17.0	19.5	7.8	7.7	24.5	26.2	10.9	10.4	20.3	36.7	14.6	7.0	23.0	23.2
Income, dependent, 1998														
Less than \$25,000	11.9	12.9	5.8	13.3	16.7	7.2	15.1	18.8	13.4	15.3	18.0	12.3	14.5	15.3
\$25,000 - \$49,999	22.4	25.3	38.0	26.4	25.2	27.1	24.1	19.5	21.2	22.2	16.8	19.9	33.3	27.8
\$50,000 - \$79,999	28.0	27.7	24.2	24.9	26.2	31.2	23.7	22.5	30.7	27.8	31.6	29.8	31.2	28.8
More than \$80,000	37.7	34.2	31.9	35.5	31.9	34.5	37.2	39.2	34.6	34.7	33.5	38.0	21.1	28.2

See notes at end of table.

Table 12. Students who completed a bachelor's degree in areas of national need, by selected characteristics: Academic year 1999–2000—Continued

Student characteristics	All areas of study	All areas of national need	Agriculture and conservation	Biological and life sciences	Computer and information sciences	Educational technologies	Engineering and engineering-related technologies	Foreign languages and literature	Health professions and related sciences	Nursing	Mathematics	Physical sciences	Protective services and criminal justice	Social Work
Income, independent, 1998														
Less than \$15,000	38.6	41.3	76.0	59.6	28.2	43.5	50.9	37.4	46.0	23.6	36.6	46.1	35.6	35.1
\$15,000 - \$29,999	23.0	22.9	16.2	22.9	29.9	22.7	18.0	29.4	25.9	14.0	36.1	12.9	23.9	33.1
\$30,000 - \$49,999	17.8	17.8	7.8	10.1	15.1	19.3	15.7	21.1	11.7	30.3	11.8	36.7	20.2	12.2
More than \$50,000	20.7	18.0	#	7.4	26.8	14.5	15.5	12.1	16.4	32.1	15.6	4.3	20.3	19.6
Institution type														
Public 4-year or more	62.6	66.4	92.0	64.5	58.5	63.2	76.5	68.8	67.1	61.6	57.4	65.0	70.2	64.3
Private not-for-profit 4-year or more	29.8	27.4	5.1	29.2	32.0	29.8	17.5	27.0	27.3	34.4	37.1	26.0	26.1	29.5
Private for-profit 2-year or more	1.3	0.7	#	#	5.3	#	0.5	#	#	0.8	#	#	#	#
Attended more than one institution	6.3	5.5	2.9	6.3	4.3	7.0	5.5	4.3	5.6	3.2	5.5	9.0	3.7	6.3
Cumulative loans through														
Less than \$10,000	54.7	52.7	48.8	56.2	55.5	45.7	61.2	59.0	48.8	52.8	53.1	55.3	48.4	55.0
\$10,000 - \$14,999	12.0	11.5	16.4	11.9	12.9	13.0	9.1	12.3	8.9	10.1	10.1	11.4	15.2	11.4
\$15,000 - \$19,999	16.2	16.9	13.2	17.4	14.1	23.7	11.0	15.3	18.8	14.2	17.9	16.5	14.5	14.5
More than \$20,000	17.1	19.0	21.6	14.6	17.5	17.5	18.7	13.4	23.6	22.9	18.9	16.8	21.9	19.1
Estimated price of attendance														
Less than \$5,000	12.1	11.0	14.3	8.9	11.1	8.9	10.8	10.1	10.0	16.8	6.0	5.8	17.3	16.2
\$5,000 - \$9,999	24.5	25.7	27.3	20.3	26.8	30.9	26.2	21.0	28.6	22.7	21.5	21.8	26.1	16.6
\$10,000 - \$14,999	33.2	35.0	42.3	38.0	31.7	34.7	36.4	45.1	31.0	29.6	29.8	45.2	33.9	41.1
\$15,000 - \$19,999	11.9	11.9	5.9	9.8	15.0	10.3	12.6	4.0	14.4	14.9	15.4	5.6	10.6	15.8
More than \$20,000	18.4	16.4	10.3	23.1	15.4	15.2	14.1	19.9	16.1	16.0	27.2	21.6	12.3	10.3

See notes at end of table.

Table 12. Students who completed a bachelor's degree in areas of national need, by selected characteristics: Academic year 1999–2000—Continued

Student characteristics	All areas of study	All areas of national need	Agriculture and conservation	Biological and life sciences	Computer and information sciences	Education	Engineering and engineering-related technologies	Foreign languages and literature	Health professions and related sciences	Nursing	Mathematics	Physical sciences	Protective services and criminal justice	Social Work
Received Stafford Loan, 1999–2000														
No Stafford Loan	56.4	52.6	47.0	56.9	55.9	45.4	61.7	52.3	49.8	54.6	55.4	56.8	45.5	49.8
Received Stafford Loan	43.6	47.4	53.0	43.1	44.1	54.6	38.3	47.7	50.2	45.4	44.6	43.2	54.5	50.2
Received Perkins Loan, 1999–2000														
No Perkins Loan	94.6	94.1	93.2	94.2	94.5	95.3	95.4	94.2	94.0	93.2	89.8	91.8	94.3	90.8
Received Perkins Loan	5.4	5.9	6.8	5.8	5.5	4.7	4.6	5.8	6.0	6.8	10.2	8.2	5.7	9.2
Received Pell Grant, 1999–2000														
No Pell Grant	79.5	76.6	74.8	79.8	78.6	72.0	80.3	71.6	74.7	81.7	74.9	76.7	74.5	73.6
Received Pell Grant	20.5	23.5	25.3	20.2	21.4	28.0	19.7	28.4	25.3	18.3	25.1	23.3	25.5	26.5

Rounds to zero.

NOTES: Detail may not sum to totals because of rounding. Degree completers in NPSAS:2000 are students who reported that they completed or intended to complete a degree in 1999–2000. Dependent students are undergraduates under age 24 who are not married, have no dependents, are not veterans, and are not orphans or ward of the courts. Independent students are age 24 or over and students under 24 who are married, have dependents, are veterans, or are an orphan or ward of the courts. Other undergraduates under age 24 are considered to be dependent. For dependent students, income is the income of their parents. Independent student income includes the income of a spouse if the student is married. Prior year (1998) income is used in federal need analysis. Stafford loans include those administered through the Federal Family Education Loan program (FFELP) and the William D. Ford Federal Direct Loan program. Students may receive both subsidized and unsubsidized loans. Subsidized loans are need-based and students are not charged interest while they are enrolled. Estimates include students at postsecondary institutions in the 50 states and the District of Columbia.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Table 13. Students who completed a master's, doctoral or first-professional degree in areas of national need, by selected characteristics: Academic year 1999–2000

Student characteristics	All areas of study	All areas of need	Biological and life sciences	Computer and information sciences	Education	Engineering and engineering-related technologies	Health professions and related sciences	Nursing	Physical sciences	Social Work
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Student age as of 1999										
21 or younger	#	#	#	#	#	#	#	#	#	#
22 - 24	13.0	14.0	19.3	14.1	8.8	16.9	20.4	#	12.7	13.0
25 - 29	38.1	42.8	47.5	35.8	35.7	48.8	56.3	17.1	45.6	38.1
30 or older	48.8	43.2	33.2	50.1	55.6	34.0	23.3	82.9	41.8	48.8
Attendance intensity, Fall 1999										
Full-time	56.3	62.0	77.0	50.9	39.6	58.1	83.2	51.0	76.1	87.8
Half-time	25.3	19.6	19.0	36.1	29.5	11.9	9.4	20.8	7.4	11.6
Less than half-time	18.4	18.4	4.0	13.0	30.9	30.0	7.3	28.3	16.5	0.6
Dependency status, 1999–2000										
Dependent	†	†	†	†	†	†	†	†	†	†
Independent without Dependent	62.9	64.5	73.6	64.8	49.5	80.4	75.8	48.3	65.7	65.2
Independent with Dependent	37.1	35.5	26.4	35.2	50.5	19.6	24.2	51.7	34.3	34.8
Income, dependent, 1998										
Less than \$25,000	†	†	†	†	†	†	†	†	†	†
\$25,000 - \$49,999	†	†	†	†	†	†	†	†	†	†
\$50,000 - \$79,999	†	†	†	†	†	†	†	†	†	†
More than \$80,000	†	†	†	†	†	†	†	†	†	†
Income, independent, 1998										
Less than \$15,000	26.5	31.5	33.0	22.6	14.4	37.0	56.2	10.3	32.2	32.8
\$15,000 - \$29,999	17.8	18.8	37.6	19.2	12.8	23.3	16.5	2.9	43.5	28.9
\$30,000 - \$49,999	18.5	16.4	10.6	17.4	21.2	9.8	14.4	13.1	16.5	15.0
More than \$50,000	37.2	33.3	18.7	40.8	51.7	30.0	12.9	73.7	7.8	23.3

See notes at end of table.

Table 13. Students who completed a master's, doctoral or first-professional degree in areas of national need, by selected characteristics: Academic year 1999–2000—Continued

Student characteristics	All areas of study	All areas of need	Biological and life sciences	Computer and information sciences	Education	Engineering and engineering-related technologies	Health professions and related sciences	Nursing	Physical sciences	Social Work
Institution type										
Public 4-year or more	53.6	59.5	51.8	46.7	60.9	63.5	60.9	57.1	73.4	61.2
Private not-for-profit 4-year or more	41.2	36.1	45.6	36.2	34.9	34.9	37.5	35.4	26.0	37.9
Private for-profit 2-year or more	2.6	1.5	#	11.9	#	#	0.2	5.6	#	#
Attended more than one institution	2.7	2.9	2.6	5.3	4.3	1.6	1.3	1.9	0.7	1.0
Cumulative loans through 2000										
Less than \$10,000	56.0	56.5	68.8	68.5	71.8	84.2	26.7	54.0	71.4	29.4
\$10,000 - \$14,999	6.4	5.0	12.0	5.8	5.1	0.9	3.7	10.5	#	3.8
\$15,000 - \$19,999	5.5	5.8	3.3	6.3	6.0	7.8	2.9	6.3	11.2	5.8
More than \$20,000	32.1	32.8	15.9	19.5	17.2	7.1	66.7	29.2	17.4	60.9
Estimated price of attendance										
Less than \$5,000	15.2	15.1	9.6	6.1	25.6	16.8	6.8	27.3	7.6	5.8
\$5,000 - \$9,999	19.7	17.4	9.4	24.7	26.0	25.7	8.4	16.7	2.0	4.6
\$10,000 - \$14,999	16.5	16.4	19.4	17.6	20.8	6.4	11.5	21.4	25.7	19.4
\$15,000 - \$19,999	18.1	19.7	26.4	23.5	14.5	23.9	18.8	20.5	24.7	22.8
More than \$20,000	30.6	31.4	35.2	28.2	13.1	27.3	54.5	14.1	40.2	47.5

See notes at end of table.

