

U.S. Department of Education
Institute of Education Sciences
NCES 2005-012

Trends in Undergraduate Career Education

Participation in postsecondary education has increased in recent years (U.S. Department of Education 2004, indicator 6). However, since students' postsecondary curricular choices are based in part on labor market demand (Fiorito and Dauffenbach 1982) and this demand typically varies across occupations, not all areas of postsecondary education are likely to increase at the same rate. This Issue Brief examines trends in awarded credentials in career-related areas of study at the subbaccalaureate and baccalaureate levels over a 16-year time period, from 1984–85 to 2000–01.¹

The data used in this Issue Brief are from the Completions Survey of the National Center for Education Statistics (NCES) Integrated Postsecondary Education Data System (IPEDS) and its predecessor, the Higher Education General Information Survey (HEGIS). Both IPEDS and HEGIS are annual universe data collections of postsecondary institutions.² The credential counts in these completions files are categorized here by level, as subbaccalaureate (postsecondary certificates and associate's degrees) and baccalaureate (bachelor's degrees), and by curricular area, based on whether the credential is in an academic field (the traditional liberal arts and sciences) or a career field (occupationally related areas such as engineering, education, and health care).³

Overall Trends

Consistent with trends in enrollments, the number of undergraduate credential awards increased from about 1,600,000 in 1984–85 to about 2,100,000 in 2000–01. Awards increased in number in both academic and career areas, at both the subbaccalaureate and baccalaureate levels (figure 1). These increases occurred in spite of a decline in the young adult

population over the same time period.⁴ Thus, both academic and career areas appear to be attracting more students in 2000–01 than they did in 1984–85.

Although career education grew in size over this time period, it grew at a slower pace than academic education, so that career education produced a smaller, but still a majority, proportion of undergraduate credentials in 2000–01 than in 1984–85; at the baccalaureate level, the decline was from 66 to 60 percent, and at the subbaccalaureate level from 78 to 71 percent (table 1).⁵ The fact that this decline occurred at both credential levels suggests that these shifts may in part reflect larger trends in labor market demand that affect both levels of education. Trends in specific areas of study, discussed below, further support this notion.

Trends in Specific Career Areas

In spite of career education's declining share of subbaccalaureate credentials from 1984–85 to 2000–01, 6 of the 11 career areas of study increased as a proportion of subbaccalaureate credentials over this period: computer science, protective services, health care, consumer and personal services, trade and industry, and public, social, and human services (table 1). Two additional areas—communications/design and education—held relatively steady at about 1 percent of subbaccalaureate awards in each year. Three areas of career education declined as a proportion of subbaccalaureate credentials—agriculture/natural resources, engineering/architectural sciences, and business/marketing—with most of the decline coming from the latter two career areas. As a result of these shifts, health care replaced business/marketing as the most common career credential at the subbaccalaureate level by 2000–01.

Some career areas of study also became a larger part of the baccalaureate credential pool from 1984–85 to 2000–01 (table 1). These career areas are communications/design; consumer and personal services; protective services; and public, social, and human services. Declines at this level were also largest in business/marketing and engineering/architectural sciences. However, business/marketing remained the predominant baccalaureate career credential, accounting for over 20 percent of bachelor's degrees in both 1984–85 and 2000–01.

¹ Completions data prior to 1984–85 were not used because those data are not comparable to more recent years. At the time of analysis, 2000–01 data were the most recent available.

