

Race and Ethnicity in Higher Education: 2020 Supplement
CHAPTER 4



**Postsecondary Career and
Technical Education**



Race and Ethnicity in Higher Education: 2020 Supplement

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This chapter is part of a larger report by the American Council on Education (ACE) titled *Race and Ethnicity in Higher Education: 2020 Supplement*, which follows ACE's 2019 release of *Race and Ethnicity in Higher Education: A Status Report*. These reports, along with their accompanying microsite, provide a data-informed foundation for those working to close persistent equity gaps by providing a comprehensive review of the educational pathways of today's college students and the educators who serve them.

Race and Ethnicity in Higher Education: 2020 Supplement and the microsite were made possible through the generous support of The Andrew W. Mellon Foundation.

Visit www.equityinhighered.org to learn more about the project and to download the full report, figures, detailed data tables, and other resources on race and ethnicity in higher education.

The screenshot shows the homepage of the ACE microsite. At the top left is the ACE logo with the text 'American Council on Education' and 'RACE AND ETHNICITY IN HIGHER EDUCATION'. To the right is a navigation menu with links for HOME, ABOUT, INDICATORS, DATA SOURCES, DATA TABLES, and RESOURCES. Below the navigation is a large hero image featuring a smiling Black woman with a backpack. Overlaid on the image is a 'Featured Findings' box with two statistics: '40.1% of Associate Degrees were Earned by Students of Color' and '31.5% of Bachelor's Degrees were Earned by Students of Color'. Below the hero image are two buttons: 'EXPLORE THE FINDINGS' and 'DOWNLOAD THE REPORT'. At the bottom left, there is a section titled 'Explore the Findings' with a paragraph of text and a 'Download Reports >' link. At the bottom right, there is a blue box titled 'NEW: IDEAS AND INSIGHTS' with a play button icon and the text 'View essays, videos, podcasts, and more >'.

About the American Council on Education

ACE is a membership organization that mobilizes the higher education community to shape effective public policy and foster innovative, high-quality practice. As the major coordinating body for the nation's colleges and universities, our strength lies in our diverse membership of more than 1,700 colleges and universities, related associations, and other organizations in America and abroad. ACE is the only major higher education association to represent all types of U.S. accredited, degree-granting institutions: two-year and four-year, public and private. For more information, please visit www.acenet.edu.

INTRODUCTION

In 2015–16, 33 percent of all undergraduates who completed a postsecondary credential earned an associate degree and 16 percent earned a sub-baccalaureate certificate. In fact, the majority of American Indian or Alaska Native (59 percent), Hispanic or Latino (59 percent), and Black or African American (57 percent) graduates earned an associate degree or sub-baccalaureate certificate. Many of these associate degrees and sub-baccalaureate awards were in a career or technical field.

Career and technical education (CTE) provides students at the secondary, postsecondary, and adult education levels with opportunities to develop the academic, technical, and employability skills needed to be successful in today’s workforce. At the postsecondary level, credit-based CTE can be defined as “coursework directly related to an occupational field that, upon completion, can lead to industry-recognized credentials, certificates, and/or associate degrees” (D’Amico, Sublett, and Bartlett 2019, 3). Between 2015 and 2017, the majority of credit-based CTE associate degrees and sub-baccalaureate certificates were earned at public two-year institutions or community colleges.¹ However, non-degree-granting for-profit institutions awarded a sizeable share of sub-baccalaureate certificates.² While CTE programs provide millions of students with the opportunity to receive an education that will prepare them to meet local labor market needs, racial disparities exist within CTE program enrollment, completion, and labor market outcomes (Rios-Aguilar et al. 2019).

Race and Ethnicity in Higher Education: A Status Report (2019) broadly examined the enrollment and completion of sub-baccalaureate awards by race and ethnicity. This chapter expands upon the 2019 report by more closely examining sub-baccalaureate certificate and degree completions by race and ethnicity using three years of pooled data from the Integrated Postsecondary Education Data System (IPEDS). First, completions are mapped across the 16 career clusters as categorized by the National Career Clusters Framework. Next, the chapter takes a more detailed look at completions by field, using the Classification of Instructional Programs (CIP). Finally, this chapter concludes with analysis of non-credit-based CTE programs such as work certifications, licenses, and work experience programs,³ from the National Household Education Surveys Program’s Adult Training and Education Survey.

KEY FINDINGS

- Between 2015 and 2017,⁴ close to 2.8 million sub-baccalaureate certificates⁵ were awarded. Nearly 60 percent of all certificates awarded were conferred by public two-year institutions. Non-degree-granting for-profit institutions awarded almost 20 percent of all certificates. Black or African American, Hispanic or Latino, Native Hawaiian or other Pacific Islander, and Asian students were much more likely than American Indian or Alaska Native and White students to complete their sub-baccalaureate certificates at degree-granting and non-degree-granting for-profit institutions.
- Across all sectors, the health science career cluster was the most common field of study among certificate recipients. A much higher share of students at degree-granting for-profit institutions (67.2 percent) than at public two-year institutions (24.8 percent) completed certificates in this career cluster.

1 In this report, two-year institutions are those that award predominantly associate degrees and sub-baccalaureate certificates, which includes a growing number of community colleges that now award bachelor’s degrees.

2 Non-degree-granting for-profit institutions are those that exclusively award credit-based certificates.

3 Work experience programs include internships, co-ops, practicums, clerkships, externships, residencies, clinical experiences, apprenticeships, and similar programs.

4 This chapter pools sub-baccalaureate completions data for three years—2015, 2016, and 2017. Doing so allows for a detailed analysis of fine field of study by race and ethnicity. For more information, please visit this report’s methods section.

5 In this chapter, the terms sub-baccalaureate certificates and certificates are used interchangeably. This chapter combines short-term certificates (those that are typically earned in less than one academic year) and long-term certificates (those that are typically earned in more than one academic year, but less than four academic years).

- Native Hawaiian or other Pacific Islander, Hispanic or Latino, and Black or African American students were the most likely of all groups to earn their sub-baccalaureate certificates in the health science career cluster. American Indian or Alaska Native students were more than twice as likely as Asian students, Hispanic or Latino students, students of more than one race, and international students to earn their sub-baccalaureate certificates in the architecture and construction career cluster.
- Between 2015 and 2017, close to 3 million associate degrees were awarded. Public two-year institutions conferred nearly 82 percent of all associate degrees. Degree-granting for-profit institutions conferred the second most, at 9.4 percent. Black or African American and Native Hawaiian or other Pacific Islander students were much more likely than all other groups to complete their associate degrees at degree-granting for-profit institutions.
- A much higher share of students at degree-granting for-profit institutions completed their associate degrees in the health science career cluster (43.7 percent) than students who completed their associate degrees at public two-year institutions (14.5 percent).
- Asian associate degree recipients were more than three times as likely to have earned a degree in the STEM career cluster as Black or African American associate degree recipients.
- Approximately one in five adults reported having either a work certification or license. Regardless of gender, White adults and Black or African American adults were more likely to have either a work certification or license than other groups. Hispanic or Latino adults were the least likely to have either work certifications or licenses.
- About 61 percent of American Indian or Alaska Native men with a work certification or license reported that their credential was very useful in getting a job, while 86.1 percent of White women reported this. These were the highest and lowest shares across all groups.
- Nearly 70 percent of adults working in the healthcare field reported having at least one work certification or license, the most of any occupational field. Among those working in the health care field, White adults were the most likely to report having a work license or certification, while Black or African American adults and American Indian or Alaska Native adults were the least likely.
- Adults of more than one race and Asian or Pacific Islander adults were the most likely to have completed a work experience program, while Hispanic or Latino adults were the least likely to have done so.

SUB-BACCALAUREATE COMPLETIONS, BY CAREER CLUSTERS

Created by AdvanceCTE,⁶ the National Career Clusters Framework (NCCF) was designed as an organizing tool to support curriculum design and instruction for career and technical programs. The NCCF is also often used to help individuals explore potential careers and related educational pathways. The NCCF consists of 16 career clusters—broad groups of occupations and industries—which can be further subdivided into 79 career pathways—small groups of occupations within a career cluster. Together with the National Research Center for Career and Technical Education, AdvanceCTE produced a comprehensive and standardized mapping of codes from the Classification of Instructional Programs (CIP) used to report credential completions in the Integrated Postsecondary Education Data System to the NCCF.⁷

Certificate Completions

Between 2015 and 2017, close to 2.8 million sub-baccalaureate certificates were awarded. The top four career clusters among all certificate completers were health science (32.6 percent); human services (12.7 percent); manufacturing (9.3 percent); and transportation, distribution, and logistics (8.6 percent). The smallest four career clusters among all sub-baccalaureate certificate completers—all under 1 percent—were government and public administration (0.1 percent); marketing (0.6 percent); science, technology, engineering, and mathematics (STEM) (0.8 percent); and agriculture, food, and natural resources (0.9 percent).

Table 4.1: Career Clusters for Sub-baccalaureate Certificate Completions, by Race and Ethnicity: 2015 to 2017

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Agriculture, food, and natural resources	0.9%	1.0%	0.3%	0.3%	0.6%	0.5%	1.2%	0.7%	0.8%	0.6%
Architecture and construction	5.1%	9.1%	2.6%	5.9%	4.1%	4.7%	5.4%	3.8%	5.2%	2.4%
Arts, audio/video technology, and communications	2.6%	2.5%	2.8%	2.3%	2.5%	1.6%	2.6%	3.5%	3.9%	8.8%
Business, management, and administration	6.0%	6.0%	5.4%	6.8%	5.4%	4.8%	6.0%	5.4%	6.4%	12.5%
Education and training	8.3%	7.5%	14.1%	4.9%	10.9%	7.0%	7.6%	10.9%	6.5%	20.5%
Finance	1.9%	1.6%	4.1%	1.6%	2.0%	1.7%	1.8%	1.6%	1.9%	4.9%
Government and public administration	0.1%	0.2%	0.1%	0.1%	0.1%	0.3%	0.1%	0.1%	0.1%	0.1%
Health science	32.6%	29.9%	29.9%	35.3%	35.5%	39.0%	31.1%	32.6%	34.0%	12.4%
Hospitality and tourism	2.2%	2.3%	2.4%	3.0%	1.8%	2.8%	1.9%	2.6%	2.5%	4.3%

6 Formerly the National Association of State Directors of Career and Technical Education Consortium.

7 For more information on AdvanceCTE and the National Career Clusters Framework, please visit <https://careertech.org/career-clusters>.

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Human services	12.7%	9.5%	16.7%	15.6%	13.4%	12.3%	11.7%	11.7%	8.7%	7.7%
Information technology	3.7%	3.2%	5.1%	3.2%	2.8%	3.4%	4.0%	4.2%	4.7%	7.1%
Law, public safety, corrections, and security	4.5%	3.3%	2.2%	3.3%	4.7%	3.7%	5.1%	3.8%	5.5%	1.8%
Manufacturing	9.3%	12.1%	5.7%	7.5%	7.2%	7.5%	11.2%	8.2%	9.2%	4.8%
Marketing	0.6%	0.4%	0.6%	0.6%	0.5%	0.5%	0.6%	0.7%	0.6%	2.4%
Science, technology, engineering, and mathematics	0.8%	0.7%	1.4%	0.4%	0.6%	0.7%	1.0%	1.1%	0.9%	2.7%
Transportation, distribution, and logistics	8.6%	10.6%	6.6%	9.2%	8.0%	9.7%	8.7%	9.2%	8.9%	7.1%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Notes: Data reflect sub-baccalaureate certificates earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

- Native Hawaiian or other Pacific Islander (39.0 percent), Hispanic or Latino (35.5 percent), and Black or African American (35.3 percent) students were the most likely of all groups to earn their sub-baccalaureate certificates in the health science career cluster. In contrast, among domestic students, 29.9 percent each of American Indian or Alaska Native and Asian students completed their certificates in this career cluster, compared with 12.4 percent of international students.
- American Indian or Alaska Native students were the most likely to earn their sub-baccalaureate certificates in the architecture and construction career cluster (9.1 percent). This was more than double the share of Asian students, Hispanic or Latino students, students of more than one race, and international students in this career cluster.
- International students (20.5 percent) and Asian students (14.1 percent) were the most likely to earn their sub-baccalaureate certificates in the education and training career cluster, while Black or African American students were the least likely (4.9 percent).
- International students were twice as likely as domestic students to earn their certificates in business, management, and administration.