Table 13. Students who completed a master's, doctoral or first-professional degree in areas of national need, by selected characteristics: Academic year 1999–2000—Continued

Student characteristics	All areas of study	All areas of need	Biological and life sciences	Computer and information sciences	Education	Engineering and engineering-related technologies	Health professions and related sciences	Nursing	Physical sciences	Social Work
Received Stafford Loan, 1999–2000										
No Stafford Loan	68.2	67.8	83.4	80.8	81.5	93.7	37.7	63.7	89.3	36.1
Received Stafford Loan	31.8	32.2	16.6	19.2	18.5	6.3	62.3	36.4	10.7	63.9
Received Perkins Loan, 1999–2000										
No Perkins Loan	96.5	96.6	99.4	100.0	99.1	100.0	90.4	100.0	100.0	91.3
Received Perkins Loan	3.5	3.4	0.6	#	1.0	#	9.6	#	#	8.7

Rounds to zero.

† Not applicable.

NOTES: Detail may not sum to totals because of rounding. Degree completers in NPSAS:2000 are students who reported that they completed or intended to complete a degree in 1999–2000. The following areas contained too few cases and were excluded: agriculture and conservation sciences, foreign languages and literature, mathematics, and protective services and criminal justice. Independent students are age 24 or over and students under 24 who are married, have dependents, are veterans, or are an orphan or ward of the courts. Other undergraduates under age 24 are considered to be dependent. Independent student income includes the income of a spouse if the student is married. Prior year (1998) income is used in federal need analysis. Stafford loans include those administered through the Federal Family Education Loan program (FFELP) and the William D. Ford Federal Direct Loan program. Students may receive both subsidized and unsubsidized loans. Subsidized loans are need-based and students are not charged interest while they are enrolled. Estimates include students at postsecondary institutions in the 50 states and the District of Columbia.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

References

- U.S. Department of Education, National Center for Education Statistics. (1993). *A Note from the Chief Statistician*, no. 2.
- U.S. Department of Education, National Center for Education Statistics. (2002a). *National Postsecondary Student Aid Study, 1999–2000 (NPSAS:2000), CATI Nonresponse Bias Analysis Report* (NCES 2002-03) Washington, DC: U.S. Government Printing Office.
- U.S. Department of Education, National Center for Education Statistics. (2002b). *National Postsecondary Student Aid Study, 1999–2000 (NPSAS:2000), Methodology Report* (NCES 2002-152). Washington, DC: U.S. Government Printing Office.
- U.S. Department of Education, National Center for Education Statistics. (2003). *Postsecondary Institutions in the United States: Fall 2001 and Degrees and Other Awards Conferred 2000–01* (NCES 2003-158). Washington, DC: U.S. Government Printing Office.
- U.S. Department of Education, Office of Postsecondary Education. (2004). *Meeting the Highly Qualified Teachers Challenge: The Secretary's Third Annual Report on Teacher Quality*. Washington, DC: U.S. Government Printing Office.

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix A—Glossary of Variables and Terms

This appendix describes the IPEDS:2002 and NPSAS:2000 data used in this E.D. Tab. The items were taken directly from the National Center for Education Statistics' Data Analysis System (DAS). The DAS is a web-based NCES analysis tool that generates tables from the data available in IPEDS:2002 and NPSAS:2000. (See appendix B for a description of the DAS.) In the index below, the variables are organized by each data source and then listed in the order in which they are discussed in the text. The glossary presents variables and terms in alphabetical order by variable name (displayed in capital letters to the right of the label below).

GLOSSARY INDEX (IPEDS)

COMPLETIONS

Award level.....AWLEVEL
Areas of national needCIPAREA
Total degrees awarded, 2001–02CRACE24A
Total degrees awarded, Male, 2001–02 ...CRACE15A
Total degrees awarded, Female,
2001–02CRACE16A
Total degrees awarded, Black,
non-Hispanic, 2001–02CRACE18A
Total degrees awarded, Hispanic
2001–02CRACE19A
Total degrees awarded, Asian or
Pacific Islander, 2001–02CRACE20A
Total degrees awarded, American Indian/
Alaska Native, 2001–02CRACE21A
Total degrees awarded, White,
non-Hispanic, 2001–02CRACE22A
Total degrees awarded, Unknown,
2001–02CRACE23A
Total degrees awarded, 1996–97CRACE24B
Total degrees awarded, Male, 1996–97 ...CRACE15B
Total degrees awarded, Female,
1996–97CRACE16B
Total degrees awarded, Black,
non-Hispanic, 1996–97CRACE18B
Total degrees awarded, Hispanic,
1996–97CRACE19B

Total degrees awarded, Asian or
Pacific Islander, 1996–97CRACE20B
Total degrees awarded, American Indian/
Alaska Native, 1996–97CRACE21B
Total degrees awarded, White,
non-Hispanic, 1996–97CRACE22B
Total degrees awarded, Unknown,
1996–97CRACE23B

INSTITUTIONAL CHARACTERISTICS

Sector of institutions, 2001–02 SECTOR
Carnegie Classification, 2000 CARNEG
Total enrollment, fall 2001EFRACE24
Percentage of first-time, full-time, degree/
certificate seeking undergraduates
receiving federal grants, 2001–02 FGRNT_P
In-state average tuition for full-time
undergraduates, 2001–02 TUITION2
In-state tuition for full-time graduates,
2001–02 TUITION6
Tuition for medical school, 2001–02 ISPROF2
Tuition for dental school, 2001–02 ISPROF3
Tuition for pharmacy school, 2001–02 ISPROF6
Tuition for veterinary school, 2001–02 ISPROF8
Degree of urbanicity, 2001–02 LOCALE
Region, 2001–02 OBEREG

GLOSSARY INDEX (NPSAS)

Degree program, 1999–2000	DEGFIRST	Income of independent students, 1998–99.....	INDEPINC
Graduate degree type, 1999–2000	GRADDEG	Institution type (with multiple), 1999–2000.....	AIDSECT
Field of study/major (99 categories), 1999–2000	MAJORS	Title IV loans excluding PLUS - cumulative through 2000 (NSLDS).....	T4TOXCUM
Student completed degree program, 1999–2000	PROGSTAT	Student budget (attendance adjusted), 1999–2000	BUDGETA2
Age as of 12/31/99.....	AGE	Perkins loan, 1999–2000	PERKAMT
Attendance intensity in fall 1999	ATTEND	Pell Grant total, 1999–2000.....	PELLAMT
Dependency status for financial aid 1999–2000	DEPEND2	Stafford total subsidized + unsubsidized, 1999–2000	STAFFAMT
Income of parents of dependent students, 1998–99	DEPINC	Highest level of offering, 1999–2000	HLOFFER
		Institution state, 1999–2000.....	INSSTATE

GLOSSARY OF IPEDS VARIABLES

Award level

AWLEVEL

The level of degree awarded.

Associate's
 Bachelor's
 Master's
 Doctoral
 First-Professional

Carnegie Classification, 2000

CARNEG

Indicates the 2000 Carnegie Classification code of the reporting institution. The 2000 Carnegie Classification includes all colleges and universities in the United States that are degree-granting and accredited by an agency recognized by the U.S. Secretary of Education. The 2000 edition classifies institutions based on their degree-granting activities from 1995–96 through 1997–98.

- *Doctoral/Research Universities-Extensive*: These institutions typically offer a wide range of baccalaureate programs, and they are committed to graduate education through the doctorate. They award 50 or more doctoral degrees per year across at least 15 disciplines
- *Doctoral/Research Universities-Intensive*: These institutions typically offer a wide range of baccalaureate programs, and they are committed to graduate education through the doctorate. They award at least 10 doctoral degrees per year across three or more disciplines, or at least 20 doctoral degrees per year overall.
- *Master's Colleges and Universities I*: These institutions typically offer a wide range of baccalaureate programs, and they are committed to graduate education through the master's degree. They award 40 or more master's degrees per year across three or more disciplines.
- *Master's (Comprehensive) Colleges and Universities II*: These institutions typically offer a wide range of baccalaureate programs, and they are committed to graduate education through the master's degree. They award 20 or more master's degrees per year.
- *Baccalaureate Colleges-Liberal Arts*: These institutions are primarily undergraduate colleges with major emphasis on baccalaureate programs. They award at least half of their baccalaureate degrees in liberal arts fields.
- *Baccalaureate Colleges-General*: These institutions are primarily undergraduate colleges with major emphasis on baccalaureate programs. They award less than half of their baccalaureate degrees in liberal arts fields.
- *Baccalaureate/Associate's Colleges*: These institutions are undergraduate colleges where the majority of conferrals are at the sub-baccalaureate level (associate's degrees and certificates), but bachelor's degrees account for at least 10 percent of undergraduate awards.
- *Associate's Colleges*: These institutions offer associate's degree and certificate programs but, with few exceptions, award no baccalaureate degrees.
- *Specialized Institutions*: These institutions offer degrees ranging from the bachelor's to the doctorate, and typically award a majority of degrees in a single field. The list includes only institutions that are listed as separate campuses in the Higher Education Directory.¹ Examples of specialized institutions include theological seminaries, medical schools, schools of engineering, law schools, and teachers colleges. This group of institutions also includes tribal colleges.

¹ The Higher Education Directory lists institutions that offer degrees whose accreditations are recognized by the U.S. Secretary of Education and the Council of Higher Education Accreditation (CHEA) approved programs by former COPA and CORPA members. More information can be found online at <http://www.hepinc.com/>.

**DAS Variable
CIPAREA**

Areas of National Need

Those programs of study in which degree recipients are eligible for Title IV loan cancellation, those included in the Minority Science and Engineering Improvement Program (MSEIP), and those in which students are eligible to receive Graduate Assistance in Areas of National Need (GAANN) funding. See Appendix B—Technical Notes and Methodology and table B4 for more details.

