IOWA COMMUNITY COLLEGES
EDUCATION OUTCOMES

Certificate, Diploma, and Associate Degree Programs

Academic Year 2013 to Academic Year 2017

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COMMUNITY COLLEGES & WORKFORCE PREPARATION
PROSPERITY THROUGH EDUCATION

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Iowa Community Colleges Employment Outcomes: Certificate, Diploma, and Associate Degree Programs

A statewide overview of education and employment outcomes of individuals enrolled in community college credit programs.

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COMMUNITY COLLEGES & WORKFORCE PREPARATION
PROSPERITY THROUGH EDUCATION

IOWA WORKFORCE DEVELOPMENT

Letter from the Director

Dear Education Stakeholders,

One of the critical functions of the Iowa Department of Education is to provide and interpret educational data. We do this to support accountability, transparency, and the ongoing improvement of our educational institutions. Staff in the Division of Community Colleges and Workforce Preparation continue to refine and improve the methods in which we collect, analyze, and report data to ensure that it is both meaningful and easily understood. We trust the reader will find that to be the case in this annual *Education Outcomes: Certificate, Diploma, and Associate Degree Programs for Iowa's Community Colleges Report*.

Iowa's community college system is the state's largest postsecondary education sector, offering a variety of education and training programs designed to meet state and regional economic needs. This report provides information about community college awards, time-to-degree, retention, migration, transfer to four-year institutions, employment and wages, and career clusters. This information can assist community colleges with program development and improvement, particularly with career and technical education (CTE) programs.

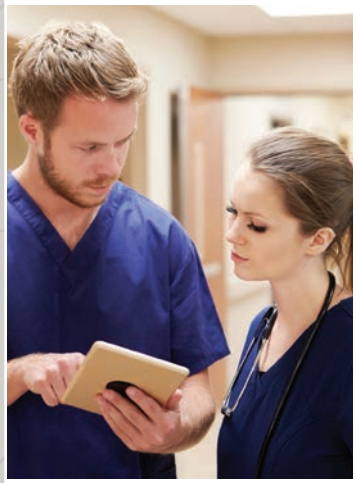
As part of the Future Ready Iowa Initiative, the Iowa Department of Education (Department) partners with Iowa Workforce Development (IWD) to link state and national education and workforce data to monitor the outcomes of students enrolled in Iowa's 15 community colleges. Additional interactive charts that compare outcomes by state and program are available on the Department's website at: https://www.educateiowa.gov/iowa-community-college-program-outcomes.

Thank you for taking the time to review this report and I look forward to working with you on other statewide collaborative efforts to provide quality education and training programs designed to equip Iowans with the skills and knowledge to meet their career and educational goals. Only through the success of our students will Iowa's workforce be ready for future jobs and economic prosperity.

Sincerely,

Ryan M. Wise

Ryan M. Wise, Ed.L.D.
Director
Iowa Department of Education



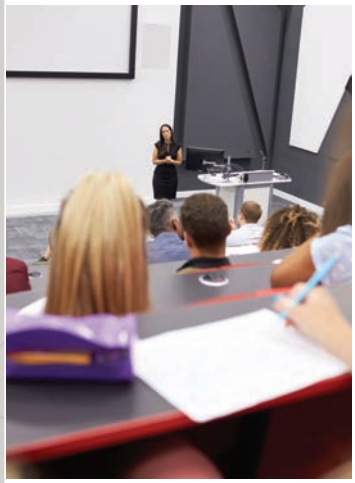


Table of Contents

Introduction

The Iowa Community Colleges Education Outcomes: Certificate, Diploma, and Associate Degree Programs Report, published annually, analyzes the outcomes of students completing community college programs. This report, and other related resources, provide institutional data designed to inform community college administrators and policymakers as they engage in planning and program improvement.

Throughout this report, employment and wages are analyzed to illustrate the significant impact that the education and training provided by Iowa's community colleges have on the economy. Program and award levels are analyzed separately in order to assess the benefits of each. Research parameters were set to distinguish between programs consisting of 22 credit hours or more, (considered "long-term" awards), and those consisting of less than 22 credit hours (considered "short-term" awards). These parameters, which are applied by credit-hour definition, ensure a uniform approach to the data analysis in this report.