The top three career clusters among women who completed sub-baccalaureate certificates were health science (47.4 percent), human services (19.9 percent), and education and training (9.5 percent). For men, the top three career clusters were manufacturing (19.9 percent); transportation, distribution, and logistics (18.7 percent); and health science (12.7 percent).

Table 4.2: Top Three Career Clusters for Sub-baccalaureate Certificate Completions, by Gender: 2015 to 2017

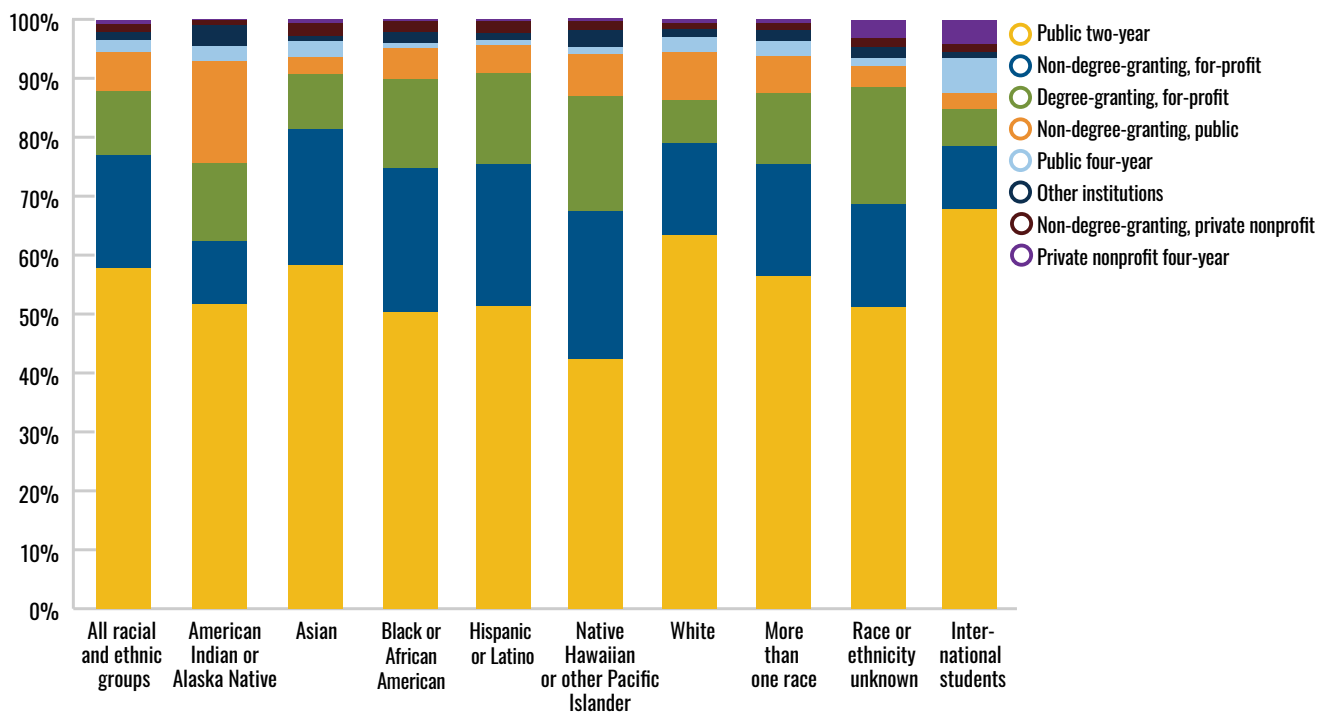
Women	Health science	47.4%
	Human services	19.9%
	Education and training	9.5%
Men	Manufacturing	19.9%
	Transportation, distribution, and logistics	18.7%
	Health science	12.7%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Notes: Data reflect sub-baccalaureate certificates earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

Nearly 60 percent of all sub-baccalaureate certificates awarded between 2015 and 2017 were conferred by public two-year institutions, the most of any institutional sector. Among degree-granting institutions, for-profit institutions awarded the next largest share, 10.9 percent. However, non-degree-granting for-profit institutions awarded almost 20 percent of all certificates.

Figure 4.1: Sub-baccalaureate Certificate Completions Across Sectors, by Race and Ethnicity: 2015 to 2017



Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. Other institutions include those not separately shown. | Data reflect sub-baccalaureate certificates earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017.

- The range in the share of domestic students who complete their sub-baccalaureate certificates at public two-year institutions was 42.4 percent of Native Hawaiian or other Pacific Islander students to 63.4 percent of White students.
- Roughly one-quarter of all Native Hawaiian or other Pacific Islander (25.1 percent), Black or African American (24.5 percent), Hispanic or Latino (24.2 percent), and Asian (23.0 percent) students completed their certificates at non-degree-granting for-profit institutions.
- Higher shares of Native Hawaiian or other Pacific Islander (19.5 percent), Hispanic or Latino (15.4 percent), Black or African American (15.1 percent), and American Indian or Alaska Native (13.2 percent) students completed their certificates at degree-granting for-profit institutions than Asian (9.5 percent) and White (7.2 percent) students.
- American Indian or Alaska Native students were more than twice as likely as all other groups to have completed their certificates at non-degree-granting, public institutions (17.3 percent).
- More than two-thirds of all international students (67.8 percent) earned their sub-baccalaureate certificates at public two-year institutions, the highest share of any group. International students were also the least likely of any group to have completed their certificates at degree-granting for-profit (6.3 percent) and non-degree-granting for-profit (10.6 percent) institutions.

The top three career clusters among certificate completers at public two-year institutions were health science (24.8 percent); education and training (13.0 percent); and manufacturing (11.8 percent).

Table 4.3: Career Clusters for Sub-baccalaureate Certificate Completions at Public Two-Year Institutions, by Race and Ethnicity: 2015 to 2017

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Agriculture, food, and natural resources	1.3%	1.3%	0.5%	0.5%	1.0%	0.8%	1.6%	1.1%	1.3%	0.7%
Architecture and construction	5.5%	9.2%	2.6%	6.7%	4.1%	5.7%	5.9%	3.9%	5.9%	3.0%
Arts, audio/video technology, and communications	2.7%	2.9%	2.8%	2.1%	3.1%	2.1%	2.6%	3.5%	3.0%	4.6%
Business, management, and administration	8.3%	8.5%	6.7%	11.6%	8.2%	8.7%	7.6%	7.2%	8.4%	13.9%
Education and training	13.0%	13.1%	22.2%	8.9%	20.1%	15.0%	10.8%	17.5%	11.2%	27.5%
Finance	2.9%	2.5%	6.2%	2.8%	3.1%	3.2%	2.5%	2.5%	2.9%	5.8%
Government and public administration	0.1%	0.2%	0.1%	0.1%	0.2%	0.2%	0.1%	0.1%	0.1%	0.1%
Health science	24.8%	20.7%	22.3%	22.2%	19.7%	22.6%	27.8%	25.5%	22.6%	10.4%
Hospitality and tourism	2.3%	2.8%	2.3%	3.9%	2.2%	2.6%	1.9%	2.8%	2.3%	4.9%
Human services	5.6%	4.6%	4.8%	9.2%	7.6%	5.3%	4.4%	5.0%	3.9%	3.7%

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Information technology	5.0%	4.0%	7.1%	4.5%	4.4%	5.4%	5.1%	5.7%	5.4%	7.5%
Law, public safety, corrections, and security	6.6%	5.2%	3.4%	5.7%	8.0%	7.2%	6.6%	5.7%	9.1%	2.1%
Manufacturing	11.8%	12.7%	8.0%	10.5%	8.9%	9.3%	13.6%	10.4%	11.9%	5.4%
Marketing	0.8%	0.5%	0.9%	1.0%	0.7%	1.1%	0.7%	1.0%	0.9%	2.1%
Science, technology, engineering, and mathematics	0.9%	0.9%	1.8%	0.5%	0.8%	1.2%	0.9%	1.0%	1.1%	1.9%
Transportation, distribution, and logistics	8.3%	10.7%	8.3%	9.7%	8.0%	9.6%	7.9%	7.3%	10.0%	6.4%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | Data reflect sub-baccalaureate certificates earned at all Title IV eligible, degree-granting public two-year institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

- At public two-year institutions, White students were more likely than any other group to earn their certificates in the health science career cluster (27.8 percent). In contrast, 19.7 percent of Hispanic or Latino students and 10.4 percent of international students earned their certificates in this career cluster.
- American Indian or Alaska Native students were more likely than any other group to earn their certificates in the architecture and construction career cluster (9.2 percent); Asian students were the least likely to complete their certificates in architecture and construction (2.6 percent).
- The range of students who earned their certificates in the human services career cluster was from 3.7 percent of international students and 4.4 percent of White students to 7.6 percent of Hispanic or Latino students and 9.2 percent of Black or African American students.

Similar to patterns observed at public two-year institutions, the most popular career cluster in which students earned their sub-baccalaureate certificates at degree-granting for-profit institutions was health science (67.2 percent). However, the total share of students completing their certificates in this career cluster was 42.4 percentage points higher than the total share of students at public two-year institutions. Students completing their certificates at for-profit institutions were much less likely than students at public two-year institutions to have completed their certificates in the education and training career cluster—only 1.1 percent had done so.

Table 4.4: Career Clusters for Sub-baccalaureate Certificate Completions at Degree-Granting For-Profit Institutions, by Race and Ethnicity: 2015 to 2017

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Agriculture, food, and natural resources	0.1%	0.1%	0.0%	0.0%	0.0%	0.1%	0.2%	0.2%	0.1%	0.0%
Architecture and construction	4.7%	3.5%	3.5%	6.2%	4.3%	3.2%	4.9%	2.5%	2.8%	0.3%
Arts, audio/video technology, and communications	2.0%	1.0%	1.3%	1.9%	0.6%	0.8%	1.7%	2.2%	5.9%	40.3%
Business, management, and administration	2.9%	1.6%	1.8%	2.9%	1.8%	2.8%	3.2%	4.2%	6.5%	4.3%
Education and training	1.1%	0.5%	3.6%	0.5%	1.1%	0.5%	1.0%	1.0%	1.3%	7.4%
Finance	0.5%	0.3%	0.6%	0.3%	0.2%	0.6%	0.8%	0.9%	1.3%	0.6%
Government and public administration	0.1%	0.1%	0.0%	0.1%	0.0%	0.0%	0.2%	0.1%	0.1%	0.1%
Health science	67.2%	69.2%	77.7%	65.1%	78.8%	79.4%	61.9%	64.8%	52.8%	9.0%
Hospitality and tourism	2.3%	1.1%	1.3%	3.1%	1.2%	1.0%	2.4%	2.6%	3.8%	2.0%
Human services	3.8%	2.5%	1.1%	6.0%	2.5%	1.3%	3.9%	2.7%	3.7%	0.9%
Information technology	2.9%	1.0%	3.0%	2.9%	1.1%	2.7%	3.0%	4.2%	7.2%	22.7%
Law, public safety, corrections, and security	0.9%	0.4%	0.4%	0.7%	0.5%	0.6%	1.3%	1.1%	1.2%	1.0%
Manufacturing	5.5%	15.2%	2.8%	4.0%	4.8%	3.6%	6.4%	5.7%	7.8%	4.7%
Marketing	0.2%	0.1%	0.1%	0.2%	0.1%	0.2%	0.3%	0.2%	0.5%	0.6%
Science, technology, engineering, and mathematics	0.3%	0.2%	0.2%	0.2%	0.1%	0.2%	0.3%	1.1%	0.3%	2.4%
Transportation, distribution, and logistics	5.6%	3.1%	2.6%	5.9%	2.7%	3.0%	8.4%	6.7%	4.8%	3.7%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | Data reflect sub-baccalaureate certificates earned at all Title IV eligible, degree-granting for-profit institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

- At degree-granting for-profit institutions, Native Hawaiian or other Pacific Islander students (79.4 percent), Hispanic or Latino students (78.8 percent) and Asian students (77.7 percent) were the most likely to complete their certificates in the health science career cluster, while White students (61.9 percent) were the least likely of all domestic students to be in this career cluster.
- American Indians or Alaska Natives were much more likely than all other groups to have earned their sub-baccalaureate certificates in the manufacturing career cluster (15.2 percent).
- International students were much less likely than domestic students to complete their certificates in the health science career cluster (9.0 percent) and much more likely than domestic students to complete their certificates in arts, audio/video technology, and communications (40.3 percent) and information technology (22.7 percent).