Agriculture and conservation sciences (CIP codes: 02 excluding 02.0501; 03.0102; 03.0301; 03.0502; 03.0509; 03.0599)

Computer and information sciences (CIP codes: 11 excluding 11.0301; 30.0601; 30.1501)

Education (CIP codes: 13.02; 13.10 excluding 13.1004; 13.1202; 13.1306; 13.1307; 13.1311; 13.1316; 13.1322; 13.1323; 13.1325; 13.1326; 13.1327; 13.1329; 13.1330; 13.1401)

Engineering and engineering-related technologies (CIP codes: 14; 15)

Foreign languages and literatures (CIP codes: 16.01)

Biological and life sciences (CIP codes: 26; 30.0101; 30.1001; 14.0101; 42.1101)

Mathematics (CIP codes: 27; 30.0801)

Physical sciences: (CIP codes: 40 excluding 40.0799; 41.02; 41.03)

Protective services and criminal justice (CIP codes: 43.01 excluding 43.0109 and 43.0199; 45.0401)

Social work (CIP codes: 44)

Nursing (CIP codes: 51.16)

Health professions and related sciences (CIP codes: 19.0502; 19.0503; 30.11; 51 excluding 51.07, 51.0899, 51.15, 51.16, 51.2206)

Other areas, non-need: (CIP codes: all others not listed above excluding 99)

Total awards (CIP code: 99)

Total degrees awarded, Male, 2001–02	CRACE15A
Total degrees awarded, Female, 2001–02	CRACE16A
Total degrees awarded, Black, non-Hispanic, 2001–02	CRACE18A
Total degrees awarded, Hispanic, 2001–02	CRACE19A
Total degrees awarded, Asian or Pacific Islander, 2001–02	CRACE20A
Total degrees awarded, American Indian/Alaska Native, 2001–02	CRACE21A
Total degrees awarded, White, non-Hispanic, 2001–02	CRACE22A
Total degrees awarded, Unknown, 2001–02	CRACE23A
Total degrees awarded, 2001–02	CRACE24A
Total degrees awarded, Male, 1996–97	CRACE15B
Total degrees awarded, Female, 1996–97	CRACE16B
Total degrees awarded, Black, non-Hispanic, 1996–97	CRACE18B
Total degrees awarded, Hispanic, 1996–97	CRACE19B
Total degrees awarded, Asian or Pacific Islander, 1996–97	CRACE20B
Total degrees awarded, American Indian/Alaska Native, 1996–97	CRACE21B
Total degrees awarded, White, non-Hispanic, 1996–97	CRACE22B
Total degrees awarded, Unknown, 1996–97	CRACE23B
Total degrees awarded, 1996–97	CRACE24B

Total number of degrees awarded by institutions in the study universe as indicated in each label for 1996–97 and 2001–02, qualified by award level (AWLEVEL) and area of national need (CIPAREA).

Total enrollment, fall 2001

EFRACE24

Total head-count enrollment in fall 2001, including undergraduate, graduate and first-professional students.

Less than 1,000

1,000 – 4,999

5,000 – 9,999

10,000 or more

	<i>DAS Variable</i>
<p><i>Percentage of first-time, full-time, degree/certificate seeking undergraduates receiving federal grants, 2001–02</i></p> <p>The percentage of first-time, full-time degree/certificate seeking undergraduate students who received federal grant monies in the 2001–02 academic year.</p> <ul style="list-style-type: none"> Less than 20 30 - 39 40 - 59 60 - 79 80 or more 	<p>FGRNT_P</p>
<p><i>Tuition for medical school, 2001–02</i></p> <p>Tuition charged to students in medical school in 2001–02.</p> <ul style="list-style-type: none"> Less than \$10,000 \$10,000 - \$19,999 \$20,000 or more 	<p>ISPROF2</p>
<p><i>Tuition for dental school, 2001–02</i></p> <p>Tuition charged to students enrolled in dental school in 2001–02.</p> <ul style="list-style-type: none"> Less than \$10,000 \$10,000 - \$19,999 \$20,000 or more 	<p>ISPROF3</p>
<p><i>Tuition for pharmacy school, 2001–02</i></p> <p>Tuition charged to students enrolled in pharmacy school in 2001–02.</p> <ul style="list-style-type: none"> Less than \$10,000 \$10,000 - \$19,999 \$20,000 or more 	<p>ISPROF6</p>
<p><i>Tuition for veterinary school, 2001–02</i></p> <p>Tuition charged to students enrolled in veterinary school in 2001–02.</p> <ul style="list-style-type: none"> Less than \$10,000 \$10,000 - \$19,999 \$20,000 or more 	<p>ISPROF8</p>
<p><i>Degree of urbanicity, 2001–02</i></p> <p>The degree of urbanization of the institution’s location.</p> <ul style="list-style-type: none"> Large City Midsized City Urban Fringe of Large City Urban Fringe of Midsized City Large Town Small Town Rural Not available/assigned 	<p>LOCALE</p>

Region, 2001–02 **DAS Variable**
OBEREG
 Geographic region code.
 US Service schools
 New England CT ME MA NH RI VT
 Mid East DE DC MD NJ NY PA
 Great Lakes IL IN MI OH WI
 Plains IA KS MN MO NE ND SD
 South AL AR FL GA KY LA MS NC SC TN VA WV
 Southwest AZ NM OK TX
 Rocky Mountains CO ID MT UT WY
 Far West AK CA HI NV OR WA
 Outlying areas AS FM GU MH MP PR PW VI

Sector of institutions, 2001–02 **SECTOR**
 One of nine institutional categories resulting from dividing the universe according to control and level.
 Public, less than 2-year
 Public, 2-but-less-than 4-year (2 year)
 Public, 4-year and higher
 Private not-for-profit, less than 2-year
 Private not-for-profit, 2-but-less-than 4-year (2 year)
 Private not-for-profit, 4-year and higher
 Private for-profit, less than 2-year
 Private for-profit, 2-but-less-than 4-year (2 year)
 Private for-profit, 4-year and higher

In-state average tuition for full-time undergraduates, 2001–02 **TUITION2**
 Less than \$5,000
 \$5,000 - \$9,999
 \$10,000 - \$14,999
 \$15,000 - \$19,999
 \$20,000 or more

In-state average tuition for full-time graduates, 2001–02 **TUITION6**
 Less than \$5,000
 \$5,000 - \$9,999
 \$10,000 - \$14,999
 \$15,000 - \$19,999
 \$20,000 or more

GLOSSARY OF NPSAS VARIABLES

Age as of 12/31/99

AGE

Student's age on December 31 of the sampled academic year.

21 or younger

22 - 24

25 - 29

30 or older

Institution type (with multiple), 1999–2000

AIDSECT

Indicates the level and control of the institution attended. Students who attended more than one institution are coded in a separate category.

Public 2-year

Private not-for-profit less-than-4-year

Public 4-year or more

Private not-for-profit 4-year or more

Private for-profit 2-year or more

Attended more than one institution

Attendance intensity in fall 1999

ATTEND

Student's attendance status during the fall term (in September or October, 1999).

Full-time

Half-time

Less than half-time

Student budget (attendance adjusted), 1999–2000

BUDGETA2

The attendance-adjusted student budget at the sampled NPSAS institution for students who attended only one institution and did not change their status from undergraduate to graduate/first-professional during 1999–2000. For full-time students, this is the same as the full-time budget. For less than full-time students, non-tuition costs are reduced and then added to the actual tuition paid.

Less than \$5,000

\$5,000 - \$9,999

\$10,000 - \$14,999

\$15,000 - \$19,999

More than \$20,000

Degree program, 1999–2000

DEGFIRST

Undergraduate degree program, indicating the lower level program if the student was in more than one during the year.

Associate's

Bachelor's

Dependency status for financial aid, 1999–2000

DEPEND2

Student dependency status for financial aid.

Dependent

Independent without Dependent

Independent with Dependent

<p><i>Income of parents of dependent students, 1998–99</i> Dependent student parents’ total income for 1998. Most undergraduates under age 24 are considered to be dependent for financial aid purposes.</p> <ul style="list-style-type: none"> Less than \$25,000 \$25,000 - \$49,999 \$50,000 - \$49,999 \$50,000 - \$79,999 More than \$80,000 	<p><i>DAS Variable</i> DEPINC</p>
<p><i>Graduate degree type, 1999–2000</i> Type of graduate degree program in which the student was enrolled in 1999–2000.</p> <ul style="list-style-type: none"> Master’s Doctorate First-Professional 	<p>GRADDEG</p>
<p><i>Highest level of offering, 1999–2000</i> Highest level of offering at NPSAS institution where the student was sampled.</p> <ul style="list-style-type: none"> Associate’s Bachelor’s Graduate or First-Professional 	<p>HLOFFER</p>
<p><i>Income of independent students, 1998–99</i> Total income of independent students in 1998, including income of a spouse.</p> <ul style="list-style-type: none"> Less than \$15,000 \$15,000 - \$29,999 \$30,000 - \$49,999 More than \$50,000 	<p>INDEPINC</p>
<p><i>Institution state, 1999–2000</i> State where sampled NPSAS institution is located.</p>	<p>INSSTATE</p>
<p><i>Field of study/major (99 categories), 1999–2000</i> The major or field of study of the student during 1999–2000. Lumped into the following categories (for more details, please see Appendix B—Technical Notes and Methodology):</p> <ul style="list-style-type: none"> Agriculture and conservation sciences (MAJORS codes: 010 1; 020 2; 030 3; 031 4) Computer and information sciences (MAJORS codes: 110 20; 112 22) Education (MAJORS codes: 130 25; 131 26; 132 27; 133 28) Engineering and engineering-related technologies (MAJORS codes: 140 31; 141 32; 142 33; 143 34; 144 35; 150 36) Foreign languages and literature (MAJORS codes: 160 37; 161 38; 162 39) Biological and life sciences (MAJORS codes: 260 64; 261 64; 262 64; 264 64; 263 64) Mathematics (MAJORS codes: 270 65; 271 65) Physical sciences (MAJORS codes: 400 74; 401 74; 402 74; 403 74) Protective services and criminal justice (MAJORS codes: 430 76) Social work (MAJORS codes: 440 77) Nursing (MAJORS codes: 175 50; 185 50) Health professions and related sciences (MAJORS codes: 170 40; 171 41; 172 42; 174 44; 180 45; 181 46; 182 47; 183 48; 184 49; 190 54; 193; 53; 194 53; 195 53; 196 56; 197 53) 	<p>MAJORS</p>

<i>Pell Grant total, 1999–2000</i>	<i>DAS Variable</i>
The federal Pell grant amount received at all institutions attended during 1999–2000.	PELLAMT
No Pell Grant	
Received Pell Grant	
<i>Perkins loan, 1999–2000</i>	PERKAMT
Indicates the federal Perkins loan amount received during 1999–2000.	
No Perkins Loan	
Received Perkins Loan	
<i>Student completed degree program, 1999–2000</i>	PROGSTAT
Indicates whether student reported that they completed or expected to complete a degree program in 1999–2000.	
Completed	
<i>Stafford total subsidized + unsubsidized, 1999–2000</i>	STAFFAMT
The total amount of Stafford loans (Direct, FFEL, subsidized, and unsubsidized) received during 1999–2000, including loans borrowed to attend schools other than the NPSAS sample school.	
No Stafford Loan	
Received Stafford Loan	
<i>Title IV loans excluding PLUS - cumulative through 2000 (NSLDS)</i>	T4TOXCUM
The cumulative amount of Title IV loans excluding PLUS borrowed through July 1, 2000.	
Less than \$10,000	
\$10,000 - \$14,999	
\$15,000 - \$19,999	
More than \$20,000	