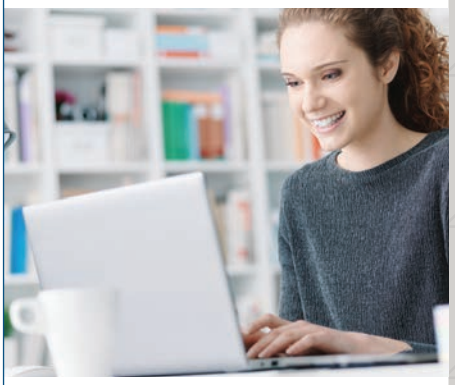
Coinciding with the programs, five annualized cohorts of student award recipients were studied regarding their subsequent employment and wages (academic years [AY] 2013, 2014, 2015, 2016, and 2017). These cohorts will be studied longitudinally for five years after graduation. The research is limited to five years because previous program outcomes research regarding two-year college education revealed that wage growth slows within a five-year period.

Unit record tracking of student data is the preferred method of reporting education outcomes by program. However, the inability to access and link individual student records to employment and wages has been a challenge for most researchers because of confidentiality laws restricting the use of unit-level data. The Iowa Department of Education (Department) and Iowa Workforce Development (IWD) have overcome this hurdle by forming a partnership dedicated to evaluating and reporting education outcomes (i.e., employment and wages) for community college programs.

In Iowa, as in many states throughout the nation, education and employer records are held in two different agencies of state government, the Department and IWD, respectively. This interagency partnership has allowed for data-sharing agreements with clearly stated research objectives that adhere to all Unemployment Insurance (UI) and Family Educational Rights and Privacy Act (FERPA) regulations and rules. Furthermore, access is limited to staff members who have signed confidentiality agreements regarding reporting and use of student records.

CREDIT-BEARING PROGRAMS

Credit programs offered by Iowa's 15 community colleges lead to a certificate, diploma, or associate degree and are designed to prepare students for immediate employment in occupations requiring less than a four-year degree or to transfer and satisfy credits toward a bachelor's degree at a four-year institution.



DATA ANALYSIS

Program and award levels were analyzed separately to assess the benefits of each. To ensure a uniform approach to research, parameters were set to distinguish between programs consisting of 22 credit hours or more (considered "long-term" awards), and those consisting of less than 22 credit hours (considered "short-term" awards).

AGENCY PARTNERSHIP

The Iowa Department of Education and Iowa Workforce Development partnered to evaluate and report education, employment, and wage outcomes for individuals in certificate, diploma, and associate degree programs. Research objectives are clearly stated in data-sharing agreements and limited staff have access to the data. In addition, staff from both agencies signed confidentiality agreements pertaining to the reporting and use of student records.

Overview of Research

To properly conduct the research for this report, data criteria were established based on less than 22 credit hours ("short-term") or 22 or more credit hours ("long-term") for associate, diploma, and certificate awards. All data were extracted from the Department's Community College Management Information System (MIS) and grouped based on this threshold, along with each credential's award date. The award date is referenced throughout this report as academic year (i.e., grouped September 1, 2016, to August 31, 2017, is AY 2017). Students who received awards in AY 2013, AY 2014, AY 2015, AY 2016, or AY 2017 were analyzed.

Once extracted from the MIS, data were sent by annual cohort to the National Student Clearinghouse (NSC) to identify which students continued their education after receiving a community college award. These individuals may have transferred from one community college to another, continued their education at their current location, or transferred to a four-year institution. Transfer students were analyzed by college type (two- or four-year, and private or public) and by transfer location, allowing for the study of graduate out-migration (leaving Iowa).

Students with multiple awards were flagged before tracking them into the workforce, and then unduplicated, so that they could be tracked based on their highest award level. An exception was made for students who received more than one award at the same level for the completion of different programs. Such students were tracked based on all awards received.