Associate Degree Completions

Between 2015 and 2017, close to 3 million associate degrees were awarded. The top three career clusters among all associate degree completers were education and training (41.1 percent); health science (18.4 percent); and business, management, and administration (8.5 percent). Government and public administration (0.4 percent) and marketing (0.6 percent) were the least common career clusters among associate degree completers.

Table 4.5: Career Clusters for Associate Degree Completions, by Race and Ethnicity: 2015 to 2017

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Architecture and construction	1.0%	1.5%	0.2%	0.2%	0.4%	0.5%	1.5%	0.7%	1.1%	0.5%
Arts, audio/video technology, and communications	1.3%	1.9%	0.9%	0.9%	0.8%	1.6%	1.6%	1.1%	1.5%	1.2%
Business, management, and administration	3.0%	2.4%	3.2%	2.5%	3.4%	2.8%	2.7%	3.9%	3.5%	6.5%
Education and training	8.5%	9.9%	11.5%	10.3%	7.9%	8.9%	7.7%	8.0%	9.8%	14.8%
Finance	41.1%	40.4%	35.5%	41.5%	44.7%	38.7%	40.2%	43.9%	38.6%	44.2%
Government and public administration	1.5%	1.6%	2.5%	1.5%	1.2%	1.5%	1.5%	1.2%	1.9%	2.2%
Health science	0.4%	0.5%	0.3%	0.3%	0.5%	0.7%	0.3%	0.4%	0.2%	0.3%
Hospitality and tourism	18.4%	17.3%	16.8%	18.8%	12.8%	18.8%	21.0%	14.9%	18.0%	5.8%
Human services	1.6%	1.4%	1.5%	2.2%	1.3%	1.7%	1.5%	1.9%	2.3%	3.0%
Information technology	3.2%	4.1%	2.5%	4.6%	4.5%	2.7%	2.5%	3.1%	2.7%	1.4%
Law, public safety, corrections, and security	3.1%	2.8%	4.0%	3.2%	2.0%	3.1%	3.3%	3.0%	3.8%	3.4%

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Manufacturing	4.7%	4.2%	2.1%	5.6%	6.1%	4.7%	4.4%	4.1%	5.0%	1.2%
Marketing	2.9%	3.1%	2.1%	2.3%	1.9%	2.3%	3.6%	2.3%	2.9%	1.6%
Science, technology, engineering, and mathematics	0.6%	0.3%	0.7%	0.6%	0.5%	0.7%	0.6%	0.6%	0.6%	2.7%
Transportation, distribution, and logistics	7.0%	6.2%	15.1%	4.4%	10.4%	8.3%	5.6%	9.1%	5.7%	9.9%
Transportation, Distribution, and Logistics	1.7%	2.4%	1.1%	1.1%	1.4%	3.0%	2.0%	1.7%	2.4%	1.3%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Notes: Data reflect associate degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

- Hispanic or Latino associate degree recipients were the most likely to earn their degrees in the education and training career cluster (44.7 percent), followed by international students (44.2 percent). Asians were the least likely to complete their associate degrees in this career cluster (35.5 percent).
- Black or African American students (4.6 percent) and Hispanic or Latino students (4.5 percent) were the most likely to earn their associate degrees in the human services career cluster. Among domestic students, Asian and White students were the least likely to have earned their associate degrees in this career cluster (2.5 percent each).
- The share of Asian students (15.1 percent) completing associate degrees in the STEM career cluster was more than three times as high as the share of Black or African American associate degree recipients in this career cluster (4.4 percent). These were the highest and lowest shares across all groups.
- The range of domestic students completing associate degrees in the health science career cluster was 12.8 percent of Hispanic or Latino students to 21.0 percent of White students. A much smaller proportion of international students than of domestic students completed associate degrees in the health science career cluster (5.8 percent).

The top three career clusters among women who completed associate degrees were education and training (42.4 percent); health science (25.3 percent); and business, management, and administration (8.2 percent). For men, the top three career clusters were education and training (39.0 percent); business, management, and administration (9.0 percent); and STEM (8.4 percent).

Table 4.6: Top Three Career Clusters for Associate Degree Completions, by Gender: 2015 to 2017

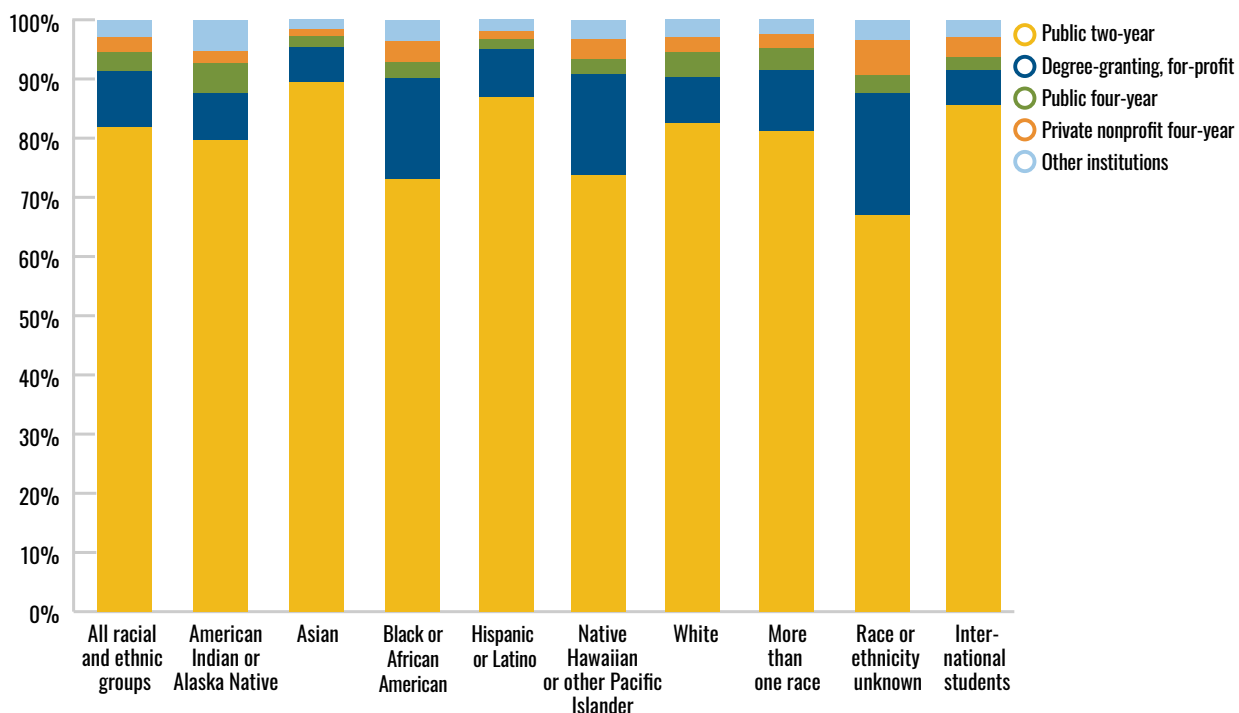
Women	Education and training	42.4%
	Health science	25.3%
	Business, management, and administration	8.2%
Men	Education and training	39.0%
	Business, management, and administration	9.0%
	Science, technology, engineering, and mathematics	8.4%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Notes: Data reflect associate degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

Between 2015 and 2017, public two-year institutions conferred nearly 82 percent of all associate degrees. Degree-granting for-profit institutions conferred the second most, at 9.4 percent.

Figure 4.2: Associate Degree Completions Across Sectors, by Race and Ethnicity: 2015 to 2017



Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. Other institutions include those not separately shown. | Data reflect associate degrees earned at all Title IV eligible, degree-granting institutions, pooled for 2015, 2016, and 2017.

- The range in the share of students who completed their associate degrees at public two-year institutions was 73.1 percent of Black or African American students to 89.5 percent of Asian students.

- Black or African American (17.0 percent) and Native Hawaiian or other Pacific Islander (16.9 percent) students were much more likely than all other groups to complete their associate degrees at degree-granting for-profit institutions.

The top three career clusters among associate degree completers at public two-year institutions were education and training (46.2 percent); health science (14.5 percent); and STEM (8.1 percent).

Table 4.7: Career Clusters for Associate Degree Completions at Public Two-Year Institutions, by Race and Ethnicity: 2015 to 2017

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Agriculture, food, and natural resources	1.0%	1.5%	0.2%	0.2%	0.4%	0.5%	1.5%	0.7%	0.9%	0.4%
Architecture and construction	1.3%	2.0%	0.9%	0.9%	0.8%	1.9%	1.6%	1.2%	1.7%	1.0%
Arts, audio/video technology, and communications	2.8%	2.3%	3.0%	2.3%	3.4%	2.5%	2.7%	3.7%	2.7%	4.5%
Business, management, and administration	8.0%	9.2%	12.0%	8.3%	7.8%	8.3%	7.3%	7.1%	7.2%	15.4%
Education and training	46.2%	44.9%	37.8%	51.1%	49.2%	47.3%	44.4%	49.6%	50.4%	48.7%
Finance	1.4%	1.4%	2.5%	1.4%	1.1%	1.5%	1.4%	1.0%	1.3%	1.7%
Government and public administration	0.4%	0.4%	0.3%	0.3%	0.5%	0.7%	0.3%	0.5%	0.2%	0.3%
Health science	14.5%	14.3%	13.2%	12.6%	8.8%	11.1%	17.7%	11.1%	13.4%	5.5%
Hospitality and tourism	1.1%	1.2%	1.2%	1.4%	0.8%	1.3%	1.1%	1.2%	1.2%	1.8%
Human services	3.2%	3.9%	2.7%	4.7%	4.8%	2.9%	2.4%	3.3%	2.6%	1.4%
Information technology	2.8%	2.6%	3.9%	2.7%	1.7%	2.7%	3.1%	2.6%	3.0%	3.1%
Law, public safety, corrections, and security	4.3%	3.7%	2.1%	4.8%	5.7%	4.1%	4.2%	3.6%	3.9%	1.1%
Manufacturing	2.9%	3.1%	2.0%	2.3%	1.9%	2.3%	3.6%	2.3%	2.9%	1.5%
Marketing	0.5%	0.3%	0.5%	0.6%	0.4%	0.4%	0.6%	0.5%	0.4%	1.5%
Science, technology, engineering, and mathematics	8.1%	7.2%	16.7%	5.3%	11.8%	10.8%	6.4%	10.6%	6.7%	11.1%
Transportation, distribution, and logistics	1.4%	1.8%	1.0%	1.0%	1.0%	1.6%	1.6%	1.2%	1.5%	1.2%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | Data reflect associate degrees earned at all Title IV eligible, degree-granting public two-year institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

- White students were more than twice as likely to complete their associate degrees in the health science career cluster (17.7 percent) as Hispanic or Latino students (8.8 percent) and international students (5.5 percent).
- Black or African American students were the most likely to complete their associate degrees in the education and training career cluster (51.1 percent), while Asian students were the least likely (37.8 percent).
- The share of students who completed their associate degrees in the STEM career cluster ranged from 5.3 percent of Black or African American students to 16.7 percent of Asian students.

The most common career cluster among associate degree completers at for-profit institutions was health science (43.7 percent). This was 29.2 percentage points higher than the total share of students at public two-year institutions who completed their associate degrees in this career cluster. The next two most common career clusters among associate degree completers at for-profit institutions were business, management, and administration (12.5 percent) and law, public safety, corrections, and security (8.4 percent).