THIS PAGE INTENTIONALLY LEFT BLANK

Appendix B—Technical Notes and Methodology

Data Sources

The Integrated Postsecondary Education Data System

The Integrated Postsecondary Education Data System (IPEDS) is designed to collect data from postsecondary institutions in the United States (the 50 states and the District of Columbia) and other jurisdictions, such as Puerto Rico.¹ For IPEDS, a postsecondary institution is defined as an organization that is open to the public and has as its primary mission the provision of postsecondary education. IPEDS defines postsecondary education as formal instructional programs with a curriculum designed primarily for students who are beyond the compulsory age for high school. This includes academic, vocational, and continuing professional education programs and excludes institutions that offer only avocational (leisure) and adult basic education programs. Participation in IPEDS is a requirement for institutions that participate in Title IV federal student financial aid programs (such as Pell Grants or Stafford Loans) during the collection year. Title IV schools include traditional colleges and universities, 2-year institutions, and for-profit degree- and non-degree-granting institutions (such as schools of cosmetology), among others. In addition, all U.S. Service Academies are included in IPEDS as if they were Title IV institutions. Institutions that do not participate in Title IV programs may participate in the IPEDS data collection on a voluntary basis. Collection occurs in the fall, winter, and spring, although data collection for each component occurs only once annually. For example, in 2001–02, the Institutional Characteristics and Completions surveys were collected in the fall semester. Institutions were provided with the option to complete the Enrollment component during this cycle, or they could wait until the spring 2002 collection period. Student Financial Aid surveys were collected in the spring.

For this report, a new variable for areas of national need was created from the Completions survey data (see *Areas of National Need Variable* later in this appendix). In addition, the 2001–02 IPEDS Institutional Characteristics (IC), Enrollment (EF) and Student Financial Aid (SFA) components provide information on the characteristics of the institutions in the study universe.

¹ The other jurisdictions surveyed in IPEDS are American Samoa, the Federated States of Micronesia, Guam, Marshall Islands, Northern Marianas, Palau, Puerto Rico, and Virgin Islands.

1999–2000 National Postsecondary Student Aid Study

The 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000) is a comprehensive study of the United States and Puerto Rico conducted by the U.S. Department of Education’s National Center for Education Statistics (NCES) to determine how students and their families pay for postsecondary education (U.S. Department of Education 2002b). It also describes demographic and other characteristics of students enrolled. The institutional sampling frame for NPSAS:2000 was constructed from the 1998–99 Integrated Postsecondary Education Data System (IPEDS) Institutional Characteristics (IC) file and, because NPSAS:2000 also served as the base-year survey for a longitudinal study of baccalaureate recipients, the 1996–97 IPEDS Completions file. Eligible institutions were partitioned into 22 institutional strata based on institutional control, highest level of offering, and percentage of baccalaureate degrees awarded in education. Approximately 1,100 institutions were initially selected for NPSAS:2000, and all but 10 of these institutions were found to be eligible. Sampling frames for selecting students consisted of enrollment lists or data files provided by the institutions for those students enrolled during the NPSAS:2000 year.

The results from NPSAS:2000 are based on a nationally representative sample of all students in postsecondary education institutions, including undergraduate, graduate, and first-professional students. Information was obtained from more than 900 postsecondary institutions on approximately 50,000 undergraduate, 9,000 graduate, and 3,000 first-professional students. These data represented about 16.5 million undergraduates, 2.4 million graduate students, and 300,000 first-professional students who were enrolled at some time between July 1, 1999, and June 30, 2000. Approximately 17 percent of all undergraduates reported that they completed or intended to complete a degree, representing roughly 2.8 million undergraduates. For graduate and first-professional students the reported rate of completion or intended completion was 23 percent, representing just over 600,000 students.²

Accuracy of Estimates

The institution-based statistics in this report are derived from IPEDS:2002, which is a universe survey. The student-based statistics presented in this report are from NPSAS:2000 data and are estimates derived from a sample. Since different accuracy standards apply to each data source, they are discussed separately below.

² This is based on estimates from the NPSAS:2000 Data Analysis System (DAS) using the variable PROGSTAT. See the section titled *National Postsecondary Student Aid Study (NPSAS) Analysis: Selection Criteria* for more details.

Integrated Postsecondary Education Data System

The risk of sampling error does not occur when using a census of an entire population. However, there is still the possibility of nonsampling error. Nonsampling errors can be attributed to a number of sources: inability to obtain complete information about all institutions (i.e., some institutions refused to participate, or participated but answered only certain items); ambiguous definitions; differences in interpreting questions; inability or unwillingness to give correct information; mistakes in recording or coding data; and other errors of collecting, processing, and imputing missing data. To compensate for nonresponse, NCES often makes adjustments, referred to as imputations. Imputations are usually made separately within various groups of institutions that have similar characteristics. If a particular institution responded in previous years, those values may also be used to substitute for a missing response (U.S. Department of Education 2003).

Survey response rates for the universe of institutions in this study were above 95 percent (table B1). Because the data are from a census, the results presented in this report are not weighted.

Table B1. Survey response rates for the institutional universe: 2001–02

	All institutions		Study universe	
	Respondent	Non-respondent	Respondent	Non-respondent
Completions	84.5	15.5	99.2	0.8
Institutional Characteristics	88.2	11.8	98.6	1.4
Fall	88.3	11.7	99.3	0.7
Winter	86.2	13.8	98.9	1.1
Spring	88.0	12.0	99.3	0.7

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS:2002).

National Postsecondary Student Aid Study (NPSAS)

Nonsampling errors occur not only in censuses of entire populations, but also in sample surveys. As outlined above, there are many sources of nonsampling errors for which NCES attempts to adjust. Nonsampling errors in sample surveys can be attributed to a number of sources: inability to obtain complete information about all students in all institutions in the sample (some students or institutions refused to participate, or students participated but answered only certain items); ambiguous definitions; differences in interpreting questions; inability or unwillingness to give correct information; mistakes in recording or coding data; and other errors

of collecting, processing, sampling, and imputing missing data. However, unlike data drawn from a census, estimates derived from a sample also face sampling errors. Sampling errors occur because observations are made only on samples of students, not entire populations.

Overall Weighted Response Rates

For NPSAS:2000, the institutional response rate was 95 percent and the weighted overall student interview response rate was 66 percent (U.S. Department of Education 2002b). The student telephone interview response rate for NPSAS:2000 was less than 70 percent in some institutional sectors and an analysis was conducted to determine whether estimates were significantly biased due to computer-assisted telephone interviewing (CATI) nonresponse. Considerable information was known for CATI nonrespondents and these data were used to analyze and reduce the bias. The distributions of several variables using the design-based, adjusted weights for study respondents (study weights) were found to be biased before CATI nonresponse adjustments. The CATI nonresponse and poststratification procedures, however, reduced the bias for these variables; and the remaining relative bias ranged from 0 to 0.35 percent (U.S. Department of Education 2002a).

The weight variable used for analysis of undergraduates in this report is CATIWT for NPSAS:2000, which includes all undergraduates in the NPSAS surveys who participated in a telephone interview. For graduate and first-professional students, the weight variable used for analysis was WTB00, which applies to all CATI graduate and first-professional respondents. Some of the individual characteristic variables used in this report, such as institutional sector, region, and financial aid amounts, are imputed from non-CATI sources. However, the key variables – field of study (from which areas of national need were lumped) and the program completion flag – were both CATI variables and thus warranted using CATIWT or WTB00 as the weight variables.

Item Response Bias

All the NPSAS:2000 variables used in this report and defined in appendix A had item response rates above 85 percent: see table 4-24 (U.S. Department of Education 2002, table 4-24). Therefore, a bias analysis for individual survey items was not necessary.

Data Analysis System

The estimates presented in this report were produced using the Data Analysis Systems (DAS) the IPEDS:2002 surveys and the NPSAS:2000 surveys (both undergraduate and graduate

and first-professional). The DAS software makes it possible for users to specify and generate their own tables. With the DAS, users can replicate or expand upon the tables presented in this report.

For IPEDS:2002 data, the DAS provides the information for those institutions that responded as well as the number of respondents by institutional sector.

For NPSAS:2000 estimates, the DAS calculates proper standard errors³ and weighted sample sizes in addition to the table estimates. For example, table B2 contains standard errors that correspond to estimates in table 11 in the report. The DAS prints the message “low n” instead of the estimate when the number of valid cases is too small to produce a reliable estimate (fewer than 30 cases). All standard errors for estimates presented in this report can be viewed at <http://nces.ed.gov/das/library/reports.asp>. In addition to tables, the DAS will also produce a correlation matrix of selected variables to be used for linear regression models. Included in the output with the correlation matrix are the design effects (DEFTs) for each variable in the matrix. Since statistical procedures generally compute regression coefficients based on simple random sample assumptions, the standard errors must be adjusted with the design effects to take into account the stratified sampling method used in the NPSAS surveys.

Each DAS can be accessed electronically at <http://nces.ed.gov/DAS>. For more information about the Data Analysis System, contact:

Aurora D’Amico
Postsecondary Studies Division
National Center for Education Statistics
1990 K Street NW
Washington, DC 20006–5652
(202) 502–7334
aurora.d’amico@ed.gov

³ The NPSAS samples are not simple random samples, and therefore, simple random sample techniques for estimating sampling error cannot be applied to these data. The DAS takes into account the complexity of the sampling procedures and calculates standard errors appropriate for such samples. The method for computing sampling errors used by the DAS involves approximating the estimator by the linear terms of a Taylor series expansion. The procedure is typically referred to as the Taylor series method.