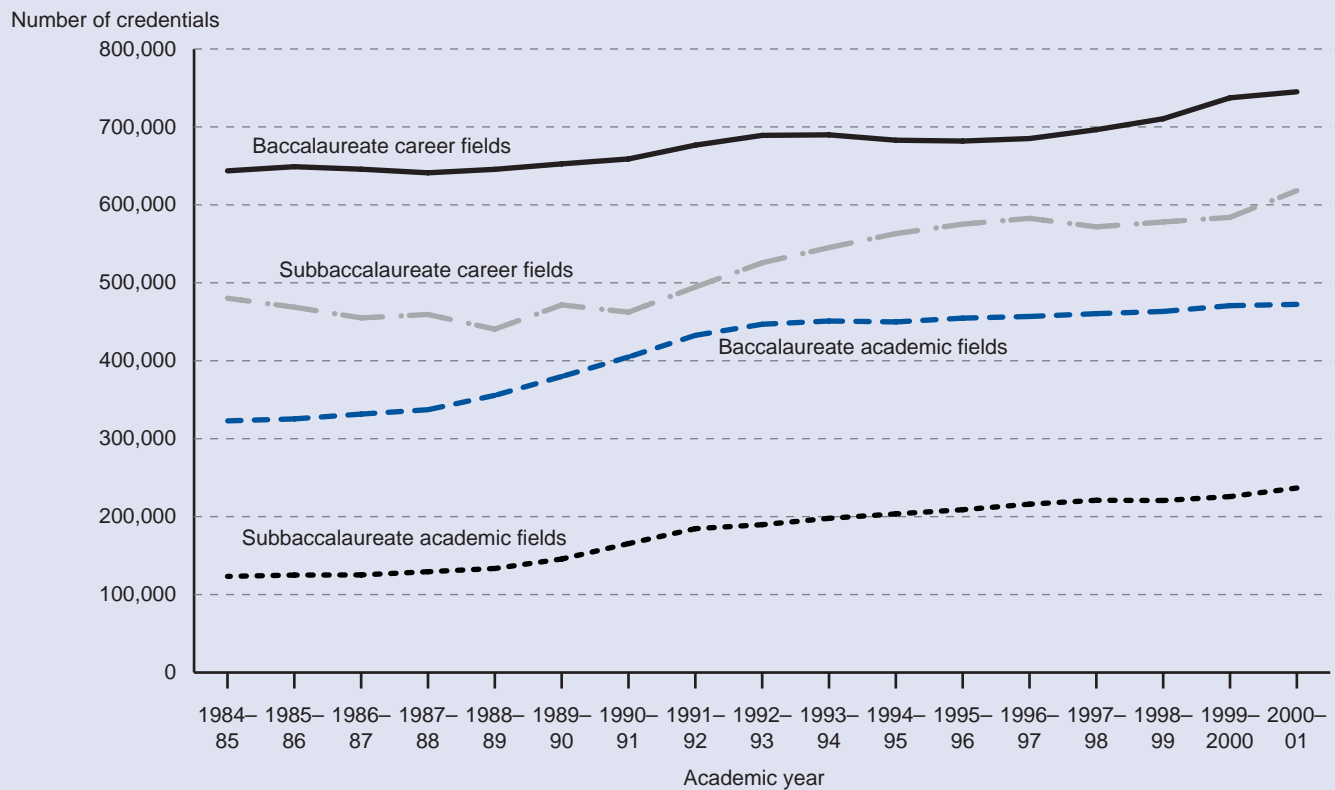
² The statistics reported here were derived from published IPEDS and HEGIS data in 15 editions (1988 to 2002) of the NCES annual publication, *Digest of Education Statistics*. Although IPEDS includes less-than-4-year institutions that are excluded from HEGIS, a separate analysis (not reported here) of certificate awards showed no appreciable effect of the change from HEGIS to IPEDS.

³ These program areas are discussed in more detail in a previous Issue Brief (Hudson and Shafer 2004). Due to low counts in some career areas at the baccalaureate level, some recategorizations were made here. First, "law and legal studies" was merged into the "public, social, and human services" category. Second, "consumer and personal services" were included in the published baccalaureate data under "business." Similarly, "mechanics and repair" and "construction" were included in the published baccalaureate data under "engineering-related technologies," rather than under "trade and industry."

⁴ The resident population ages 18–24 declined from 29 million in 1984 to 27 million in 2000 (U.S. Bureau of the Census 1985, 2003).

⁵ From here on, the Issue Brief compares findings for 1984–85 and 2000–01. These findings are substantiated by annual data over the entire time period. For figures showing the annual trends from 1984–85 to 2000–01, see <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2005012>.

Figure 1. Number of undergraduate credentials awarded, by level and curricular focus: 1984-85 to 2000-01



SOURCE: *Digest of Education Statistics*, 1988-2002 editions; Higher Education General Information Survey (HEGIS), 1984-85 and 1985-86; 1986 to 1999 Integrated Postsecondary Education Data System, "Completions Survey" (IPEDS-C:86-87 through IPEDS-C:98-99); and 2000 Integrated Postsecondary Education Data System (IPEDS), Spring 2001, U.S. Department of Education, National Center for Education Statistics.

Table 1. Percentage of credentials awarded in each career area, by education level: 1984-85 and 2000-01

Career area	Percentage of subbaccalaureate credentials awarded in:		Percentage of baccalaureate credentials awarded in:	
	1984-85	2000-01	1984-85	2000-01
Total, all career areas	78.1	71.3	65.7	59.9
Agriculture/natural resources	1.7	1.3	1.8	1.9
Business/marketing	26.6	17.3	23.8	21.4
Computer science	2.6	5.1	4.0	3.4
Communications/design	0.7	0.8	4.3	4.7
Consumer and personal services	3.7	5.1	2.0	3.0
Education	1.4	1.4	9.0	8.5
Engineering/architectural sciences	11.3	5.5	10.7	6.5
Health care	17.4	18.9	6.6	5.9
Protective services	2.6	4.2	1.3	2.0
Public, social, and human services	1.2	1.7	2.0	2.3
Trade and industry	8.9	10.2	0.3	0.3

NOTE: Detail may not sum to totals because of rounding.

SOURCE: *Digest of Education Statistics 2002*, 2000 Integrated Postsecondary Education Data System (IPEDS), Spring 2001, and *Digest of Education Statistics 1988*, Higher Education General Information Survey (HEGIS), 1984-85, U.S. Department of Education, National Center for Education Statistics.