Deduplication was conducted in the following hierarchal order: associate degree [Associate of Applied Science (AAS), Associate of Applied Arts (AAA), Associate of Professional Studies (APS), Associate of Science/Career Option (ASCO), Associate of Science (AS), and Associate of Arts (AA)], diploma, certificate, and short-term award (both diploma and certificate). Additionally, students without Social Security Numbers (SSN) were excluded from the workforce analysis due to matching restrictions. Matching to UI wage records* was conducted using SSNs.

The data were then sent via secure file transfer to IWD to match the education records to the UI wage records. This match provided employment, wage, and industry data by quarter for each award type and cohort using the following timeframes:

Quarter 1: January 1 to March 31
Quarter 2: April 1 to June 30
Quarter 3: July 1 to September 30
Quarter 4: October 1 to December 31

In an attempt to match the academic year for annual reporting, the quarterly wages were aggregated from October 1 (Quarter 4) to September 30 (Quarter 3), which are the dates that most closely align with the community colleges' academic year.

Due to the confidentiality of the wage record data, IWD processed the records and returned aggregate data for the Department to analyze and use in this report. Data was thoroughly scrutinized and all rules, regulations, and restrictions for each of the data sources were strictly followed. Additionally, data-sharing agreements went through a comprehensive legal review.

** The UI wage records do not cover employers exempt from paying UI tax, such as federal employees, members of the armed forces, the self-employed, proprietors, unpaid family workers, church employees, railroad workers covered by the railroad unemployment insurance system, and students employed in a college or university as a part of a financial aid package.*

Credit Program Statewide Total Awards

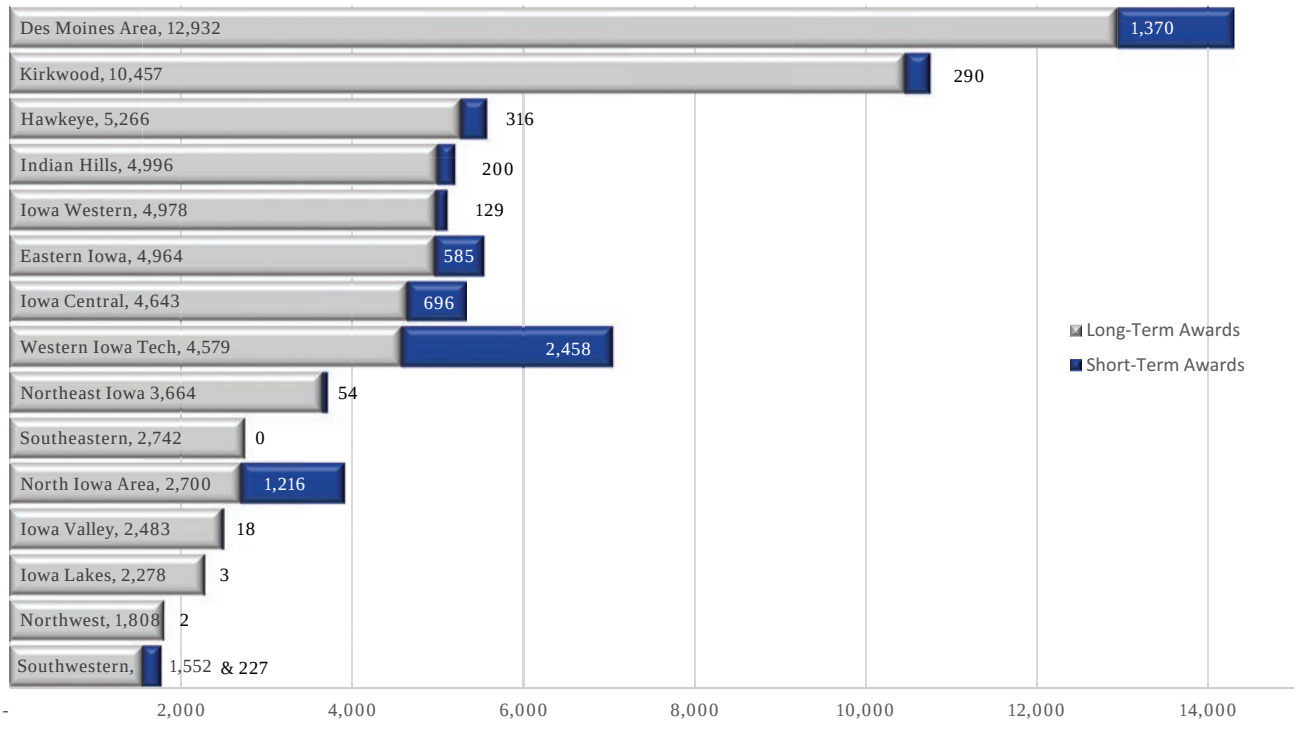
For this portion of the report, an aggregate analysis was conducted on 77,606 short- and long-term credit awards received, and 20,005 noncredit completions by Iowa community college students from AY 2013 through AY 2017. Though each college yielded a different number of total awards, in aggregate there were 55,899 associate degrees, 12,373 long-term diplomas, 1,770 long-term certificates, 39 short-term diplomas, and 7,525 short-term certificates awarded to graduates by Iowa's 15 community colleges during academic years 2013 to 2017 (see Figure 1).