Table B2. Standard errors for table 11

Student characteristics	All areas of study	All areas of national need	Computer and information sciences	Engineering and engineering-related technologies	Health professions and related sciences	Nursing
Student age as of 1999						
21 or less	4.41	3.91	5.92	5.35	9.37	2.63
22 - 24	2.74	4.57	7.98	11.41	8.39	6.23
25 - 29	1.99	3.30	9.32	9.79	5.32	10.12
30 or older	3.61	3.16	6.43	12.87	5.69	9.07
Attendance intensity, Fall 1999						
Full-time	3.18	3.71	8.03	14.11	7.11	5.36
Half-time	3.38	4.21	10.56	12.42	6.53	5.68
Less than half-time	1.55	2.10	7.39	13.84	4.42	8.90
Dependency status, 1999–2000						
Dependent	1.74	2.95	8.06	8.41	8.49	9.42
Independent without Dependent	1.22	2.77	9.00	11.22	8.04	13.69
Independent with Dependent	2.01	3.47	5.86	12.84	7.64	10.53
Income, dependent, 1998						
Less than \$25,000	2.89	5.96	4.82	†	†	†
\$25,000 - \$49,999	4.14	7.43	15.55	†	†	†
\$50,000 - \$79,999	1.83	3.06	9.50	†	†	†
More than \$80,000	2.83	4.70	3.86	†	†	†
Income, independent, 1998						
Less than \$15,000	2.12	3.02	5.45	†	5.33	6.58
\$15,000 - \$29,999	2.29	4.18	7.48	†	6.54	8.55
\$30,000 - \$49,999	2.49	4.12	7.24	†	4.18	15.01
More than \$50,000	3.07	3.27	8.79	†	2.46	14.57
Institution type						
Public 2-year	2.45	3.64	9.32	10.85	7.77	5.58
Private not-for-profit less-than-4-year	0.39	0.64	1.88	1.34	1.49	1.78
Public 4-year or more	1.47	2.18	3.45	8.25	4.51	4.38
Private not-for-profit 4-year or more	1.74	2.87	5.38	5.46	4.15	2.71
Private for-profit 2-year or more	2.25	3.87	11.13	10.99	8.73	4.84
Attended more than one institution	0.89	0.90	1.97	0.62	5.59	4.21
Cumulative loans through 2000						
Less than \$10,000	1.44	2.16	6.16	8.40	11.81	7.58
\$10,000 - \$14,999	1.19	1.58	5.87	6.28	7.85	4.48
\$15,000 - \$19,999	0.85	1.58	3.96	5.51	4.21	3.77
More than \$20,000	0.62	0.84	1.62	2.51	1.79	4.94

See notes at end of table.

Table B2. Standard errors for table 11—Continued

Student characteristics	All areas of study	All areas of national need	Computer and information sciences	Engineering and engineering-related technologies	Health professions and related sciences	Nursing
Estimated price of attendance						
Less than \$5,000	1.54	3.72	11.31	13.59	7.79	6.05
\$5,000 - \$9,999	2.51	3.69	8.17	13.20	6.72	8.55
\$10,000 - \$14,999	1.69	2.87	6.80	11.05	4.75	3.67
\$15,000 - \$19,999	1.50	1.60	6.58	7.91	3.10	3.22
More than \$20,000	0.95	1.38	4.75	2.11	4.08	0.73
Received Stafford Loan, 1999–2000						
No Stafford Loan	2.00	2.69	5.05	9.05	5.33	7.35
Received Stafford	2.00	2.69	5.05	9.05	5.33	7.35
Received Perkins Loan, 1999–2000						
No Perkins Loan	0.58	0.61	2.04	†	1.01	1.08
Received Perkins	0.58	0.61	2.04	†	1.01	1.08
Received Pell Grant, 1999–2000						
No Pell Grant	2.87	3.22	5.04	7.54	4.24	8.85
Received Pell Grant	2.87	3.22	5.04	7.54	4.24	8.85

† Not applicable.

SOURCE: U.S. Department of Education, National Center for Education Statistics, 1999–2000 National Postsecondary Student Aid Study (NPSAS:2000).

Integrated Postsecondary Education Data System (IPEDS) Analysis

Study Universe

For the IPEDS portion of the analysis, institutions were limited to all those active institutions in the 2001–02 IPEDS universe that have a Program Participation Agreement (PPA) with the U.S. Department of Education, making them eligible to participate in Title IV programs. This criterion excluded all U.S. Service schools except one from the study universe; the U.S. Merchant Marine Academy is eligible to participate in Title IV programs and was therefore included. Per NCES standards, the variable PSET4FLG was used to determine active status and Title IV eligibility. Seventeen institutions were excepted from this rule. These cases met all other universe criteria in 2001–02 but PSET4FLG = 9 (inactive in the current universe) and the variable for active status, ACT = C (combined with another institution in the study year). These institutions reported no completions data in 2001–02 (it was reported by the institutions with which they merged) but they did report completions data in 1996–97. Excluding them from the universe would have produced lower aggregate totals in 1996–97, resulting in inaccurate measures of the percent change in degree completions between the two study years.⁴

In addition, institutions must have granted associate’s degrees or higher and have been located in the 50 states or the District of Columbia. Six institutional sectors were included in the analysis: public 2-year; public 4-year and above; private not-for-profit 2-year; private not-for-profit 4-year and above; private for-profit 2-year; and private for-profit 4-year.⁵ When taking these criteria into consideration the institutional universe contained 3,855 institutions: 609 public 4-year; 1,475 private not-for-profit, 4-year; and 221 private for-profit, 4-year; 1,045 public 2-year; 111 private not-for-profit 2-year; and 394 private for-profit 2-year (table B3).

Areas of National Need Variable

Since the enactment of the National Defense Education Act of 1958, the federal government has identified certain fields that are crucial to national innovation, competitiveness, and well-being and in which not enough students complete degrees. Amendments to the Higher Education Act (HEA) of 1965 have attempted to encourage students to pursue and complete

⁴ For example, one institution among the 17 granted 56 of the first-professional degrees awarded to Asian/Pacific Islander students in 1996–97. Excluding it from the universe would have resulted a growth rate for that group of 94 percent, as opposed to 38 percent as reported in table 10.

⁵ Note that institutions classified as 4-year institutions may offer only one bachelor’s degree.

Table B3. Characteristics of the institutional universe: 2001–02

Institutional characteristics	All	2-year institutions			4-year institutions		
		Public	Private, not-for-profit	Private, for-profit	Public	Private, not-for-profit	Private, for-profit
Number of institutions	3,855	1,045	111	394	609	1,475	221
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Sector of institution, 2001–02							
Public 4-year	15.8	†	†	†	100.0	†	†
Private not-for-profit, 4-year	38.3	†	†	†	†	100.0	†
Private for-profit, 4-year	5.7	†	†	†	†	†	100.0
Public 2-year	27.1	100.0	†	†	†	†	†
Private not-for-profit, 2-year	2.9	†	100.0	†	†	†	†
Private for-profit, 2-year	10.2	†	†	100.0	†	†	†
Carnegie classification, 2000							
Doctoral/Research Universities	6.7	†	†	†	27.1	6.2	0.9
Master's Colleges and Universities	15.4	†	†	†	44.2	21.6	3.6
Baccalaureate Colleges	14.7	†	†	†	12.6	32.3	5.4
Associates and Baccalaureate/Associates Colleges	38.9	92.5	80.2	79.9	3.0	2.4	33.5
Theological seminaries and other specialized faith-related institutions	6.6	†	†	†	0.0	17.3	0.0
Medical schools and medical centers	1.2	†	†	†	4.4	1.3	0.0
Other separate health profession schools	2.2	†	†	†	0.3	5.1	2.7
Schools of engineering and technology	1.5	†	†	†	1.5	0.8	15.8
Schools of business and management	0.9	†	†	†	0.0	1.9	3.2
Schools of art, music, and design	2.1	†	†	†	0.5	3.6	11.3
Schools of law	0.5	†	†	†	0.3	1.2	0.5
Teachers colleges	0.2	†	†	†	0.2	0.3	0.0
Other specialized institutions	1.3	†	†	†	1.0	2.4	4.5
Tribal Colleges and Universities	0.8	1.5	5.4	†	0.8	0.1	0.0
Not applicable	7.1	5.9	14.4	20.1	4.1	3.5	18.6

See notes at end of table.

Table B3. Characteristics of the institutional universe: 2001–02—Continued

Institutional characteristics	2-year institutions				4-year institutions		
	All	Public	Private, not-for-profit	Private, for-profit	Public	Private, not-for-profit	Private, for-profit
Total enrollment, fall 2001							
Less than 1,000	36.3	11.3	91.7	91.0	5.8	43.9	66.5
1,000 - 4,999	39.2	50.1	8.3	9.0	31.3	46.6	28.2
5,000 - 9,999	12.2	20.6	0.0	0.0	25.7	5.9	3.4
10,000 or more	12.3	17.9	0.0	0.0	37.2	3.6	1.9
Percentage of first-time, full-time, degree/certificate seeking undergraduates receiving federal grants,							
Less than 20	16.1	10.2	13.5	2.2	21.5	24.2	10.2
20 - 39	38.0	41.5	15.4	10.3	49.6	42.3	23.7
40 - 59	26.0	33.6	33.7	27.7	19.5	19.4	37.9
60 - 79	14.2	11.5	23.1	40.8	8.1	9.2	20.9
80 or more	5.7	3.2	14.4	19.0	1.3	4.9	7.3
Tuition for full-time undergraduates, 2001–02							
Less than \$5,000	47.5	96.8	20.8	4.0	88.6	6.1	1.1
\$5,000 - \$9,999	19.9	3.2	60.4	62.9	10.9	22.0	39.7
\$10,000 - \$14,999	15.5	0.0	14.9	24.8	0.5	28.2	49.7
\$15,000 - \$19,999	10.9	0.0	3.0	5.8	0.0	27.3	7.4
\$20,000 or more	6.3	0.0	1.0	2.5	0.0	16.3	2.1
Tuition for full-time graduates, 2001–02							
Less than \$5,000	34.6	†	†	†	73.7	15.4	5.1
\$5,000 - \$9,999	36.2	†	†	†	24.8	41.5	51.3
\$10,000 - \$14,999	15.3	†	†	†	1.2	22.5	19.2
\$15,000 - \$19,999	7.6	†	†	†	0.2	10.5	21.8
\$20,000 or more	6.4	†	†	†	0.2	10.1	2.6

See notes at end of table.