Trends in Career Areas Across Education Levels

This section compares the direction of change in specific career areas across education levels. Specifically, the section examines whether each career area decreased as a proportion of credentials, increased, or had negligible change, with the latter including change of less than ± 1 percentage point. As seen in table 2, using this 1-percentage-point cutoff, the direction of change was similar at both the subbaccalaureate and baccalaureate levels in agriculture/natural resources; business/marketing; communications/design; consumer and personal

services; education; engineering/architectural sciences; and public, social, and human services. These parallel changes suggest similar labor market trends at both levels in these career areas. But differing trends occurred in other career areas. For example, computer science, health care, protective services, and trade and industry increased more at the subbaccalaureate level than at the baccalaureate level. In these career areas, the trend in credentials suggests a more rapidly growing market for skills at the subbaccalaureate rather than baccalaureate level.

Table 2. Percentage point change and direction of change in percentage of credentials awarded in each career area, by education level, from 1984–85 to 2000–01

Career area	Percentage point change		Direction of change ¹	
	Subbaccalaureate level	Baccalaureate level	Subbaccalaureate level	Baccalaureate level
Agriculture/natural resources	-0.4	#	0	0
Business/marketing	-9.3	-2.4	-	-
Computer science	2.5	-0.6	+	0
Communications/design	#	0.5	0	0
Consumer and personal services	1.4	1.0	+	+
Education	#	-0.5	0	0
Engineering/architectural sciences	-5.8	-4.2	-	-
Health care	1.4	-0.7	+	0
Protective services	1.5	0.7	+	0
Public, social, and human services	0.5	0.3	0	0
Trade and industry	1.3	0.1	+	0

Rounds to zero.

¹ “-” indicates a decrease of 1 percentage point or more; “+” indicates an increase of 1 percentage point or more, and “0” indicates change between -1 and +1 percentage points.

NOTE: The percentages in this table may differ from percentages calculated from table 1 because this table was constructed using unrounded percentages, rather than the rounded percentages in table 1.

SOURCE: *Digest of Education Statistics 2002*, 2000 Integrated Postsecondary Education Data System (IPEDS), Spring 2001, and *Digest of Education Statistics 1988*, Higher Education General Information Survey (HEGIS), 1984–85, U.S. Department of Education, National Center for Education Statistics.

Summary

The number of students receiving undergraduate credentials increased from 1984–85 to 2000–01 in both career education and academic education. Although career education became a smaller share of undergraduate credentials over this period, most of this shift was due to relatively large declines in two of the more common areas of study (business/marketing and engineering/architectural sciences). Other career areas (e.g., protective services, consumer and personal services) became a larger proportion of undergraduate credentials. Finally, the direction of change at the subbaccalaureate and baccalaureate levels was sometimes similar (e.g., agriculture/natural resources, engineering/architectural science), suggesting parallel changes in skill demands in some areas of the labor market at the subbaccalaureate and baccalaureate levels, while in other areas trends differed (e.g., computer science, health care), suggesting different subbaccalaureate and baccalaureate labor markets.

References

- Fiorito, J., and Dauffenbach, R.C. (1982). Market and Nonmarket Influences on Curriculum Choice by College Students. *Industrial and Labor Relations Review*, 36(1), 88–101.
- Hudson, L., and Shafer, L. (2004). *Undergraduate Enrollments in Academic, Career, and Vocational Education* (NCES 2004–018). U.S. Department of Education. Washington, DC: National Center for Education Statistics.
- U.S. Department of Education, National Center for Education Statistics (2004). *The Condition of Education 2004* (NCES 2004–077). Washington, DC: U.S. Government Printing Office.
- U.S. Bureau of the Census (1985). *Statistical Abstract of the United States: 1986*. Washington, DC: U.S. Commerce Department.
- U.S. Bureau of the Census (2003). *Statistical Abstract of the United States: 2003*. Washington, DC: U.S. Commerce Department.

The Issue Brief series presents information on education topics of current interest. All estimates shown are based on universe surveys and are thus not subject to sampling variability. In the design, conduct, and data processing of National Center for Education Statistics (NCES) surveys, efforts are made to minimize the effects of nonsampling errors, such as item nonresponse, measurement error, data processing error, or other systematic error.

This Issue Brief was authored by Lisa Hudson of the National Center for Education Statistics (NCES) and Ellen Carey of the Education Statistics Services Institute (ESSI), and was formatted by Carol Rohr of Pinkerton Computer Consultants, Inc. Supplementary graphs for this Issue Brief can be found on the web at <http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2005012>. For further information, contact Lisa Hudson, NCES, at 202-502-7358 or Lisa.Hudson@ed.gov. To order additional copies of this Issue Brief or other NCES publications, call 1-877-4ED-Pubs or visit <http://www.edpubs.org>. NCES publications are also available on the Internet at <http://nces.ed.gov>.

The Issue Brief series presents information on education topics of current interest.

NCES 2005-012

Trends in Undergraduate Career Education

Issue
Brief

U.S. Department of Education
ED Pubs
8242-B Sandy Court
Jessup, MD 20794-1398

Official Business
Penalty for Private Use, \$300



Postage and Fees Paid
U.S. Department of Education
Permit No. G-17