Transfer status (further education), employment, wages, and time-to-degree are reported by award type in addition to short- or long-term timeframes later in this report. If a student received more than one award, the highest award level was used for the analysis of employment and wage data (deduplication was conducted in the following hierarchal order: AAS-AAA-APS-ASCO-AS-AA-Diploma-Certificate-Short-Term award). This information can be used to study the impact of each award type and its correlation to the workforce and further education.

Reports specific to each community college will be distributed to the respective college stakeholders for use in program development and strategic planning. These reports are not included in this statewide report.

This comprehensive report and detailed spreadsheets for each academic year can be found at: https://www.educateiowa.gov/iowa-community-college-program-outcomes.

FIGURE 1. AY 2013 TO AY 2017 TOTAL SHORT- AND LONG-TERM AWARDS BY IOWA COMMUNITY COLLEGE



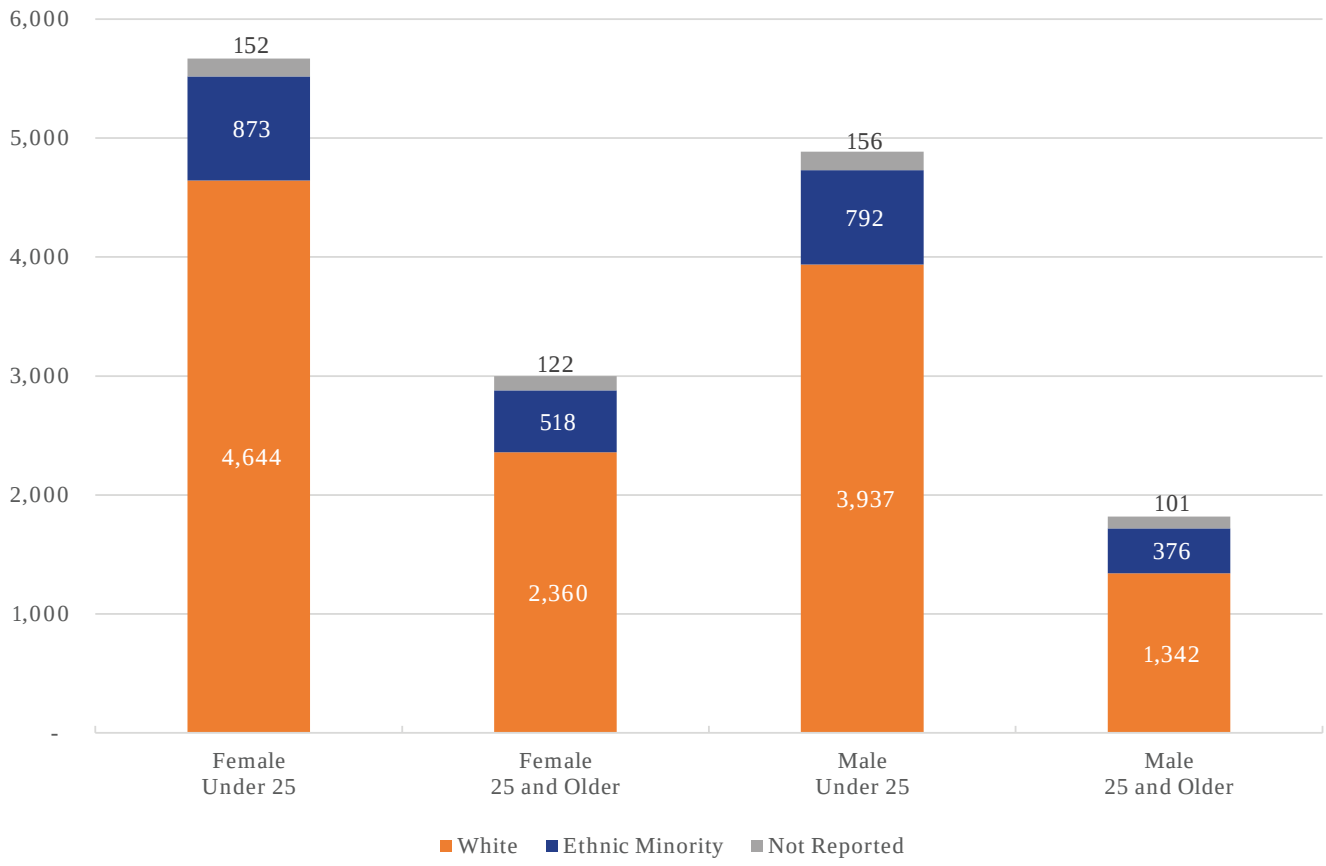
Credit Program Student Demographics

In AY 2017, demographics were added to the dataset in order to study students by gender, race/ethnicity, and age. Gender was defined as either male or female. Age groups were aggregated by those under 25 years of age and those age 25 years and older. Race/ethnicity was grouped into two categories: white and racial/ethnic minority.

There were a total of 8,669 females, 6,704 males, and two students with unknown gender. The majority of students in AY 2017 were under the age of 25 (10,554) and white (12,283). However, there was a greater percentage of ethnic minority male students who were 25 years of age and older (21.9 percent), compared to those under 25 (16.7 percent). Ethnic minority female students also represented a greater percentage of those 25 years of age or older (18.0 compared to 15.8 percent).

Figure 2 below visually illustrates the Iowa community college student completer population demographics in AY 2017.