Table B3. Characteristics of the institutional universe: 2001–02—Continued

Institutional characteristics	2-year institutions				4-year institutions		
	All	Public	Private, not-for-profit	Private, for-profit	Public	Private, not-for-profit	Private, for-profit
Tuition for medical school, 2001–02 ¹							
Less than \$10,000	32.7	†	†	†	46.2	0.0	†
\$10,000 - \$19,999	36.4	†	†	†	48.7	6.3	†
\$20,000 or more	30.9	†	†	†	5.1	93.8	†
Tuition for dental school, 2001–02 ¹							
Less than \$10,000	21.3	†	†	†	33.3	0.0	†
\$10,000 - \$19,999	38.5	†	†	†	57.7	4.5	†
\$20,000 or more	40.2	†	†	†	9.0	95.5	†
Tuition for pharmacy school, 2001–02 ¹							
Less than \$10,000	53.8	†	†	†	81.1	0.0	†
\$10,000 - \$19,999	31.3	†	†	†	18.9	55.6	†
\$20,000 or more	15.0	†	†	†	0.0	44.4	†
Tuition for veterinary school, 2001–02 ¹							
Less than \$10,000	51.7	†	†	†	60.0	0.0	†
\$10,000 - \$19,999	37.9	†	†	†	40.0	25.0	†
\$20,000 or more	10.3	†	†	†	0.0	75.0	†
Degree of urbanicity, 2001–02							
Large city	23.6	10.0	32.4	36.3	17.6	27.9	48.4
Midsize city	26.0	23.6	23.4	28.4	31.4	25.3	23.5
Urban fringe of large city	18.9	17.6	20.7	21.3	11.7	21.5	23.1
Urban fringe of midsize city	6.3	6.3	3.6	4.6	8.7	6.4	3.6
Large town	3.6	4.7	0.9	4.6	5.9	2.2	0.5
Small town	15.9	28.9	8.1	3.8	19.7	11.2	0.5
Rural	5.4	8.3	9.9	0.5	4.9	5.3	0.0
Not assigned/not available	0.4	0.6	0.9	0.5	0.2	0.2	0.5

See notes at end of table.

Table B3. Characteristics of the institutional universe: 2001–02—Continued

Institutional characteristics	All	2-year institutions			4-year institutions		
		Public	Private, not-for-profit	Private, for-profit	Public	Private, not-for-profit	Private, for-profit
Region, 2001–02							
US service schools	#	0.0	0.0	0.0	0.2	0.0	0.0
New England (CT, ME, MA, NH, RI, VT)	6.5	3.9	6.3	2.5	6.7	9.9	1.8
Mid East (DE, DC, MD, NJ, NY, PA)	17.3	8.4	31.5	23.9	19.7	21.0	8.6
Great Lakes (IL, IN, MI, OH, WI)	15.4	13.5	10.8	18.5	12.6	18.2	10.0
Plains (IA, KS, MN, MO, NE, ND, SD)	10.7	10.5	10.8	8.9	9.5	11.5	13.1
South (AL, AR, FL, GA, KY, LA, MS, NC, SC, TN, VA, ¹	24.3	32.1	17.1	18.8	25.5	20.3	24.9
Southwest (AZ, NM, OK, TX)	8.8	11.5	6.3	9.9	11.3	5.6	10.9
Rocky Mountains (CO, ID, MT, UT, WY)	3.5	3.8	2.7	5.6	4.9	1.4	8.6
Far West (AK, CA, HI, NV, OR, WA)	13.5	16.3	14.4	11.9	9.5	12.1	22.2

† Not applicable.

Rounds to zero.

¹This reflects only those institutions reporting separate tuition in these areas and who indicated that they had full-time first-professional students. For public institutions, tuition reflects charges for in-state students.

NOTES: Detail may not sum to totals because of rounding. Total headcount enrollment is based on the total number of enrolled students (both undergraduate and graduate, full-time and part-time) reported for fall 1999. Tuition figures reflect only those institutions that reported having full-time undergraduate students or full-time graduate students and used in-state tuition for public 4-year institutions. Tuition for first professional programs reflect only those institutions reporting separate tuition for those programs.

SOURCE: U.S. Department of Education, National Center for Education Statistics, Integrated Postsecondary Education Data System (IPEDS:2002).

degrees in these particular areas of national need through a series of efforts that include loan cancellation and assistance funding. For this E.D. Tab, 12 areas of national need were identified by examining the areas of study for which students become eligible for Title IV loan cancellation and/or become eligible to receive Graduate Assistance in Areas of National Need (GAANN) funding, and the areas of study for which institutions are granted funds under the Minority Science and Engineering Improvement Program (MSEIP). Twelve areas of national need were identified as follows:

1. Agriculture and conservation sciences;
2. Biological and life sciences;
3. Computer and information sciences;
4. Education (elementary, early childhood, special education, mathematics, science, foreign languages, bilingual education);
5. Engineering and engineering-related technologies;
6. Foreign languages and literature (general foreign languages and literatures, linguistics, foreign language interpretation and translation);
7. Health professions and related sciences;
8. Mathematics;
9. Nursing;
10. Physical sciences;
11. Protective services and criminal justice; and
12. Social work.

In order to examine areas of national need, a new variable (CIPAREA) was created and uploaded to the IPEDS:2002 Data Analysis System (DAS) for institutions that met the universe criteria described previously. Based on the Classification of Instruction Program (CIP) 2000 codes, the variable recoded the detailed programs of study into categories that reflected areas of national need. Table B4 describes the specific 6-digit CIP codes included in each of the 12 areas of national need examined in this E.D. Tab. The categorical titles for each of the 12 areas do not reflect the broad 2-digit CIP code areas but rather the specific programs of study that are considered areas of national need. It is important to remember that in some cases codes not included in an area may be relevant; for example, Spanish or mathematics majors may in fact enter into teaching without a degree in education. Indeed, many states now require a content specific major for new teachers seeking certification (U.S. Department of Education 2004).

In addition, degree completion data from 1996–97⁶ were matched to the 2001–02 study universe in order to examine changes in completions over the 5-year period. The same recoding

⁶ Institutions did not need to report completions data in 1996–97 to be included in the study universe.

Table B4. Areas of national need: detailed program areas and data codes

Area of national need	Code	Title
Agriculture Sciences and Conservation		
CIP 2000 codes and program titles		
	2.0101	Agriculture/Agricultural Sciences, General
	2.0102	Agricultural Extension
	2.0201	Animal Sciences, General
	2.0202	Agricultural Animal Breeding and Genetics
	2.0203	Agricultural Animal Health
	2.0204	Agricultural Animal Nutrition
	2.0205	Agricultural Animal Physiology
	2.0206	Dairy Science
	2.0209	Poultry Science
	2.0299	Animal Sciences, Other
	2.0301	Food Sciences and Technology
	2.0401	Plant Sciences, General
	2.0402	Agronomy and Crop Science
	2.0403	Horticulture Science
	2.0405	Plant Breeding and Genetics
	2.0406	Agricultural Plant Pathology
	2.0407	Agricultural Plant Physiology
	2.0408	Plant Protection (Pest Management)
	2.0409	Range Science and Management
	2.0499	Plant Sciences, Other
	2.9999	Agriculture/Agricultural Sciences, Other
	3.0102	Environmental Science/Studies
	3.0301	Fishing and Fisheries Sciences and Management
	3.0502	Forestry Sciences
	3.0509	Wood Science and Pulp/Paper Technology
	3.0599	Forestry and Related Sciences, Other
NPSAS:2000 codes and program titles		
	1	Agriculture
	2	Agricultural Science
	3	Natural Resources
	4	Forestry

See notes at end of table.

Table B4. Areas of national need: detailed program areas and data codes—Continued

Area of national need	Code	Title
Biological Sciences and Life Sciences		
CIP 2000 codes and program titles		
	26.0101	Biology, General
	26.0202	Biochemistry
	26.0203	Biophysics
	26.0301	Botany, General
	26.0305	Plant Pathology
	26.0307	Plant Physiology
	26.0399	Botany, Other
	26.0401	Cell Biology
	26.0402	Molecular Biology
	26.0499	Cell and Molecular Biology, Other
	26.0501	Microbiology/Bacteriology
	26.0601	Anatomy
	26.0603	Ecology
	26.0607	Marine/Aquatic Biology
	26.0608	Neuroscience
	26.0609	Nutritional Sciences
	26.0610	Parasitology
	26.0611	Radiation Biology/Radiobiology
	26.0612	Toxicology
	26.0613	Genetics, Plant and Animal
	26.0614	Biometrics
	26.0615	Biostatistics
	26.0616	Biotechnology Research
	26.0617	Evolutionary Biology
	26.0618	Biological Immunology
	26.0619	Virology
	26.0699	Miscellaneous Biological Specializations, Other
	26.0701	Zoology, General
	26.0702	Entomology
	26.0704	Pathology, Human and Animal
	26.0705	Pharmacology, Human and Animal
	26.0706	Physiology, Human and Animal
	26.9999	Biological Sciences/Life Sciences, Other
	30.0101	Biological and Physical Sciences
	30.1001	Biospsychology
	41.0101	Biological Technology/Technician
	42.1101	Physiological Psychology/Psychobiology
NPSAS:2000 codes and program titles		
	64	Bio Sci: Zoology/Botany/Biophysics/Other

See notes at end of table.

Table B4. Areas of national need: detailed program areas and data codes—Continued

Area of national need	Code	Title
Computer & Information Sciences		
CIP 2000 codes and program titles		
	11.0101	Computer and Information Sciences, General
	11.0201	Computer Programming
	11.0401	Information Sciences and Systems
	11.0501	Computer Systems Analysis
	11.0701	Computer Science
	11.9999	Computer and Information Sciences, Other
	30.0601	Systems Science and Theory
	30.1501	Science, Technology and Society
NPSAS:2000 codes and program titles		
	20	Computer Programming
	22	Computer/Information Sciences
Education		
CIP 2000 codes and program titles		
	13.0201	Bilingual/Bicultural Education
	13.1001	Special Education, General
	13.1003	Education of the Deaf and Hearing Impaired
	13.1005	Education of the Emotionally Handicapped
	13.1006	Education of the Mentally Handicapped
	13.1007	Education of the Multiple Handicapped
	13.1008	Education of the Physically Handicapped
	13.1009	Education of the Blind and Visually Handicapped
	13.1011	Education of the Specific Learning Disabled
	13.1012	Education of the Speech Impaired
	13.1013	Education of the Autistic
	13.1099	Special Education, Other
	13.1202	Elementary Teacher Education
	13.1204	Pre-Elementary/Early Childhood/Kindergarten Teacher
	13.1306	Foreign Languages Teacher Education
	13.1307	Health Teacher Education
	13.1311	Mathematics Teacher Education
	13.1316	Science Teacher Education, General
	13.1322	Biology Teacher Education
	13.1323	Chemistry Teacher Education
	13.1325	French Language Teacher Education
	13.1326	German Language Teacher Education
	13.1327	Health Occupations Teacher Education (Vocational)
	13.1329	Physics Teacher Education
	13.1330	Spanish Language Teacher Education
	13.1401	Teaching English as a Second Language/ Foreign Language

See notes at end of table.