Table 4.8: Career Clusters for Associate Degree Completions at Degree-Granting For-Profit Institutions, by Race and Ethnicity: 2015 to 2017

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Agriculture, food, and natural resources	0.5%	0.9%	0.4%	0.1%	0.2%	0.5%	0.8%	0.4%	1.0%	0.0%
Architecture and construction	1.5%	1.7%	1.0%	1.1%	1.3%	0.9%	2.0%	1.0%	1.2%	1.5%
Arts, audio/video technology, and communications	5.4%	4.0%	6.5%	4.1%	5.3%	4.7%	5.0%	6.6%	7.1%	28.8%
Business, management, and administration	12.5%	12.7%	7.5%	16.8%	9.2%	10.2%	10.9%	14.6%	16.8%	13.0%
Education and training	3.5%	2.8%	1.6%	3.5%	2.4%	4.6%	4.0%	4.0%	4.2%	1.1%
Finance	2.8%	3.3%	3.8%	2.2%	2.5%	1.8%	2.8%	3.2%	3.6%	11.2%
Government and public administration	0.6%	1.0%	0.2%	0.3%	0.3%	0.6%	0.9%	0.5%	0.2%	0.0%
Health science	43.7%	39.3%	57.8%	44.4%	47.0%	46.9%	44.9%	38.7%	31.8%	8.9%
Hospitality and tourism	4.3%	4.0%	4.8%	4.8%	4.4%	3.5%	3.7%	3.2%	5.3%	6.5%
Human services	2.0%	1.9%	0.5%	2.4%	1.1%	1.7%	2.2%	2.5%	2.8%	0.8%
Information technology	5.9%	5.0%	5.9%	5.7%	5.0%	5.2%	6.1%	6.4%	6.7%	8.7%
Law, public safety, corrections, and security	8.4%	9.0%	2.9%	8.4%	11.4%	5.7%	7.8%	6.9%	9.1%	3.3%
Manufacturing	2.7%	3.3%	1.3%	2.4%	2.2%	1.7%	3.1%	2.4%	3.3%	1.6%

	All Racial and Ethnic Groups	American Indian or Alaska Native	Asian	Black or African American	Hispanic or Latino	Native Hawaiian or other Pacific Islander	White	More Than One Race	Race or Ethnicity Unknown	International Students
Marketing	1.4%	0.6%	3.5%	0.9%	1.8%	2.5%	1.0%	1.2%	1.3%	12.5%
Science, technology, engineering, and mathematics	1.6%	1.3%	0.4%	1.5%	1.1%	1.2%	1.5%	3.1%	3.9%	1.7%
Transportation, distribution, and logistics	3.1%	9.1%	1.9%	1.3%	4.7%	8.2%	3.6%	5.2%	1.5%	0.4%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Notes: Institutions were categorized into sectors based upon control of the institution and the length of the predominant award granted. | Data reflect associate degrees earned at all Title IV eligible, degree-granting for-profit institutions, pooled for 2015, 2016, and 2017. | The National Career Clusters Framework organizes educational delivery within 16 Career Clusters. Instructional programs were mapped to career clusters using the Perkins IV Crosswalk Table 1 mapping 2010 CIP codes to Career Clusters.

- Asian students (57.8 percent) were the most likely to earn their associate degrees in the health science career cluster. In contrast, among domestic students, 39.3 percent of American Indian or Alaska Native students and 38.7 percent of students of more than one race completed their associate degrees in this career cluster. International students were the least likely to complete associate degrees in this career cluster (8.9 percent).
- Hispanic or Latino students (11.4 percent) were the most likely to earn their associate degrees in the law, public safety, corrections, and security career cluster. Asian students (2.9 percent) and international students (3.3 percent) were the least likely to complete their associate degrees in this career cluster.
- About 29 percent of international students completed their associate degrees in the arts, audio/video technology, and communications career cluster. The shares of students completing degrees in this career cluster were much lower among other groups.

COMPLETIONS, BY DETAILED FIELD OF STUDY

Developed by the National Center for Education Statistics (NCES), the Classification of Instructional Programs (CIP) provides a taxonomy by which to categorize fields of study in higher education and track credential completions. This section explores sub-baccalaureate certificate and degree completions by broad and detailed fields of study for all completers between 2015 and 2017.

From 2015 to 2017, approximately 5.7 million sub-baccalaureate certificates and degrees were awarded. This analysis uses the CIP taxonomy to organize completions into one of five parent categories: science, technology, engineering, and math fields (STEM); business fields; health and human services; service and manufacturing fields; and social sciences, humanities, and general studies fields.

Table 4.9: Field of Study for Sub-baccalaureate Completions, by Award Level and Race and Ethnicity: 2015 to 2017

		STEM	Business	Health and Human Services	Service and Manufacturing	Social Sciences, Humanities, and General Studies
All Sub-baccalaureate Credentials	All racial and ethnic groups	9.3%	10.0%	27.5%	24.1%	29.1%
	American Indian or Alaska Native	9.3%	10.1%	28.5%	28.2%	23.9%
	Asian	10.9%	13.0%	23.6%	18.4%	34.1%
	Black or African American	7.4%	11.1%	31.1%	27.5%	22.9%
	Hispanic or Latino	7.4%	8.9%	26.3%	23.7%	33.7%
	Native Hawaiian or other Pacific Islander	8.3%	9.3%	30.6%	24.7%	27.1%
	White	10.2%	9.4%	27.9%	24.3%	28.1%
	More than one race	9.3%	9.2%	24.9%	21.5%	35.1%
	Race or ethnicity unknown	10.1%	11.1%	28.2%	23.2%	27.4%
	International students	12.2%	20.8%	9.3%	10.9%	46.7%
Sub-baccalaureate Certificates	All racial and ethnic groups	9.3%	8.9%	34.4%	38.2%	9.2%
	American Indian or Alaska Native	9.2%	8.3%	32.6%	42.8%	7.1%
	Asian	10.1%	10.4%	30.9%	32.7%	15.8%
	Black or African American	7.4%	9.6%	37.4%	40.6%	5.0%
	Hispanic or Latino	7.6%	8.0%	37.3%	35.7%	11.4%
	Native Hawaiian or other Pacific Islander	8.5%	7.3%	40.6%	36.7%	6.9%
	White	10.3%	8.6%	32.8%	39.5%	8.7%
	More than one race	9.9%	8.0%	34.3%	35.3%	12.5%
	Race or ethnicity unknown	10.3%	9.3%	36.4%	35.1%	8.9%
	International students	14.3%	21.4%	14.3%	21.6%	28.3%

		STEM	Business	Health and Human Services	Service and Manufacturing	Social Sciences, Humanities, and General Studies
Associate Degrees	All racial and ethnic groups	9.3%	11.0%	21.1%	10.9%	47.7%
	American Indian or Alaska Native	9.5%	12.1%	23.8%	11.6%	42.9%
	Asian	11.5%	15.1%	17.7%	6.7%	49.1%
	Black or African American	7.3%	13.0%	23.2%	11.4%	45.1%
	Hispanic or Latino	7.1%	9.9%	15.5%	11.8%	55.7%
	Native Hawaiian or other Pacific Islander	8.1%	11.3%	20.8%	12.7%	47.0%
	White	10.1%	10.1%	23.6%	11.0%	45.1%
	More than one race	8.8%	10.1%	17.2%	10.2%	53.7%
	Race or ethnicity unknown	9.9%	12.7%	20.7%	12.2%	44.5%
	International students	11.2%	20.5%	6.9%	5.7%	55.6%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Notes: Data reflect sub-baccalaureate credentials earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017. | STEM includes the following fields: agriculture; biological and physical sciences and sciences technology; computer and information sciences and support services; engineering; mathematics.

- Overall, social sciences, humanities, and general studies were the most common fields of study, with 29.1 percent of all sub-baccalaureate credentials being awarded in this area. Nearly half of all associate degrees were awarded in these fields (47.7 percent), while only 9.2 percent of certificates were.
- Close to 28 percent of all sub-baccalaureate credentials were awarded in health and human services (27.5 percent). Health and human services accounted for 34.4 percent of certificates, while only 21.1 percent of associate degrees were awarded in these fields.
- Nearly 40 percent of all certificates were awarded in service and manufacturing fields (38.2 percent), while only 10.9 percent of associate degrees were awarded in these fields.
- Business and STEM fields each made up approximately 10 percent of both certificates and associate degrees awarded.

STEM Fields

From 2015 to 2017, computer and information sciences (42.9 percent) and engineering and engineering technologies (37.4 percent) were the most common STEM fields of study for sub-baccalaureate degree and certificate recipients, with 88 percent of certificates and 73 percent of associate degrees earned in these fields.

Table 4.10: Detailed Field of Study for Sub-baccalaureate Completions in STEM, by Award Level and Race and Ethnicity: 2015 to 2017

		Agriculture	Biological and Physical Sciences and Science Technology	Computer and Information Sciences and Support Services	Engineering and Engineering Technology	Mathematics
All Sub-baccalaureate Credentials	All racial and ethnic groups	8.1%	9.7%	42.9%	37.4%	1.8%
	American Indian or Alaska Native	10.7%	8.5%	39.1%	40.8%	0.9%
	Asian	1.4%	18.8%	46.2%	27.7%	6.0%
	Black or African American	2.3%	8.4%	52.8%	36.0%	0.6%
	Hispanic or Latino	4.3%	14.4%	40.5%	37.1%	3.6%
	Native Hawaiian or other Pacific Islander	3.7%	11.1%	45.1%	38.2%	1.8%
	White	11.2%	7.7%	40.8%	39.2%	1.1%
	More than one race	5.8%	11.6%	47.2%	33.0%	2.5%
	Race or ethnicity unknown	7.5%	7.9%	47.7%	35.9%	1.0%
	International students	3.3%	17.9%	44.4%	29.2%	5.3%
Sub-baccalaureate Certificates	All racial and ethnic groups	7.6%	4.2%	48.0%	40.0%	0.2%
	American Indian or Alaska Native	8.4%	2.1%	43.9%	45.5%	0.1%
	Asian	2.0%	6.6%	57.4%	32.5%	1.6%
	Black or African American	3.0%	4.1%	54.3%	38.5%	0.1%
	Hispanic or Latino	5.2%	4.0%	46.7%	44.0%	0.1%
	Native Hawaiian or other Pacific Islander	3.9%	4.1%	46.7%	45.2%	0.1%
	White	10.1%	4.1%	45.4%	40.3%	0.1%
	More than one race	5.6%	4.3%	53.2%	36.8%	0.2%
	Race or ethnicity unknown	7.0%	4.0%	51.4%	37.5%	0.1%
	International students	3.3%	5.6%	59.4%	29.3%	2.4%

		Agriculture	Biological and Physical Sciences and Science Technology	Computer and Information Sciences and Support Services	Engineering and Engineering Technology	Mathematics
Associate Degrees	All racial and ethnic groups	8.6%	14.9%	38.2%	35.0%	3.3%
	American Indian or Alaska Native	13.3%	15.6%	33.7%	35.6%	1.7%
	Asian	0.9%	27.6%	38.1%	24.2%	9.2%
	Black or African American	1.3%	13.8%	50.9%	32.9%	1.1%
	Hispanic or Latino	3.4%	25.5%	34.0%	29.7%	7.4%
	Native Hawaiian or other Pacific Islander	3.6%	18.3%	43.5%	31.1%	3.6%
	White	12.2%	10.9%	36.7%	38.2%	2.1%
	More than one race	5.9%	18.4%	41.7%	29.4%	4.6%
	Race or ethnicity unknown	7.9%	11.6%	44.2%	34.5%	1.9%
	International students	3.2%	25.4%	35.3%	29.1%	7.1%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Note: Data reflect sub-baccalaureate credentials earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017.

- Among those who earned their sub-baccalaureate awards in STEM fields, more than half (52.8 percent) of Black or African American students earned their credentials in computer and information sciences, more than any other group. American Indians or Alaska Natives were the least likely of all groups to complete their sub-baccalaureate credentials in this field (39.1 percent).
- White (11.2 percent) and American Indian or Alaska Native (10.7 percent) students were the most likely to earn their STEM-focused sub-baccalaureate awards in agriculture. The shares of other groups completing sub-baccalaureate awards in this field were much lower.
- Asian students (6.0 percent) and Hispanic or Latino students (3.6 percent) were the most likely to earn their STEM-focused sub-baccalaureate awards in math. Less than 1 percent of American Indian or Alaska Native students and Black or African American students completed their awards in this field, the lowest shares of all groups.
- International students (59.4 percent) were the most likely to earn their STEM-focused certificates in computer and information sciences. Among domestic students, American Indian or Alaska Native (45.5 percent), Native Hawaiian or other Pacific Islander (45.2 percent), and Hispanic or Latino (44.0 percent) students were the most likely to earn their STEM-focused certificates in engineering and engineering technologies.
- Black or African American students were the most likely to earn their STEM-focused associate degrees in computer and information sciences (50.9 percent). The shares of other groups earning associate degrees in this field were much lower.
- Asian students were the most likely to earn their STEM-focused associate degrees in mathematics (9.2 percent) and the least likely to earn their associate degrees in engineering and engineering technologies (24.2 percent).

Business Fields

From 2015 to 2017, management (47.9 percent) and general business (26.9 percent) were the most common business fields for sub-baccalaureate degree and certificate recipients.