FIGURE 2. AY 2017 STUDENT DEMOGRAPHICS FOR COMPLETERS



Awards and Programs by Gender

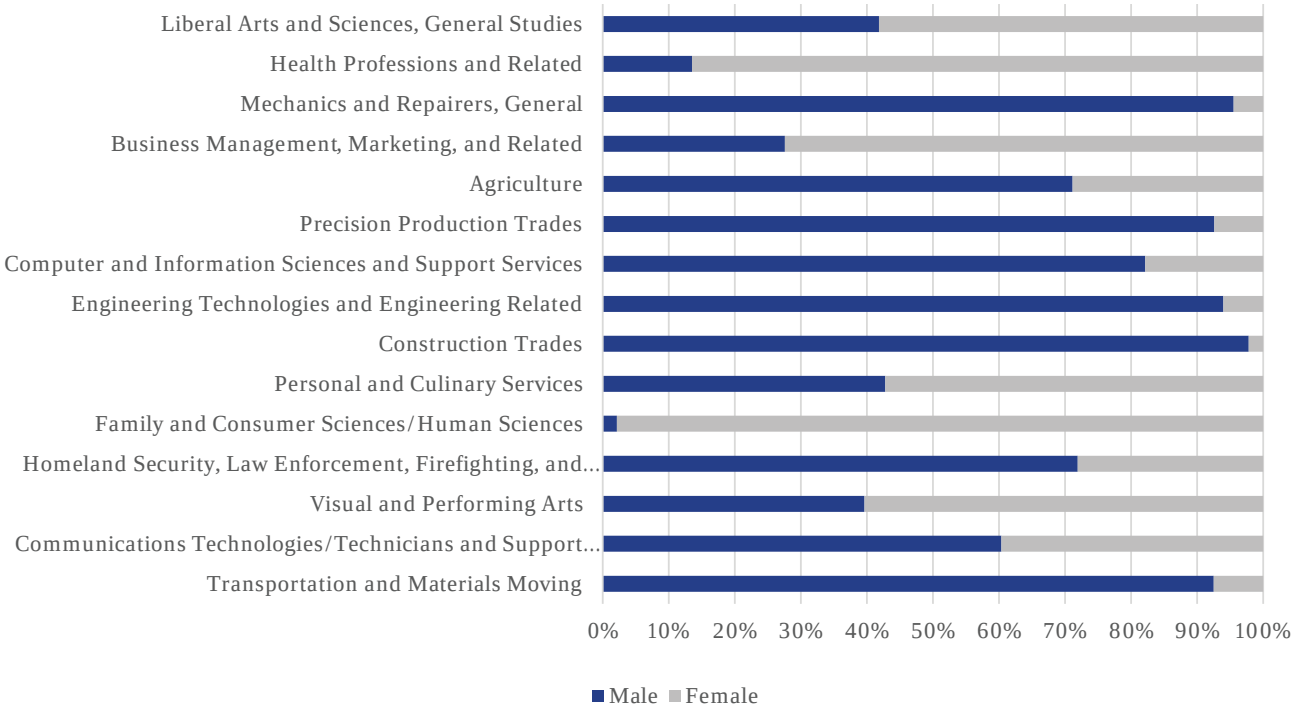
More female than male community college students received awards in AY 2017 (56.4 percent of all awards). The female students also represented higher percentages of those who earned associate degrees (56.2 percent), diplomas (57.5 percent), and certificates (56.2 percent). However, if each 2-digit CIP is analyzed separately, there is a deviation from this continuum, shown in the figure below, for liberal arts and sciences, which mirrors the percent of males to females completing their program in AY 2017.

Long-held views about the particular strengths, weaknesses, and responsibilities of each gender have affected how people look for a job, train for a job, and ultimately gain employment in a particular job. Though it is not something that holds true for every person, gender division still applies by occupation. Historically, females have held jobs in health care, administrative, and human services related occupations, whereas males have been more apt to attain employment in occupations relating to engineering, manufacturing, construction, and transportation.

Figure 3 illustrates the percentage of males and females for the top programs completed in AY 2017. Females dominated the training completion in health professions, business management, culinary services, and family/human services. Males far outnumbered females in mechanic and repair training, agriculture, precision trades, computer technology, engineering, construction, and transportation. All program completions by gender can be found on the credit program outcomes interactive dashboard at: https://educateiowa.gov/iowa-community-college-program-outcomes-interactive-charts.

Note: *Wages by gender are addressed in latter portions of this report.*

FIGURE 3. TOP 15 PROGRAMS COMPLETED IN AY 2017 BY GENDER BY NUMBER OF AWARDS



Awards and Programs by Age

As mentioned earlier in this report, students were separated into two age categories: those under the age of 25 and 25 years of age and older. An analysis was conducted to see if there was a difference between the younger group and older group when it came to programs of study. Liberal arts and sciences was the most popular among the younger group (40.3 percent), whereas the older group predominately completed programs in health professions (37.2 percent). Interestingly, the second largest percentages for each group were in the same two categories for both age groups. Table 1 shows that close to one-fourth of students age 25 and older completed liberal arts and sciences programs (24.8 percent), while close to one-fourth of students under the age of 25 completed health professions programs (23.4 percent).

Another difference among the age groups was that higher percentages of younger students completed programs in mechanics and repair, precision production, and construction trades, while the older student group had higher percentages in business management and computer sciences.

Detailed program completion by age group information can be explored using the link provided in Appendix A to the detailed data tables.