Table B4. Areas of national need: detailed program areas and data codes—Continued

Area of national need	Code	Title
Education—Continued		
NPSAS:2000 codes and program titles		
	25	Education: Early Childhood
	26	Education: Elementary
	27	Education: Secondary
	28	Education: Special
Engineering and Engineering-Related Technologies		
CIP 2000 codes and program titles		
	14.0101	Engineering, General
	14.0201	Aerospace, Aeronautical and Astronautical Engineering
	14.0301	Agricultural Engineering
	14.0401	Architectural Engineering
	14.0501	Bioengineering and Biomedical Engineering
	14.0601	Ceramic Sciences and Engineering
	14.0701	Chemical Engineering
	14.0801	Civil Engineering, General
	14.0802	Geotechnical Engineering
	14.0803	Structural Engineering
	14.0804	Transportation and Highway Engineering
	14.0805	Water Resources Engineering
	14.0899	Civil Engineering, Other
	14.0901	Computer Engineering
	14.1001	Electrical, Electronics and Communications Engineering
	14.1101	Engineering Mechanics
	14.1201	Engineering Physics
	14.1301	Engineering Science
	14.1401	Environmental/Environmental Health Engineering
	14.1501	Geological Engineering
	14.1601	Geophysical Engineering
	14.1701	Industrial/Manufacturing Engineering
	14.1801	Materials Engineering
	14.1901	Mechanical Engineering
	14.2101	Mining and Mineral Engineering
	14.2201	Naval Architecture and Marine Engineering
	14.2301	Nuclear Engineering
	14.2401	Ocean Engineering
	14.2501	Petroleum Engineering
	14.2701	Systems Engineering
	14.2801	Textile Sciences and Engineering
	14.2901	Engineering Design
	14.3001	Engineering/Industrial Management
	14.3101	Materials Science
	14.3201	Polymer/Plastics Engineering
	14.9999	Engineering, Other

See notes at end of table.

Table B4. Areas of national need: detailed program areas and data codes—Continued

Area of national need	Code	Title
Engineering and Engineering-Related Technologies—Continued		
CIP 2000 codes and program titles—Continued		
	15.0101	Architectural Engineering Technology/Technician
	15.0201	Civil Engineering/Civil Technology/Technician
	15.0301	Computer Engineering Technology/Technician
	15.0303	Electrical, Electronic and Communications Engineering
	15.0304	Laser and Optical Technology/Technician
	15.0399	Electrical and Electronic Engineering-Related
	15.0401	Biomedical Engineering-Related Technology/Technician
	15.0402	Computer Maintenance Technology/Technician
	15.0403	Electromechanical Technology/Technician
	15.0404	Instrumentation Technology/Technician
	15.0405	Robotics Technology/Technician
	15.0499	Electromechanical and Instrumentation and Maintenance
	15.0501	Heating, Air Conditioning and Refrigeration Technologies/
	15.0503	Energy Management and Systems
	15.0505	Solar Technology/Technician
	15.0506	Water Quality and Wastewater Treatment
	15.0507	Environmental and Pollution Control
	15.0599	Environmental Control Technologies/Technicians, Other
	15.0603	Industrial/Manufacturing Technology/Technician
	15.0501	Heating, Air Conditioning and Refrigeration
	15.0503	Energy Management and Systems
	15.0505	Solar Technology/Technician
	15.0506	Water Quality and Wastewater Treatment
	15.0507	Environmental and Pollution Control
	15.0599	Environmental Control Technologies/Technicians, Other
	15.0603	Industrial/Manufacturing Technology/Technician
	15.0607	Plastics Technology/Technician
	15.0611	Metallurgical Technology/Technician
	15.0699	Industrial Production Technologies/Technicians, Other
	15.0701	Occupational Safety and Health Technology/Technician
	15.0702	Quality Control Technology/Technician
	15.0799	Quality Control and Safety Technologies/Technicians,
	15.0801	Aeronautical and Aerospace Engineering
	15.0803	Automotive Engineering Technology/Technician
	15.0805	Mechanical Engineering/Mechanical
	15.0901	Mining Technology/Technician
	15.0903	Petroleum Technology/Technician
	15.0999	Mining and Petroleum Technologies/Technicians, Other
	15.1001	Construction/Building Technology/Technician
	15.1101	Engineering Technology/Technician, General
	15.1102	Surveying
	15.1103	Hydraulics/Technology/Technician
	15.9999	Engineering-Related Technologies/Technicians, Other

See notes at end of table.

Table B4. Areas of national need: detailed program areas and data codes—Continued

Area of national need	Code	Title
Engineering and Engineering-Related Technologies—Continued		
NPSAS:2000 codes and program titles		
	31	Engineering: Electrical
	32	Engineering: Chemical
	33	Engineering: Civil
	34	Engineering: Mechanical
	35	Engineering: Other
	36	Engineering Technology
Foreign Languages and Literature		
CIP 2000 codes and program titles		
	16.0101	Foreign Languages and Literatures, General
	16.0102	Linguistics
	16.0103	Foreign Language Interpretation and Translation
NPSAS:2000 codes and program titles		
	37	Spanish
	38	Foreign Language: Non-European
	39	Foreign Language: European: NOT Spanish
Health Professions and Related Sciences		
CIP 2000 codes and program titles		
	19.0502	Foods and Nutrition Science
	19.0503	Dietetics/Human Nutritional Services
	30.1101	Gerontology
	51.0101	Chiropractic (D.C., D.C.M.)
	51.0201	Communication Disorders, General
	51.0202	Audiology/Hearing Sciences
	51.0203	Speech-Language Pathology
	51.0204	Speech Pathology and Audiology
	51.0205	Sign Language Interpreter
	51.0299	Communication Disorders Sciences and Services, Other
	51.0301	Community Health Liaison
	51.0401	Dentistry (D.D.S., D.M.D.)
	51.0501	Dental Clinical Sciences/Graduate Dentistry (M.S., Ph.D.)
	51.0601	Dental Assistant
	51.0602	Dental Hygienist
	51.0603	Dental Laboratory Technician
	51.0699	Dental Services, Other
	51.0801	Medical Assistant
	51.0802	Medical Laboratory Assistant
	51.0803	Occupational Therapy Assistant

See notes at end of table.

Table B4. Areas of national need: detailed program areas and data codes—Continued

Area of national need	Code	Title
Health Professions and Related Sciences—Continued		
CIP 2000 codes and program titles—Continued		
	51.0804	Ophthalmic Medical Assistant
	51.0805	Pharmacy Technician/Assistant
	51.0806	Physical Therapy Assistant
	51.0807	Physician Assistant
	51.0808	Veterinarian Assistant/Animal Health Technician
	51.0901	Cardiovascular Technology/Technician
	51.0902	Electrocardiograph Technology/Technician
	51.0903	Electroencephalograph Technology/Technician
	51.0904	Emergency Medical Technology/Technician
	51.0905	Nuclear Medical Technology/Technician
	51.0906	Perfusion Technology/Technician
	51.0907	Medical Radiologic Technology/Technician
	51.0908	Respiratory Therapy Technician
	51.0909	Surgical/Operating Room Technician
	51.0910	Diagnostic Medical Sonography Technician
	51.0999	Health and Medical Diagnostic and Treatment Services,
	51.1001	Blood Bank Technology/Technician
	51.1002	Cytotechnologist
	51.1003	Hematology Technician/Technician
	51.1004	Medical Laboratory Technician
	51.1005	Medical Technology
	51.1006	Optometric/Ophthalmic Laboratory Technician
	51.1099	Health and Medical Laboratory
	51.1101	Pre-Dentistry Studies
	51.1102	Pre-Medicine Studies
	51.1103	Pre-Pharmacy Studies
	51.1104	Pre-Veterinary Studies
	51.1199	Health and Medical Preparatory Programs, Other
	51.1201	Medicine (M.D.)
	51.1301	Medical Anatomy
	51.1302	Medical Biochemistry
	51.1303	Medical Biomathematics and Biometrics
	51.1304	Medical Physics/Biophysics
	51.1305	Medical Cell Biology
	51.1306	Medical Genetics
	51.1307	Medical Immunology
	51.1308	Medical Microbiology
	51.1309	Medical Molecular Biology
	51.1310	Medical Neurobiology
	51.1311	Medical Nutrition
	51.1312	Medical Pathology
	51.1313	Medical Physiology
	51.1314	Medical Toxicology
	51.1399	Medical Basic Sciences, Other

See notes at end of table.

Table B4. Areas of national need: detailed program areas and data codes—Continued

Area of national need	Code	Title
Health Professions and Related Sciences—Continued		
CIP 2000 codes and program titles—Continued		
	51.1401	Medical Clinical Sciences (M.S., Ph.D.)
	51.1701	Optometry (O.D.)
	51.1801	Opticianry/Dispensing Optician
	51.1802	Optical Technician/Assistant
	51.1803	Ophthalmic Medical Technologist
	51.1804	Orthoptics
	51.1899	Ophthalmic/Optometric Services, Other
	51.1901	Osteopathic Medicine (D.O.)
	51.2001	Pharmacy (B.Pharm., Pharm.D.)
	51.2002	Pharmacy Administration and Pharmaceutics
	51.2003	Medical Pharmacology and Pharmaceutical Sciences
	51.2099	Pharmacy, Other
	51.2101	Podiatry (D.P.M., D.P., Pod.D.)
	51.2201	Public Health, General
	51.2202	Environmental Health
	51.2203	Epidemiology
	51.2204	Health and Medical Biostatistics
	51.2205	Occupational Health and Industrial Hygiene
	51.2207	Public Health Education and Promotion
	51.2299	Public Health, Other
	51.2301	Art Therapy
	51.2302	Dance Therapy
	51.2303	Hypnotherapy
	51.2304	Movement Therapy
	51.2305	Music Therapy
	51.2306	Occupational Therapy
	51.2307	Orthotics/Prosthetics
	51.2308	Physical Therapy
	51.2309	Recreational Therapy
	51.2310	Vocational Rehabilitation Counseling
	51.2399	Rehabilitation/Therapeutic Services, Other
	51.2401	Veterinary Medicine (D.V.M.)
	51.2501	Veterinary Clinical Sciences (M.S., Ph.D.)
	51.2601	Health Aide
	51.2701	Accupuncture and Oriental Medicine
	51.2702	Medical Dietician
	51.2703	Medical Illustrating
	51.2704	Naturopathic Medicine
	51.2705	Psychoanalysis
	51.9999	Health Professions and Related Services, Other
NPSAS:2000 codes and program titles		
	40	Health:Dental/Medical
	41	Health: Community/Mental Health

See notes at end of table.