Table 4.11: Detailed Field of Study for Sub-baccalaureate Completions in Business Fields, by Award Level and Race and Ethnicity: 2015 to 2017

		General Business	Marketing and Sales	Finance	Management	Hospitality
All Sub-baccalaureate Credentials	All racial and ethnic groups	26.9%	4.9%	16.4%	47.9%	3.9%
	American Indian or Alaska Native	31.7%	3.0%	15.4%	46.3%	3.6%
	Asian	21.2%	3.5%	24.3%	47.3%	3.6%
	Black or African American	28.1%	4.4%	12.8%	49.0%	5.7%
	Hispanic or Latino	28.6%	3.9%	17.1%	47.7%	2.7%
	Native Hawaiian or other Pacific Islander	27.0%	5.3%	16.6%	47.9%	3.2%
	White	27.1%	5.2%	16.7%	47.3%	3.8%
	More than one race	25.7%	5.2%	14.8%	50.0%	4.2%
	Race or ethnicity unknown	21.3%	4.6%	16.1%	54.4%	3.6%
	International students	26.0%	10.5%	13.6%	43.9%	6.0%
Sub-baccalaureate Certificates	All racial and ethnic groups	31.3%	4.9%	20.2%	39.0%	4.6%
	American Indian or Alaska Native	42.9%	3.6%	18.9%	30.0%	4.5%
	Asian	27.8%	3.2%	38.2%	27.1%	3.6%
	Black or African American	29.8%	4.5%	14.8%	43.6%	7.3%
	Hispanic or Latino	34.9%	3.8%	23.2%	35.1%	3.0%
	Native Hawaiian or other Pacific Islander	33.2%	6.2%	22.3%	34.1%	4.2%
	White	31.6%	5.3%	19.6%	39.4%	4.1%
	More than one race	30.5%	6.0%	19.4%	38.7%	5.4%
	Race or ethnicity unknown	27.1%	5.3%	18.3%	45.2%	4.2%
	International students	20.4%	7.5%	20.1%	43.9%	8.1%

		General Business	Marketing and Sales	Finance	Management	Hospitality
Associate Degrees	All racial and ethnic groups	23.5%	4.9%	13.5%	54.6%	3.5%
	American Indian or Alaska Native	22.9%	2.5%	12.7%	59.0%	2.9%
	Asian	17.5%	3.7%	16.5%	58.7%	3.6%
	Black or African American	26.6%	4.3%	10.9%	53.9%	4.2%
	Hispanic or Latino	23.6%	4.1%	12.2%	57.7%	2.4%
	Native Hawaiian or other Pacific Islander	23.1%	4.8%	13.0%	56.6%	2.6%
	White	23.7%	5.1%	14.5%	53.3%	3.5%
	More than one race	22.7%	4.7%	11.9%	57.3%	3.4%
	Race or ethnicity unknown	17.4%	4.1%	14.6%	60.6%	3.3%
	International students	28.9%	12.0%	10.4%	43.9%	5.0%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Note: Data reflect sub-baccalaureate credentials earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017.

- Among those who earned their sub-baccalaureate degrees and certificates in business fields, international students (6.0 percent) and Black or African American students (5.7 percent) were the most likely to earn their credentials in hospitality. Hispanic or Latino students were the least likely to have earned their sub-baccalaureate awards in this field (2.7 percent).
- International students were twice as likely to earn sub-baccalaureate credentials in marketing and sales (10.5 percent) as all students (4.9 percent). Among domestic students, Native Hawaiian or other Pacific Islander students were more likely than any other racial or ethnic group to earn their business-focused sub-baccalaureate awards in marketing and sales (5.3 percent).
- American Indian or Alaska Native students (42.9 percent) and Hispanic or Latino students (34.9 percent) were the most likely to earn their business-focused certificates in general business. Asian (27.8 percent) and international (20.4 percent) students were the least likely to have completed their certificates in this field.
- Asian students were more than twice as likely as Black or African American students to complete their business-focused certificates in finance (38.2 percent and 14.8 percent respectively).
- Nearly 60 percent of American Indian or Alaska Native students earned their business-focused associate degrees in management, the most of any group. In contrast, international students were the least likely to complete associate degrees in this field (43.9 percent).
- Hispanic or Latino students who earned business-focused associate degrees were most likely to major in management (57.7 percent) and least likely to major in hospitality (2.4 percent).

Health and Human Services Fields

Nursing (33.0 percent), allied health services (23.3 percent), and diagnostic services (14.3 percent) were the most common health and human services fields for both sub-baccalaureate degree and certificate recipients.

Table 4.12: Detailed Field of Study for Sub-baccalaureate Completions in Health and Human Services Fields, by Award Level and Race and Ethnicity: 2015 to 2017

		Diagnostic Services	Specialist Services	Therapeutic Services	Nursing	Allied Health Services	Non-treatment Fields	Education	Human Services, Social Work and Public Administration
All Sub-baccalaureate Credentials	All racial and ethnic groups	14.3%	5.3%	5.4%	33.0%	23.3%	11.5%	5.3%	2.0%
	American Indian or Alaska Native	11.3%	5.2%	5.3%	27.3%	23.7%	13.6%	10.4%	3.1%
	Asian	16.1%	5.5%	5.3%	36.6%	21.2%	11.3%	3.1%	0.9%
	Black or African American	9.0%	4.7%	6.3%	29.2%	27.2%	15.5%	5.0%	3.2%
	Hispanic or Latino	12.4%	8.3%	4.8%	23.8%	32.8%	10.2%	5.7%	1.9%
	Native Hawaiian or other Pacific Islander	12.0%	5.5%	5.7%	28.4%	29.8%	13.2%	4.0%	1.5%
	White	16.4%	4.6%	5.2%	37.5%	19.1%	10.3%	5.3%	1.7%
	More than one race	14.1%	5.4%	6.6%	31.5%	23.7%	11.5%	5.0%	2.2%
	Race or ethnicity unknown	14.0%	4.1%	6.3%	29.0%	21.5%	16.9%	5.6%	2.6%
	International students	15.3%	4.5%	7.6%	32.4%	15.0%	10.2%	12.0%	3.0%
Sub-baccalaureate Certificates	All racial and ethnic groups	14.4%	6.3%	6.9%	29.6%	26.7%	11.8%	3.5%	0.9%
	American Indian or Alaska Native	11.9%	6.8%	6.4%	26.5%	28.0%	13.9%	5.2%	1.3%
	Asian	14.5%	5.1%	7.7%	32.7%	24.1%	12.7%	2.7%	0.5%
	Black or African American	8.8%	6.2%	6.5%	28.8%	31.6%	13.8%	3.1%	1.1%
	Hispanic or Latino	11.6%	10.1%	5.5%	20.6%	37.9%	10.3%	3.2%	0.8%
	Native Hawaiian or other Pacific Islander	9.3%	6.5%	7.3%	26.7%	32.3%	14.2%	2.8%	0.9%
	White	17.8%	5.0%	7.3%	33.9%	20.4%	11.3%	3.6%	0.8%
	More than one race	14.2%	6.3%	8.6%	29.1%	26.4%	11.1%	3.2%	1.0%
	Race or ethnicity unknown	14.9%	4.6%	8.5%	26.3%	24.3%	15.7%	4.4%	1.3%
	International students	18.4%	3.8%	12.0%	28.5%	14.3%	9.2%	11.6%	2.2%

		Diagnostic Services	Specialist Services	Therapeutic Services	Nursing	Allied Health Services	Non-treatment Fields	Education	Human Services, Social Work and Public Administration
Associate Degrees	All racial and ethnic groups	14.0%	3.8%	3.1%	38.2%	18.0%	11.0%	8.1%	3.7%
	American Indian or Alaska Native	10.5%	2.6%	3.7%	28.6%	17.1%	13.1%	18.4%	6.0%
	Asian	18.4%	6.1%	1.9%	42.2%	17.0%	9.4%	3.7%	1.3%
	Black or African American	9.3%	1.7%	5.8%	30.0%	18.4%	18.8%	8.7%	7.2%
	Hispanic or Latino	14.5%	3.9%	3.1%	31.3%	20.6%	10.2%	11.7%	4.6%
	Native Hawaiian or other Pacific Islander	17.2%	3.6%	2.5%	31.6%	24.9%	11.3%	6.2%	2.6%
	White	14.8%	4.2%	2.6%	41.9%	17.5%	9.0%	7.4%	2.8%
	More than one race	13.9%	3.8%	3.3%	35.4%	19.2%	12.3%	7.9%	4.2%
	Race or ethnicity unknown	12.6%	3.3%	2.7%	33.3%	17.0%	18.8%	7.4%	4.7%
	International students	12.3%	5.1%	3.2%	36.4%	15.7%	11.2%	12.4%	3.7%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Note: Data reflect sub-baccalaureate credentials earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017.

- Among those who earned their sub-baccalaureate awards in health and human services, larger shares of White students (37.5 percent) and Asian students (36.6 percent) than of other groups earned their credentials in nursing.
- Overall, Hispanic or Latino students (32.8 percent) and Native Hawaiian or other Pacific Islander students (29.8 percent) were the most likely to earn their health and human services-focused sub-baccalaureate awards in allied health services. Among associate degree recipients, higher shares of Native Hawaiians or other Pacific Islanders than of other groups earned degrees in this field (24.9 percent)
- More than 10 percent of international students (12.0 percent) and American Indian or Alaska Native students (10.4 percent) earned their health and human services-focused sub-baccalaureate awards in education, the highest shares across all groups.
- Asian students (18.4 percent) and Native Hawaiian or other Pacific Islander students (17.2 percent) were the most likely to earn their health and human services-focused associate degrees in diagnostic services. In contrast, 9.3 percent of Black or African American students earned their degrees in this field.
- Higher shares of American Indian or Alaska Native (18.4 percent), international students (12.4 percent), and Hispanic or Latino students (11.7 percent) earned their health and human services-focused associate degrees in education than all other groups.
- Black or African American students were the most likely to earn their health and human services-focused associate degrees in human services, social work, and public administration (7.2 percent), followed by American Indians or Alaska Natives (6.0 percent). The shares among other groups completing associate degrees in this field were much lower.
- Hispanic or Latino students were the least likely to earn their health and human services-focused certificates in nursing (20.6 percent), but the most likely to earn their certificates in allied health services (37.9 percent).

Service and Manufacturing Fields

Manufacturing, building trades, and civic design (41.3 percent); cosmetology (20.9 percent); and military and protective services (16.8 percent) were the most common service fields of study for sub-baccalaureate degree and certificate recipients. Among associate degree recipients, military and protective services was the most common service and manufacturing field of study (37.2 percent).

Table 4.13: Detailed Field of Study for Sub-baccalaureate Completions in Service and Manufacturing Fields, by Award Level and Race and Ethnicity: 2015 to 2017

		Culinary Arts	Cosmetology	Lifestyle Services	Military and Protective Services	Legal	Transportation	Manufacturing and Building Trades and Civic Design	Funeral Service and Mortuary Science	Other Services
All Sub-baccalaureate Credentials	All racial and ethnic groups	5.9%	20.9%	6.1%	16.8%	2.7%	5.8%	41.3%	0.4%	0.2%
	American Indian or Alaska Native	5.2%	14.6%	5.0%	11.6%	1.8%	7.8%	53.7%	0.1%	0.2%
	Asian	7.2%	36.0%	7.8%	9.9%	2.1%	4.5%	32.2%	0.1%	0.2%
	Black or African American	7.2%	24.5%	8.1%	13.8%	2.3%	9.5%	34.0%	0.5%	0.1%
	Hispanic or Latino	5.2%	22.4%	8.7%	20.6%	2.4%	3.4%	37.1%	0.2%	0.1%
	Native Hawaiian or other Pacific Islander	7.3%	21.8%	4.2%	15.9%	1.7%	6.1%	42.5%	0.3%	0.2%
	White	5.2%	19.0%	4.6%	16.9%	2.8%	5.4%	45.3%	0.5%	0.2%
	More than one race	8.1%	20.9%	4.9%	16.2%	2.5%	3.4%	43.5%	0.3%	0.1%
	Race or ethnicity unknown	8.4%	13.7%	4.1%	18.8%	4.1%	7.4%	42.9%	0.2%	0.5%
	International students	18.4%	14.8%	10.9%	9.7%	2.9%	13.3%	29.8%	0.1%	0.0%
Sub-baccalaureate Certificates	All racial and ethnic groups	4.2%	27.1%	5.4%	10.5%	1.3%	7.1%	44.0%	0.1%	0.2%
	American Indian or Alaska Native	4.1%	17.7%	4.3%	6.8%	0.8%	9.4%	56.5%	0.1%	0.3%
	Asian	5.4%	44.8%	6.8%	5.4%	1.4%	5.0%	30.9%	0.0%	0.3%
	Black or African American	5.6%	29.9%	7.3%	7.2%	1.0%	11.5%	37.1%	0.2%	0.2%
	Hispanic or Latino	4.0%	29.6%	7.9%	11.9%	1.2%	4.1%	41.1%	0.1%	0.1%
	Native Hawaiian or other Pacific Islander	5.9%	29.3%	4.0%	9.0%	1.0%	7.3%	43.1%	0.0%	0.3%
	White	3.5%	24.8%	3.9%	11.5%	1.4%	6.6%	47.8%	0.2%	0.2%
	More than one race	5.5%	27.8%	4.6%	9.6%	1.2%	3.9%	47.1%	0.1%	0.2%
	Race or ethnicity unknown	5.7%	18.7%	3.6%	13.6%	2.1%	9.3%	46.3%	0.0%	0.6%
	International students	10.7%	22.3%	11.3%	6.5%	1.7%	16.4%	31.0%	0.0%	0.0%