TABLE 1. PROGRAMS BY TWO-DIGIT CIP BY AGE, AY 2017

Classification of Instructional Program (CIP)	Percent of Students Under Age 25	Percent of Students Age 25 and Over
Health Professions and Related	23.4%	37.2%
Liberal Arts and Sciences, General Studies	40.3%	24.8%
Business Management, Marketing and Related	4.0%	8.9%
Computer and Information Sciences	2.5%	5.1%
Mechanics and Repairers, General	6.7%	4.7%
Engineering Technologies	2.2%	4.3%
Precision Production Trades	4.3%	2.6%
Personal and Culinary Services	1.4%	1.9%
Family and Consumer Sciences/Human Sciences	1.5%	1.6%
Transportation and Materials Moving	0.3%	1.5%
Homeland Security, Protective Services	1.4%	1.1%
Legal Professions and Studies	0.2%	1.1%
Construction Trades	2.6%	1.0%
Humans Services	0.2%	0.8%
Agriculture	5.3%	0.6%

Programs by Race/Ethnicity

Throughout this report, race/ethnicity groups are defined as white or racial/ethnic minority, aggregating all students who self-identified with a race or ethnicity other than white into one category. Over 2,500 students (17.2 percent) were in the racial/ethnic minority group, and the remaining 12,283 students were white (82.8 percent). The 533 students who did not report race/ethnicity were excluded from the analysis in Table 2.

Students in the racial/ethnic minority group predominately completed coursework in human services, followed by transportation, culinary services, foreign languages, family and consumer sciences, liberal arts and sciences, education, and communications technology programs (Table 2). White students had the highest percentages in liberal arts and sciences, health professions, mechanics and repairers, business management, agriculture, and precision production trades. Notably, based on their program of study, each group had significantly different training interests.

TABLE 2. PROGRAMS BY TWO-DIGIT CIP BY RACE/ETHNICITY, AY 2017

Classification of Instructional Program (CIP)	White		Racial Ethnic Minority	
	Number	Percent	Number	Percent
Humans Services	38	0.3%	21	35.6%
Transportation and Materials Moving	77	0.5%	27	26.0%
Personal and Culinary Services	182	1.2%	52	22.2%
Foreign Languages, Literatures and Linguistics	18	0.1%	5	21.7%
Family and Consumer Sciences/Human Sciences	181	1.2%	45	19.9%
Liberal Arts and Sciences, General Studies	4,223	28.5%	1,042	19.8%
Education	33	0.2%	8	19.5%
Communications Technologies/Technicians and Support Services	122	0.8%	29	19.2%
Homeland Security, Law Enforcement, Firefighting and Related Protective Services	154	1.0%	36	18.9%
Mechanics and Repairers, General	731	4.9%	168	18.7%
Engineering Technologies and Engineering Related	345	2.3%	74	17.7%
Construction Trades	259	1.7%	52	16.7%
Science Technologies/Technicians	5	0.0%	1	16.7%
Health Professions and Related	3,430	23.1%	675	16.4%
Business Management, Marketing and Related	693	4.7%	133	16.1%
Computer & Information Sciences and Support Services	403	2.7%	77	16.0%
Visual and Performing Arts	132	0.9%	20	13.2%
Precision Production Trades	498	3.4%	65	11.5%
Communication, Journalism and Related Programs	23	0.2%	3	11.5%
Legal Professions and Studies	64	0.4%	7	9.9%
Multi/Interdisciplinary Studies	21	0.1%	2	8.7%
Natural Resources and Conservation	57	0.4%	4	6.6%
Parks, Recreation, Leisure and Fitness Studies	19	0.1%	1	5.0%
Agriculture	564	3.8%	12	2.1%
Engineering	2	0.0%	-	0.0%
Social Sciences	4	0.0%	-	0.0%
Biological and Biomedical Sciences	5	0.0%	-	0.0%
Total	12,283	82.8%	2,559	17.2%

Awards by Classification of Instructional Program

The Classification of Instructional Program (CIP) provides a taxonomic scheme that enables the tracking, assessment, and reporting of fields of study and program completion. The CIP system was established by the U.S. Department of Education's National Center for Education Statistics (NCES) in 1980.