Table B4. Areas of national need: detailed program areas and data codes—Continued

Area of national need	Code	Title
Health Professions and Related Sciences—Continued		
NPSAS:2000 codes and program titles—Continued		
	42	Health: Physical Education/Recreation
	44	Health: General & Other
	45	Health: Audiology
	46	Health: Clinical Health
	47	Health: Dentistry
	48	Health: Medicine
	49	Health: Veterinary
	53	Health: All other
	54	Health: Dietetics
Mathematics		
CIP 2000 codes and program titles		
	27.0101	Mathematics
	27.0301	Applied Mathematics, General
	27.0302	Operations Research
	27.0399	Applied Mathematics, Other
	27.0501	Mathematical Statistics
	27.9999	Mathematics, Other
	30.0801	Mathematics and Computer Science
NPSAS:2000 codes and program titles		
	65	Mathematics: Including Statistics
Nursing		
CIP 2000 codes and program titles		
	51.1601	Nursing (R.N. Training)
	51.1602	Nursing Administration
	51.1603	Nursing, Adult Health (Post-R.N.)
	51.1604	Nursing Anesthetist (Post-R.N.)
	51.1605	Nursing, Family Practice (Post-R.N.)
	51.1606	Nursing, Maternal/Child Health (Post-R.N.)
	51.1607	Nursing Midwifery (Post-R.N.)
	51.1608	Nursing Science (Post-R.N.)
	51.1609	Nursing, Pediatric (Post-R.N.)
	51.1610	Nursing, Psychiatric/Mental Health (Post-R.N.)
	51.1611	Nursing, Public Health (Post-R.N.)
	51.1612	Nursing, Surgical (Post-R.N.)
	51.1613	Practical Nurse (L.P.N. Training)
	51.1614	Nursing Assistant/Aide
	51.1615	Home Health Aide
	51.1699	Nursing, Other

See notes at end of table.

Table B4. Areas of national need: detailed program areas and data codes—Continued

Area of national need	Code	Title
NPSAS:2000 codes and program titles	50	Health: Nursing
Physical Sciences		
CIP 2000 codes and program titles		
	40.0101	Physical Sciences, General
	40.0201	Astronomy
	40.0301	Astrophysics
	40.0401	Atmospheric Sciences and Meteorology
	40.0301	Astrophysics
	40.0501	Chemistry, General
	40.0502	Analytical Chemistry
	40.0503	Inorganic Chemistry
	40.0504	Organic Chemistry
	40.0505	Medicinal/Pharaceutical Chemistry
	40.0506	Physical and Theoretical Chemistry
	40.0507	Polymer Chemistry
	40.0599	Chemistry, Other
	40.0601	Geology
	40.0602	Geochemistry
	40.0603	Geophysics and Seismology
	40.0604	Paleontology
	40.0699	Geological and Related Sciences, Other
	40.0701	Metallurgy
	40.0702	Oceanography
	40.0703	Earth and Planetary Sciences
	40.0801	Physics, General
	40.0802	Chemical and Atomic/Molecular Physics
	40.0804	Elementary Particle Physics
	40.0805	Plasma and High-Temperature Physics
	40.0806	Nuclear Physics
	40.0807	Optics
	40.0808	Solid State and Low-Temperature Physics
	40.0809	Acousitcs
	40.0810	Theoretical and Mathematical Physics
	40.0899	Physics, Other
	40.9999	Physical Sciences, Other
	41.0204	Industrial Radiologic Technology/Technician
	41.0205	Nuclear/Nuclear Power Technology/Technician
	41.0299	Nuclear and Industrial Radiologic
	41.0301	Chemical Technology/Technician
	41.0399	Physical Science Technologies/Technicians, Other
NPSAS:2000 codes and program titles	74	Physical Sci.: Chemistry/Physics/Other

See notes at end of table.

Table B4. Areas of national need: detailed program areas and data codes—Continued

Area of national need	Code	Title
Protective Services/ Criminal Justice		
CIP 2000 codes and program titles		
	43.0102	Corrections/Correctional Administration
	43.0103	Criminal Justice/Law Enforcement Administration
	43.0104	Criminal Justice Studies
	43.0106	Forensic Technology/Technician
	43.0107	Law Enforcement/Police Science
	45.0401	Criminology
NPSAS:2000 codes and program titles		
	76	Protective Services
Social Work		
CIP 2000 codes and program titles		
	44.0701	Social Work
NPSAS:2000 codes and program titles		
	77	Social Work

NOTES: Areas of study were defined in IPEDS using the 6-digit CIP 2000 codes. Completions data from 1996–97 used codes from CIP 1990, which were revised in 2000. Thus, there is not perfect compatibility between the programs of study included in each year; however, an analysis showed that there is little, if any, impact on the overall findings. CIP 1990 codes are not included here. For more information on the changes, as well as a crosswalk between years, please visit <http://nces.ed.gov/pubs2002/cip2000/>. Programs of study in NPSAS are not as well defined; the NPSAS equivalents present approximate estimates of degree completions in areas of national need. In some cases CIP 2000 codes not included in an area may be relevant; for example, mathematics majors may in fact enter into teaching without a degree in teacher education.

SOURCE: Classification of Instructional Programs 2000, NPSAS:2000.

process was completed in the 1996–97 completions data file using the 1990 CIP codes.⁷ Completion totals were then matched to the 2001–02 institutional universe based on the institutional identification number.

In both years, completions data only count the first major in which a degree was conferred; for students with double majors, the second degree area was not included.⁸ Finally, since areas of national need are a domestic priority and the policies to encourage degree completion in these

⁷ The Completions data from 1996–97 use the CIP codes from 1990, which were revised in 2000. Thus, there is not perfect compatibility between the programs of study included in each year; however, an analysis showed that there is little, if any, impact on the overall findings. For more information on the changes, as well as a crosswalk between years, please visit <http://nces.ed.gov/pubs2002/cip2000/>.

⁸ This was done in order to make both years comparable and may lead to underestimates of the number of degrees awarded in a given area.

areas apply to U.S. citizens only, non-resident alien students were excluded from the completions data in both years.

Definition of Terms

Given the increasing mobility of students across institutions, the analysis looked across all 2- and 4-year institutions to examine aggregate degree awards. The following measures were calculated at the aggregate level:

- *Percentage of total degrees completed* measures the total number of degrees awarded in areas of national need in the given year as a proportion of the total number of degrees awarded in that year. Within each area of need, the total number of degrees awarded to each gender and race/ethnicity in the given year is expressed as a proportion of the total number of degrees awarded in that area in that year.
- *Percentage change between 1996–97 and 2001–02* expresses the change in the number of degrees completed between 1996–97 and 2001–02 as a percentage of the total number of degrees completed in 1996–97 and measures the magnitude at which degrees increased or decreased.
- *Percentage point change* measures the difference between the number of degrees completed in each area of need (expressed as a proportion of the total number of degrees) in 1996–97 and the number of degrees completed in each area of need (expressed as a proportion of the total number of degrees) in 2001–02. This takes into account the increases or decreases in the distribution among total number of degrees awarded over time.

National Postsecondary Student Aid Study (NPSAS) Analysis

Selection Criteria

In order to examine the characteristics of students attending the institutions included in the IPEDS:2002 portion of this analysis, the NPSAS:2000 portion of the study restricted the analysis of undergraduate, graduate, and first-professional students who received degrees and attended institutions that had the same institutional characteristics as those included in the IPEDS:2002 study universe—Title IV institutions located in the 50 states and District of Columbia in the public, private not-for-profit, and private for-profit 2-year and 4-year sectors.⁹ In order to examine the characteristics of students completing degrees, this study used the variable PROGSTAT which indicates whether a student reported that s/he completed or intended to complete a degree in 1999–2000.

⁹ Perfect comparability between the institutional universes in each data source is not possible. This is due to the fact that institutional participation in IPEDS data collection is mandatory, while institutional and student participation in NPSAS surveys is not required.

Areas of National Need

Areas of national need were approximated on basis of the program of study in which the student reported as a major (MAJORS) and broken out into degree type using the degree program in which the student reportedly first enrolled (DEGFIRST). However, using PROGSTAT and DEGFIRST in NPSAS:2000 results only in an approximation of completers by the type of degree completed. Moreover, the data presented in tables 11, 12, and 13 represent approximate equivalents of areas of national need. Programs of study in NPSAS:2000 are not as well defined as they are in IPEDS:2002 and therefore areas of national need are not fully comparable across both data sources. Table B4 presents the codes from the variable MAJORS used to define areas of national need in NPSAS:2000. Moreover, like IPEDS:2002, it is important to recall that some programs of study that are not included in an area of national need may be relevant; for example, students entering teaching may have majored in an area other than education.

Differences Between Estimates

Differences between estimates should be tested against the probability of a Type I error,¹⁰ or significance level. The significance levels can be determined by calculating the Student's t values for the differences between the members of each pair of means or proportions and comparing these with published tables of significance levels for two-tailed hypothesis testing. Student's t values may be computed to test the difference between estimates with the following formula:

$$t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2}} \quad (1)$$

where E_1 and E_2 are the estimates to be compared and se_1 and se_2 are their corresponding standard errors. This formula is valid only for independent estimates. When estimates are not independent, a covariance term must be added to the formula:

$$t = \frac{E_1 - E_2}{\sqrt{se_1^2 + se_2^2 - 2(r)se_1 se_2}} \quad (2)$$

where r is the correlation between the two estimates (U.S. Department of Education 1993). This formula is used when comparing two percentages from a distribution that adds to 100. If the

¹⁰ Type I error occurs when one concludes that a difference observed in a sample reflects a true difference in the population from which the sample was drawn, when no such difference is present.

comparison is between the mean of a subgroup and the mean of the total group, the following formula is used:

$$t = \frac{E_{sub} - E_{tot}}{\sqrt{se_{sub}^2 + se_{tot}^2 - 2p se_{sub}^2}} \quad (3)$$

where p is the proportion of the total group contained in the subgroup.¹¹ The estimates, standard errors, and correlations can all be obtained from the DAS.

There are hazards in reporting statistical tests for each comparison. First, comparisons based on large t statistics may appear to merit special attention. This can be misleading since the magnitude of the t statistic is related not only to the observed differences in means or percentages but also to the number of respondents in the specific categories used for comparison. Hence, a small difference compared across a large number of respondents would produce a large t statistic.

A second hazard in reporting statistical tests is the possibility that one can report a “false positive” or Type I error. In the case of a t statistic, this false positive would result when a difference measured with a particular sample showed a statistically significant difference when there is no difference in the underlying population. Statistical tests are designed to control this type of error, denoted by alpha. The alpha level of .05 selected for findings in this report indicates that a difference of a certain magnitude or larger would be produced no more than 1 time out of 20 when there was no actual difference in the quantities in the underlying population. When we test hypotheses that show t values at the .05 level or smaller, we treat this finding as rejecting the null hypothesis that there is no difference between the two quantities.

¹¹ Ibid.