		Culinary Arts	Cosmetology	Lifestyle Services	Military and Protective Services	Legal	Transportation	Manufacturing and Building Trades and Civic Design	Funeral Service and Mortuary Science	Other Services
Associate Degrees	All racial and ethnic groups	11.3%	0.8%	8.2%	37.2%	7.1%	1.5%	32.5%	1.4%	0.0%
	American Indian or Alaska Native	9.6%	1.2%	8.0%	31.6%	5.9%	1.0%	42.2%	0.4%	0.0%
	Asian	14.3%	1.0%	11.9%	28.0%	4.8%	2.3%	37.5%	0.4%	0.0%
	Black or African American	14.1%	1.0%	11.2%	42.6%	8.1%	0.8%	20.2%	2.1%	0.0%
	Hispanic or Latino	8.8%	0.8%	11.0%	46.7%	6.0%	1.0%	25.1%	0.6%	0.0%
	Native Hawaiian or other Pacific Islander	11.1%	0.4%	4.7%	35.4%	3.9%	2.5%	40.8%	1.1%	0.0%
	White	10.4%	0.8%	6.5%	34.0%	7.3%	1.6%	37.6%	1.7%	0.0%
	More than one race	15.4%	1.1%	5.9%	34.9%	6.4%	2.1%	33.2%	0.9%	0.0%
	Race or ethnicity unknown	15.4%	0.5%	5.4%	32.4%	9.2%	2.4%	33.8%	0.8%	0.0%
	International students	32.4%	1.1%	10.2%	15.5%	5.2%	7.6%	27.7%	0.4%	0.0%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Note: Data reflect sub-baccalaureate credentials earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017.

- Among those who earned their sub-baccalaureate certificates and degrees in service and manufacturing fields, over half of all American Indians or Alaska Natives earned their credentials in manufacturing, building trades, and civic design (53.7 percent). In contrast, international students (29.8 percent), Asian students (32.2 percent), and Black or African American students (34.0 percent) were the least likely to earn their service and manufacturing-focused sub-baccalaureate awards in these fields.
- Hispanic or Latino students were the most likely to earn their service and manufacturing-focused sub-baccalaureate awards in military and protective services (20.6 percent). This was more than double the share of Asian students (9.9 percent) and international students (9.7 percent) who completed their sub-baccalaureate awards in this field.
- More than one-third of Asian students earned their service and manufacturing-focused sub-baccalaureate awards in cosmetology (36.0 percent), a much higher share than all other groups.
- International students were the most likely of any group to earn their service and manufacturing-focused certificates in transportation (16.4 percent). Among domestic students, Black or African American students were the most likely to have earned their certificates in this field (11.5 percent).
- Approximately 30 percent each of Black or African American students, Hispanic or Latino students, and Native Hawaiian or other Pacific Islander students earned their service and manufacturing-focused certificates in cosmetology.
- Slightly less than half of Hispanic or Latino students (46.7 percent) and Black or African American students (42.6 percent) earned their service and manufacturing-focused associate degrees in military and protective services. Among domestic students, American Indian or Alaska Native students (31.6 percent) and Asian students (28.0 percent) were the least likely to complete associate degrees in this field.
- International students were the most likely to earn their service and manufacturing-focused associate degrees in culinary arts (32.4 percent). In contrast, less than 10 percent of American Indian or Alaska Native (9.6 percent) and Hispanic or Latino (8.8 percent) students completed their associate degrees in this field.

Social Sciences, Humanities, and General Studies Fields

More than three-quarters of sub-baccalaureate degree and certificate recipients in social sciences, humanities, and general studies earned their awards in general studies (78.0 percent). General studies was also the top field among certificate (66.3 percent) and associate degree (80.1 percent) recipients.

Table 4.14: Detailed Field of Study for Sub-baccalaureate Completions in Social Sciences, Humanities, and General Studies Fields, by Award Level and Race and Ethnicity: 2015 to 2017

		Foreign Language and Cultural Studies	Communications	History, Humanities, and Performing Arts	General Studies	Social Sciences	Multi/ Interdisciplinary Studies
All Sub-baccalaureate Credentials	All racial and ethnic groups	1.0%	1.9%	7.7%	78.0%	5.4%	6.0%
	American Indian or Alaska Native	2.9%	1.3%	7.8%	76.6%	7.1%	4.3%
	Asian	0.7%	1.9%	7.7%	69.8%	8.2%	11.7%
	Black or African American	0.6%	2.5%	6.6%	82.4%	3.9%	4.1%
	Hispanic or Latino	1.3%	2.2%	6.5%	74.2%	9.1%	6.6%
	Native Hawaiian or other Pacific Islander	1.6%	1.5%	6.2%	76.0%	8.3%	6.4%
	White	0.9%	1.7%	7.9%	80.2%	3.9%	5.5%
	More than one race	1.3%	2.3%	7.8%	74.8%	6.9%	6.8%
	Race or ethnicity unknown	0.8%	1.8%	11.7%	76.0%	3.4%	6.2%
	International students	1.0%	2.4%	14.4%	73.1%	4.2%	4.9%
Sub-baccalaureate Certificates	All racial and ethnic groups	3.2%	4.8%	20.1%	66.3%	1.9%	3.7%
	American Indian or Alaska Native	5.8%	3.3%	21.3%	63.1%	2.0%	4.6%
	Asian	1.7%	2.6%	15.8%	75.1%	1.1%	3.7%
	Black or African American	2.8%	11.5%	23.6%	58.0%	0.9%	3.2%
	Hispanic or Latino	3.2%	3.4%	12.9%	77.1%	0.9%	2.5%
	Native Hawaiian or other Pacific Islander	3.3%	2.7%	14.0%	73.6%	1.1%	5.3%
	White	3.4%	4.5%	22.0%	63.1%	2.7%	4.4%
	More than one race	3.8%	5.2%	17.7%	67.0%	2.0%	4.4%
	Race or ethnicity unknown	2.7%	6.1%	38.1%	46.4%	2.0%	4.6%
	International students	3.0%	4.8%	28.1%	59.7%	1.8%	2.7%

		Foreign Language and Cultural Studies	Communications	History, Humanities, and Performing Arts	General Studies	Social Sciences	Multi/ Interdisciplinary Studies
Associate Degrees	All racial and ethnic groups	0.6%	1.4%	5.5%	80.1%	6.0%	6.4%
	American Indian or Alaska Native	2.4%	0.9%	5.3%	79.2%	8.0%	4.3%
	Asian	0.4%	1.8%	5.5%	68.5%	10.0%	13.8%
	Black or African American	0.3%	1.3%	4.3%	85.7%	4.3%	4.2%
	Hispanic or Latino	0.9%	2.0%	5.2%	73.7%	10.8%	7.4%
	Native Hawaiian or other Pacific Islander	1.3%	1.3%	5.0%	76.4%	9.4%	6.6%
	White	0.4%	1.2%	5.5%	83.1%	4.1%	5.7%
	More than one race	0.9%	1.8%	5.9%	76.3%	7.9%	7.2%
	Race or ethnicity unknown	0.4%	1.0%	6.8%	81.5%	3.7%	6.5%
	International students	0.5%	1.8%	11.0%	76.4%	4.8%	5.5%

Source: U.S. Department of Education, Integrated Postsecondary Education Data System, 2015, 2016, 2017

Note: Data reflect sub-baccalaureate credentials earned at all Title IV eligible, degree-granting and non-degree-granting institutions, pooled for 2015, 2016, and 2017.

- Among those who earned their sub-baccalaureate certificates and degrees in social sciences, humanities, and general studies fields, higher shares of Black or African American students (82.4 percent) and White students (80.2 percent) earned their credentials in general studies than any other group.
- Asian students were nearly twice as likely as all other groups to earn their social science or humanities-focused sub-baccalaureate awards in multi or interdisciplinary studies (11.7 percent).
- Hispanic or Latino students were the most likely to earn their social science or humanities-focused sub-baccalaureate awards in social sciences (9.1 percent). In contrast, 3.9 percent each of Black or African American and White students earned their degrees in this field.
- A higher share of international students (28.1 percent) than of domestic students earned their social sciences or humanities-focused certificates in history, humanities, and performing arts.
- Black or African American students were the most likely to earn their social sciences or humanities-focused certificates in communications (11.5 percent). Asian students were the least likely to have completed certificates in these fields (2.6 percent).
- Asian students were the least likely to earn their social sciences or humanities-focused associate degrees in general studies (68.5 percent), while Black or African American students were the most likely (85.7 percent).

ADULT TRAINING AND EDUCATION

The Adult Training and Education Survey (ATES) is a part of the National Household Education Surveys Program of the National Center for Education Statistics. The ATES is a nationally representative survey of adults ages 16 to 65 who are not enrolled in high school. One of the main goals of the ATES was to capture both the prevalence of work certifications, licenses, and work experience programs and individuals' perceptions of their usefulness in the labor market. Work certifications include any occupational credential awarded by a certification body based on an individual demonstrating through an examination process the acquisition of specialized knowledge, skills, and abilities to perform a specific job (e.g., project management certificate, Cisco certified network associate). A license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job (e.g., medical license, electrician's license). Finally, work experience programs help adults develop skills necessary for success in the workforce but do not typically result in receiving a work or educational credential (e.g., internships, apprenticeships, practicums).

Work Certifications and Licenses

Approximately one in five (21.1 percent) adults reported having either a work certification or license, with 17.6 percent of adults having at least one license and 6.0 percent of adults having at least one work certification.

Table 4.15: Percentage of Adults Who Have a Work Certification or License, by Gender and Race and Ethnicity: 2016

		% with Work Certifications	% with Work Licenses	% with Any Work Certifications or Licenses
All Adults	All racial and ethnic groups	6.0%	17.6%	21.1%
	American Indian or Alaska Native	6.4%	13.7%	17.2%
	Asian or Pacific Islander	4.9%	14.1%	17.3%
	Black or African American	4.9%	17.4%	20.0%
	Hispanic or Latino	4.2%	11.6%	14.3%
	White	6.8%	19.8%	23.8%
	More than one race	5.2%	14.2%	17.7%
Women	All racial and ethnic groups	5.7%	19.7%	23.0%
	American Indian or Alaska Native	5.7%	14.8%	18.0%
	Asian or Pacific Islander	4.8%	16.3%	19.2%
	Black or African American	4.5%	19.1%	21.8%
	Hispanic or Latina	4.4%	13.6%	16.5%
	White	6.4%	22.0%	25.6%
	More than one race	4.3%	18.7%	21.0%

		% with Work Certifications	% with Work Licenses	% with Any Work Certifications or Licenses
Men	All racial and ethnic groups	6.4%	15.1%	18.9%
	American Indian or Alaska Native	7.3%!	12.4%	16.3%
	Asian or Pacific Islander	5.0%	11.5%	15.0%
	Black or African American	5.4%	15.2%	17.7%
	Hispanic or Latino	4.0%	9.3%	11.6%
	White	7.4%	17.3%	21.7%
	More than one race	6.4%	8.1%	13.2%

Source: U.S. Department of Education, Adult Training and Education Survey, 2016

Notes: Work certifications are occupational credentials awarded by a certification body based on an individual demonstrating through an examination process that they have acquired the designated knowledge, skills, and abilities to perform a specific job. | A work license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%.

- Women (19.7 percent) were more likely to have a work license than men (15.1 percent). However, men (6.4 percent) were more likely to have a work certification than women (5.7 percent).
- Regardless of gender, White adults (23.8 percent) and Black or African American adults (20.0 percent) were more likely to have either a work certification or license than other groups.
- Hispanic or Latino adults were the least likely to have either work certifications (4.2 percent) or licenses (11.6 percent). Of Hispanic or Latino men, only 4.0 percent had earned a work certification and only 9.3 percent had earned a work license.

Adults with higher education levels were more likely to have at least one work certification or license. Work licenses were most commonly held by individuals with graduate or professional degrees (42.7 percent).

Table 4.16: Percentage of Adults Who Have a Work Certification or License, by Level of Educational Attainment and Race and Ethnicity: 2016

		% with Work Certifications	% with Work Licenses	% with Any Work Certifications or Licenses
High School Credential or Less	All racial and ethnic groups	2.8%	7.7%	9.6%
	American Indian or Alaska Native	5.1%!	7.6%!	10.4%
	Asian or Pacific Islander	2.2%!	6.8%	8.3%
	Black or African American	1.8%	9.6%	10.7%
	Hispanic or Latino	2.1%	4.9%	6.3%
	White	3.4%	8.8%	11.1%
	More than one race	2.3%!	6.2%!	8.5%!
Some College but No Bachelor's Degree	All racial and ethnic groups	6.8%	17.6%	21.7%
	American Indian or Alaska Native	6.1%	12.8%	16.9%
	Asian or Pacific Islander	5.1%!	12.5%	16.8%
	Black or African American	6.1%	17.9%	21.4%
	Hispanic or Latino	7.4%	17.9%	22.2%
	White	6.9%	18.2%	22.4%
	More than one race	5.5%	11.0%	15.1%
Bachelor's Degree	All racial and ethnic groups	8.5%	22.6%	27.4%
	American Indian or Alaska Native	8.5%!	23.7%	28.6%
	Asian or Pacific Islander	5.3%	15.3%	17.9%
	Black or African American	7.9%	28.1%	31.9%
	Hispanic or Latino	6.6%	20.9%	25.2%
	White	9.3%	23.2%	28.5%
	More than one race	4.5%!	18.4%	20.4%
Graduate or Professional Degree	All racial and ethnic groups	10.3%	42.7%	47.7%
	American Indian or Alaska Native	12.9%!	38.9%	40.9%
	Asian or Pacific Islander	7.3%	23.1%	27.9%
	Black or African American	11.6%	41.1%	45.9%
	Hispanic or Latino	7.2%	40.6%	44.7%
	White	10.9%	46.5%	51.7%
	More than one race	12.3%!	39.0%	45.3%

Source: U.S. Department of Education, Adult Training and Education Survey, 2016

Notes: Work certifications are occupational credentials awarded by a certification body based on an individual demonstrating through an examination process that they have acquired the designated knowledge, skills, and abilities to perform a specific job. | A work license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

- Among those who have some college but no bachelor's degree, the percentage of people who have work certifications was higher among Hispanic or Latino adults (7.4 percent) than White adults (6.9 percent).
- Among those who have earned a bachelor's degree, White adults (9.3 percent) and American Indian or Alaska Native adults (8.5 percent) were the most likely to have earned a work certification.
- Among those who have a graduate or professional degree, the percentage of adults with a work certification was higher among Black or African American individuals (11.6 percent) than White individuals (10.9 percent).
- Among those who have a graduate or professional degree, the percentage of adults with a work license was highest among White adults (46.5 percent) and lowest among Asian or Pacific Islander adults (23.1 percent).

Nearly 70 percent of adults working in the healthcare field reported having at least one work certification or license, the most of any occupational field.

Table 4.17: Percentage of Adults Within Occupational Fields Who Have a Work Certification or License, by Race and Ethnicity: 2016

	Administrative Support	Applied	Arts, Design, Entertainment, and Media	Business	Food Preparation and Serving	Healthcare	Public Services	STEM	Unknown
All racial and ethnic groups	9.3%	17.4%	8.1%	18.7%	6.8%	69.5%	47.5%	19.6%	12.7%
American Indian or Alaska Native	9.6%!	17.3%	15.6%!!	17.5%	4.0%!	49.0%!	23.9%!	19.0%!	11.9%!!
Asian or Pacific Islander	10.3%!	16.6%	2.4%!!	11.8%	2.5%!	69.5%	28.1%	10.2%	19.0%
Black or African American	10.1%	17.4%	5.2%!!	18.9%	10.4%	51.4%	43.6%	20.0%	12.9%
Hispanic or Latino	8.0%	12.3%	7.3%!!	15.5%	4.1%	68.5%	40.2%	22.0%	6.9%
White	9.5%	19.3%	9.2%	19.9%	7.3%	75.0%	51.2%	22.0%	15.3%
More than one race	3.2%!	23.8%	2.1%!!	13.3%	13.4%!	62.2%	43.3%	8.2%!	6.8%!!

Source: U.S. Department of Education, Adult Training and Education Survey, 2016

Notes: Applied work certifications and licenses include the following fields: manufacturing; farming; construction and extraction; installation and repair; military and protective services; personal, building, and ground services; and transportation. | Business work certifications and licenses include the following fields: business management and operations; financial specialists; and sales. | Public work certifications and licenses include the following fields: community and social service; legal; education and library occupations. | STEM work certifications and licenses include the following fields: computer occupations; scientists, engineers, and architects. | Work certifications are occupational credentials awarded by a certification body based on an individual demonstrating through an examination process that they have acquired the designated knowledge, skills, and abilities to perform a specific job. | A work license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

- Among those working in the healthcare field, White adults were the most likely to report having a work license or certification (75.0 percent), while Black or African American adults (51.4 percent) and American Indian or Alaska Native adults (49.0 percent) were the least likely to have these credentials.
- Among those working in the public services field, White adults (51.2 percent) and Black or African American adults (43.6 percent) were the most likely to report having a work license or certification.

Over 80 percent of adults with a work certification or license reported that these credentials were very useful in helping them get a job (81.6 percent), keep a job (80.1 percent), and remain marketable to employers or clients (80.9 percent).

Table 4.18: Usefulness of Most Important Work Certification or License in Getting a Job, by Gender and Race and Ethnicity: 2016

		Getting a Job		
		% Not Useful	% Somewhat Useful	% Very Useful
All Adults	All racial and ethnic groups	6.8%	11.6%	81.6%
	American Indian or Alaska Native	7.4%!	23.0%	69.6%
	Asian or Pacific Islander	6.3%!	16.7%	77.0%
	Black or African American	8.7%	11.2%	80.0%
	Hispanic or Latino	8.8%	11.7%	79.5%
	White	6.2%	11.0%	82.8%
	More than one race	6.4%!	17.3%	76.3%
Women	All racial and ethnic groups	5.4%	9.5%	85.1%
	American Indian or Alaska Native	6.7%!	17.1%!	76.2%
	Asian or Pacific Islander	4.6%!	12.1%	83.4%
	Black or African American	9.6%	9.2%	81.2%
	Hispanic or Latina	6.8%	8.3%	84.9%
	White	4.5%	9.4%	86.1%
	More than one race	4.7%!	10.2%!	85.2%
Men	All racial and ethnic groups	8.7%	14.6%	76.6%
	American Indian or Alaska Native	8.2%!	31.1%!	60.7%
	Asian or Pacific Islander	9.1%!	24.0%	66.9%
	Black or African American	7.4%	14.5%	78.1%
	Hispanic or Latino	12.0%	17.2%	70.8%
	White	8.4%	13.1%	78.5%
	More than one race	10.0%!	32.6%!	57.4%

Source: U.S. Department of Education, Adult Training and Education Survey, 2016

Notes: Work certifications are occupational credentials awarded by a certification body based on an individual demonstrating through an examination process that they have acquired the designated knowledge, skills, and abilities to perform a specific job. | A work license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

Table 4.19: Usefulness of Most Important Work Certification or License in Keeping Marketable to Employers or Clients, by Gender and Race and Ethnicity: 2016

		Keeping Marketable to Employers or Clients		
		% Not Useful	% Somewhat Useful	% Very Useful
All Adults	All racial and ethnic groups	5.7%	13.4%	80.9%
	American Indian or Alaska Native	8.0%!	16.9%	75.1%
	Asian or Pacific Islander	4.7%!	16.6%	78.7%
	Black or African American	7.5%	16.7%	75.8%
	Hispanic or Latino	8.9%	13.3%	77.8%
	White	5.0%	12.6%	82.5%
	More than one race	3.9%!	15.3%	80.8%
Women	All racial and ethnic groups	5.2%	12.0%	82.8%
	American Indian or Alaska Native	5.6%!	20.4%!	74.0%
	Asian or Pacific Islander	5.9%!	15.7%	78.5%
	Black or African American	9.4%	15.9%	74.7%
	Hispanic or Latina	7.7%	11.4%	81.0%
	White	4.0%	11.0%	85.0%
	More than one race	3.2%!	9.3%!	87.6%
Men	All racial and ethnic groups	6.5%	15.4%	78.1%
	American Indian or Alaska Native	11.2%!!	12.2%!!	76.7%
	Asian or Pacific Islander	2.9%!	18.1%	79.1%
	Black or African American	4.4%	18.0%	77.6%
	Hispanic or Latino	10.9%	16.5%	72.7%
	White	6.3%	14.6%	79.1%
	More than one race	5.6%!!	28.0%!	66.4%

Source: U.S. Department of Education, Adult Training and Education Survey, 2016

Notes: Work certifications are occupational credentials awarded by a certification body based on an individual demonstrating through an examination process that they have acquired the designated knowledge, skills, and abilities to perform a specific job. | A work license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

Table 4.20: Usefulness of Most Important Work Certification or License in Improving Your Work Skills, by Gender and Race and Ethnicity: 2016

		Improving Your Work Skills		
		% Not Useful	% Somewhat Useful	% Very Useful
All Adults	All racial and ethnic groups	10.3%	23.6%	66.0%
	American Indian or Alaska Native	15.8%!	27.5%	56.8%
	Asian or Pacific Islander	9.3%	26.6%	64.2%
	Black or African American	8.6%	21.0%	70.5%
	Hispanic or Latino	11.9%	18.8%	69.3%
	White	10.4%	24.5%	65.2%
	More than one race	9.3%!	30.1%	60.6%
Women	All racial and ethnic groups	9.2%	22.3%	68.5%
	American Indian or Alaska Native	12.1%!	30.5%	57.4%
	Asian or Pacific Islander	8.4%	26.2%	65.4%
	Black or African American	10.3%	17.3%	72.4%
	Hispanic or Latina	10.5%	19.7%	69.8%
	White	8.9%	22.9%	68.2%
	More than one race	2.3%!	37.8%	59.9%
Men	All racial and ethnic groups	12.0%	25.5%	62.6%
	American Indian or Alaska Native	20.7%!	23.4%!	55.9%
	Asian or Pacific Islander	10.6%!	27.1%	62.3%
	Black or African American	5.8%	26.9%	67.3%
	Hispanic or Latino	14.1%	17.4%	68.5%
	White	12.3%	26.5%	61.2%
	More than one race	24.4%!	13.5%!	62.1%

Source: U.S. Department of Education, Adult Training and Education Survey, 2016

Notes: Work certifications are occupational credentials awarded by a certification body based on an individual demonstrating through an examination process that they have acquired the designated knowledge, skills, and abilities to perform a specific job. | A work license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

Table 4.21: Usefulness of Most Important Work Certification or License in Keeping a Job, by Gender and Race and Ethnicity: 2016

		Keeping a Job		
		% Not Useful	% Somewhat Useful	% Very Useful
All Adults	All racial and ethnic groups	7.6%	12.3%	80.1%
	American Indian or Alaska Native	7.3%!	18.0%	74.7%
	Asian or Pacific Islander	6.6%	16.8%	76.7%
	Black or African American	11.6%	11.1%	77.3%
	Hispanic or Latino	9.2%	13.9%	76.9%
	White	6.7%	11.8%	81.5%
	More than one race	14.0%!	6.0%!	79.9%
Women	All racial and ethnic groups	6.5%	10.1%	83.4%
	American Indian or Alaska Native	5.7%!	19.2%!	75.1%
	Asian or Pacific Islander	6.9%!	13.6%	79.5%
	Black or African American	11.7%	9.5%	78.8%
	Hispanic or Latina	6.5%	12.6%	80.9%
	White	5.6%	9.4%	85.0%
	More than one race	6.7%!	4.6%!	88.8%
Men	All racial and ethnic groups	9.2%	15.2%	75.6%
	American Indian or Alaska Native	9.4%!	16.5%!	74.1%
	Asian or Pacific Islander	6.0%!	21.7%	72.3%
	Black or African American	11.5%	13.6%	74.9%
	Hispanic or Latino	13.6%	16.1%	70.4%
	White	8.2%	15.0%	76.8%
	More than one race	29.4%!	9.1%!	61.6%

Source: U.S. Department of Education, Adult Training and Education Survey, 2016

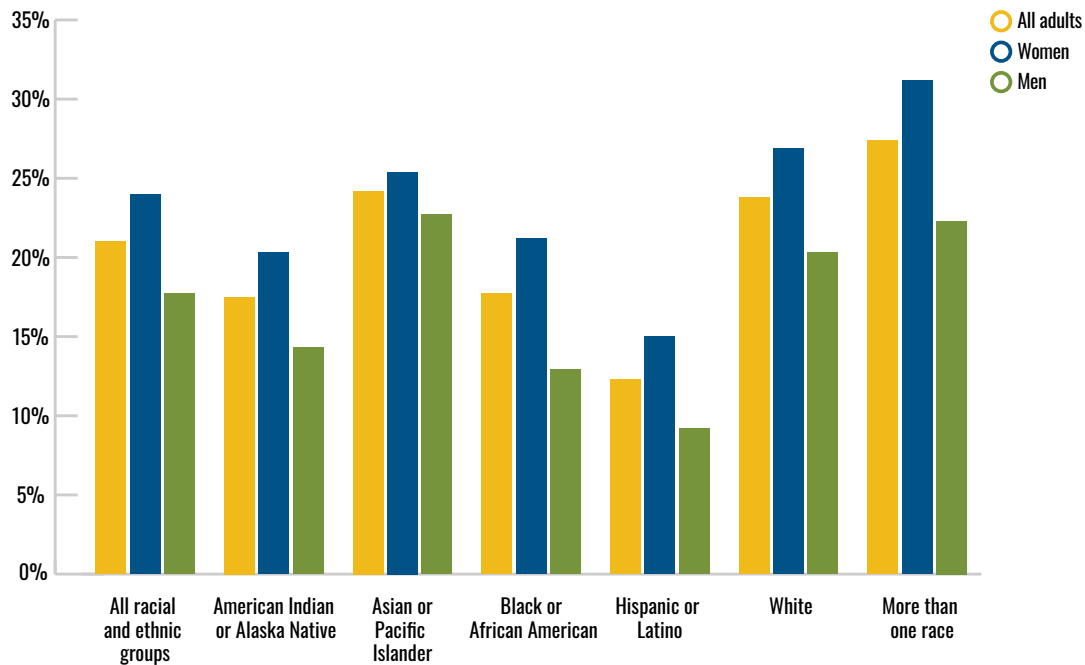
Notes: Work certifications are occupational credentials awarded by a certification body based on an individual demonstrating through an examination process that they have acquired the designated knowledge, skills, and abilities to perform a specific job. | A work license is an occupational credential awarded by a government agency that constitutes legal authority to do a specific job. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | !! Interpret with caution. Ratio of standard error is > 50%.

- In general, more women than men reported their work certifications or licenses as more useful in getting a job, keeping a job, improving skills, and keeping them marketable.
- American Indian or Alaska Native men (60.7 percent) were the least likely to report that their work certification or license was very useful in getting a job, while White women (86.1 percent) were the most likely to report their work certification or license as very useful in getting a job.
- Men of more than one race (61.6 percent) were the least likely to report that their work certification or license was very useful in keeping a job, while women of more than one race (88.8 percent) were the most likely to report that their work certification or license was very useful in keeping a job.

Work Experience Programs

Approximately one in five (21.0 percent) adults reported having completed a work experience program.

Figure 4.3: Percentage of Adults Who Have Completed a Work Experience Program, by Gender and Race and Ethnicity: 2016



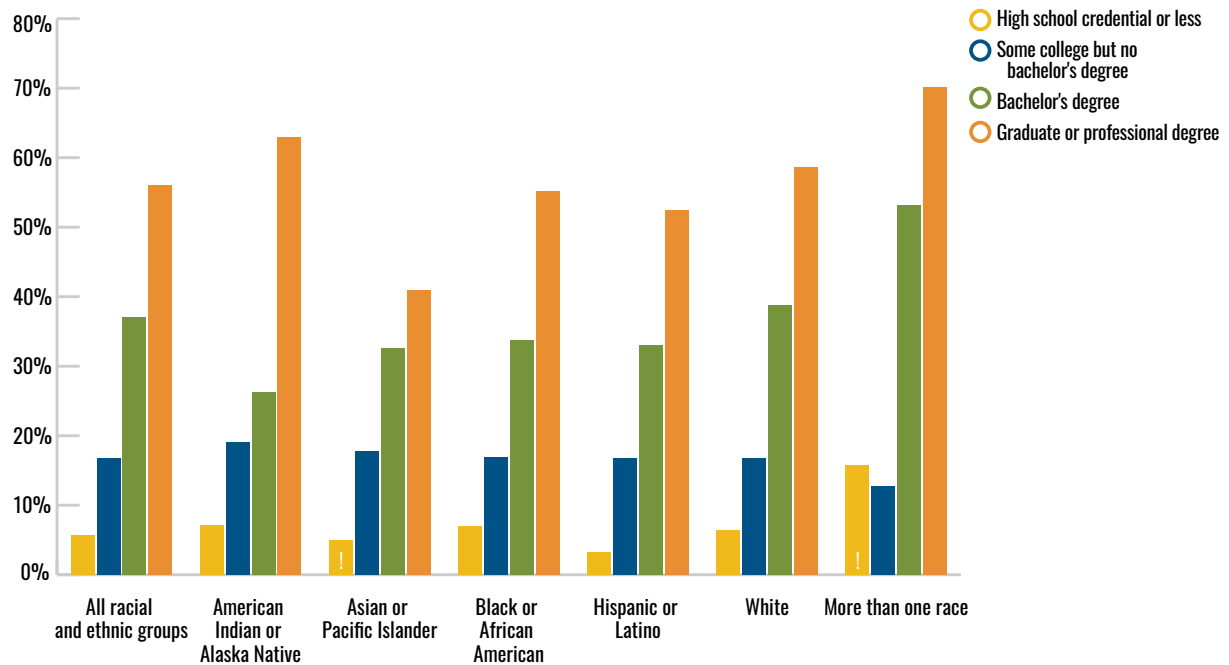
Source: U.S. Department of Education, Adult Training and Education Survey, 2016

Note: Work experience programs include internships, co-ops, practicums, clerkships, externships, residencies, clinical experiences, apprenticeships, and similar programs.

- Women (24.0 percent) were more likely than men (17.7 percent) to have completed a work experience program.
- Adults of more than one race (27.4 percent) and Asian or Pacific Islander adults (24.2 percent) were the most likely to have completed a work experience program, while Hispanic or Latino adults (12.3 percent) were the least likely.
- Women of more than one race (31.2 percent) and White women (26.9 percent) were the most likely to have completed a work experience program, while Hispanic or Latino men (9.2 percent) were the least likely.

Adults with higher levels of education were more likely to have completed a work experience program. While only 5.7 percent of adults whose highest credential was a high school credential or less have completed a work experience program, the majority of those with graduate or professional degrees have done so (56.0 percent).

Figure 4.4: Percentage of Adults Who Have Completed a Work Experience Program, by Educational Attainment and Race and Ethnicity: 2016



Source: U.S. Department of Education, Adult Training and Education Survey, 2016

Notes: Work experience programs include internships, co-ops, practicums, clerkships, externships, residencies, clinical experiences, apprenticeships, and similar programs. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%.

- Among adults who had attained a bachelor's degree, individuals of more than one race (53.2 percent) and White adults (38.7 percent) were the most likely to have completed a work experience program. American Indian or Alaska Native adults with bachelor's degrees were least likely to have completed these programs (26.2 percent).
- Among adults who had attained a graduate or professional degree, individuals of more than one race (70.1 percent) and American Indian or Alaska Native adults (63.0 percent) were the most likely to have completed a work experience program. Asian or Pacific Islander adults with an advanced degree were least likely to have completed these programs (41.0 percent).

Women (64.6 percent) were slightly more likely than men (63.2 percent) to report their work experience program was very useful in getting a job. Men (39.8 percent) were more likely than women (34.6 percent) to report their work experience program was very useful in increasing their pay.

Table 4.22: Usefulness of Work Experience Programs, by Gender and Race and Ethnicity: 2016

		Getting a Job			Improving Your Work Skills			Increasing Your Pay		
		% Not Useful	% Somewhat Useful	% Very Useful	% Not Useful	% Somewhat Useful	% Very Useful	% Not Useful	% Somewhat Useful	% Very Useful
All Adults	All racial and ethnic groups	12.3%	23.6%	64.1%	7.1%	27.4%	65.6%	38.4%	25.0%	36.7%
	American Indian or Alaska Native	11.6%	25.5%	63.0%	10.3%!	19.1%	70.5%	38.3%	21.0%	40.7%
	Asian or Pacific Islander	11.9%	26.2%	61.9%	8.4%	32.9%	58.6%	38.4%	23.7%	37.9%
	Black or African American	15.0%	22.6%	62.4%	11.2%	26.1%	62.7%	39.2%	23.2%	37.6%
	Hispanic or Latino	12.4%	27.0%	60.6%	7.7%	25.7%	66.7%	37.7%	23.6%	38.7%
	White	11.8%	22.9%	65.3%	6.2%	27.2%	66.5%	38.2%	25.7%	36.1%
	More than one race	18.9%!	27.5%	53.6%	6.1%!	34.2%	59.7%	45.7%	20.5%	33.8%
Women	All racial and ethnic groups	12.6%	22.8%	64.6%	7.3%	25.7%	67.0%	41.0%	24.4%	34.6%
	American Indian or Alaska Native	15.5%	22.3%	62.1%	15.3%!	16.2%	68.5%	48.5%	22.5%!	29.0%
	Asian or Pacific Islander	13.9%	26.7%	59.4%	10.1%	31.8%	58.1%	40.2%	23.9%	35.9%
	Black or African American	15.4%	22.5%	62.1%	11.2%	27.7%	61.2%	41.6%	22.0%	36.4%
	Hispanic or Latina	13.5%	27.1%	59.5%	9.1%	24.9%	66.0%	41.0%	24.6%	34.4%
	White	11.6%	21.9%	66.5%	6.0%	25.1%	68.9%	40.9%	24.9%	34.2%
	More than one race	20.8%!	19.7%!	59.6%	5.5%!	27.6%	66.9%	36.2%	21.2%!	42.6%
Men	All racial and ethnic groups	11.9%	24.9%	63.2%	6.8%	29.9%	63.3%	34.3%	25.9%	39.8%
	American Indian or Alaska Native	5.0%!	30.7%	64.3%	2.2%!	23.9%!	74.0%	20.8%!	18.5%!	60.7%
	Asian or Pacific Islander	9.4%	25.5%	65.1%	6.3%!	34.4%	59.3%	36.1%	23.4%	40.5%
	Black or African American	14.0%	22.8%	63.2%	11.3%	22.6%	66.1%	33.7%	26.2%	40.2%
	Hispanic or Latino	10.3%	26.9%	62.8%	5.0%	27.0%	68.0%	31.6%	21.9%	46.6%
	White	12.2%	24.3%	63.5%	6.7%	30.0%	63.0%	34.2%	26.9%	39.0%
	More than one race	15.1%!	43.5%	41.4%	7.1%!	46.2%	46.7%	65.3%	18.9%	15.8%

Source: U.S. Department of Education, Adult Training and Education Survey, 2016

Notes: Work experience programs include internships, co-ops, practicums, clerkships, externships, residencies, clinical experiences, apprenticeships, and similar programs. | ! Interpret with caution. Ratio of standard error to estimate is >30% but <50%. | ! ! Interpret with caution. Ratio of standard error is > 50%.

- Among women who completed work experience programs, White women (66.5 percent) were the most likely to report the program as very useful in helping them get a job. Asian or Pacific Islander women were least likely (59.4 percent) to report this.
- Men of more than one race (15.8 percent) and American Indian or Alaska Native women (29.0 percent) were the least likely of any group to report their work experience program as very useful in increasing their pay. American Indian or Alaska Native men (60.7 percent) were most likely to report this.

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