The data contained within this report are analyzed at the two- or six-digit CIP levels. Appendix A, the accompanying online tables, and online dashboard, contain detailed information for six-digit program-level data. Table 3 lists the program descriptions at the two-digit CIP level and the corresponding number of awards earned by Iowa's community college students in each academic year from 2013 to 2017.

The majority of awards were earned in liberal arts and sciences, health professions, business management and marketing, and mechanics and repairers programs. It is important to note that not all community colleges offer the same number of programs within these CIP categories.

TABLE 3. AY 2013 TO AY 2017 STATEWIDE AWARDS BY TWO-DIGIT CIP

CIP	Description	AY2013	AY2014	AY2015	AY2016	AY2017	Total
24	Liberal Arts and Sciences, General Studies	5,923	5,720	5,553	6,004	5,448	28,648
51	Health Professions and Related	4,295	4,097	4,332	4,460	4,260	21,444
52	Business Management, Marketing, and Related	1,184	1,069	970	853	851	4,927
47	Mechanics & Repairers, General	877	730	782	890	937	4,216
48	Precision Production Trades	489	457	664	643	581	2,834
01	Agriculture	507	457	539	536	586	2,625
15	Engineering Technologies and Engineering Related	438	504	422	429	432	2,225
11	Computer and Information Sciences and Support Services	411	393	358	457	510	2,129
46	Construction Trades	251	197	302	304	320	1,374
43	Homeland Security, Law Enforcement, Firefighting and Related Protective Services	237	229	283	253	203	1,205
12	Personal and Culinary Services	218	221	213	290	243	1,185
19	Family and Consumer Sciences/Human Sciences	214	213	157	231	233	1,048
50	Visual and Performing Arts	136	162	143	166	159	766
10	Communications Technologies/Technicians and Support Services	116	140	155	136	154	701
49	Transportation and Materials Moving	145	44	96	97	107	489
44	Human Services	73	91	60	64	65	353
03	Natural Resources and Conservation	60	65	58	42	62	287
22	Legal Professions and Studies	70	50	42	40	71	273
13	Education	56	52	54	54	43	259
30	Multi/Interdisciplinary Studies	59	64	44	35	24	226
16	Foreign Languages, Literature, and Linguistics	22	22	16	25	23	108
31	Parks, Recreation, Leisure, and Fitness Studies	8	17	14	17	20	76
09	Communication, Journalism, and Related Programs	5	8	12	18	26	69
41	Science Technologies/Technicians	6	11	13	8	6	44
26	Biological and Biomedical Sciences	13	6	6	11	5	41
14	Engineering	12	11	5	7	2	37
45	Social Sciences	4	1	3	3	4	15
34	Health Related Knowledge and Skills	1	0	1	0	0	2
Total Statewide Awards		15,830	15,031	15,297	16,073	15,375	77,606

Associate Degrees by CIP—AY 2013 to AY 2017 Totals

During academic years 2013 through 2017, there were seven types of associate degrees awarded by Iowa community colleges, analyzed separately using the online interactive dashboard and accompanying tables. These award types are:

- Associate of Arts (AA)
- Associate of Science (AS)
- Associate of Applied Arts (AAA)
- Associate of Applied Science (AAS)
- Associate of General Studies (AGS)
- Associate of Professional Studies (APS)
- Associate of Science/Career Option (ASCO)

Table 4 contains an aggregation of all associate degrees awarded in AY 2013 through AY 2017. Liberal arts and science degrees consistently accounted for slightly more than 50 percent of all such degrees awarded (50.8 percent in AY 2013, 49.7 percent in AY 2014, 50.9 percent in AY 2015, 53.6 percent in AY 2016, and 51.3 percent in AY 2017).

TABLE 4. AY 2013 TO AY 2017 ASSOCIATE DEGREES BY TWO-DIGIT CIP

CIP	Description	AY2013	AY2014	AY2015	AY2016	AY2017	Total
24	Liberal Arts and Sciences, General Studies	5,923	5,720	5,553	6,004	5,448	28,648
51	Health Professions and Related	2,062	2,144	2,031	1,954	1,840	10,031
52	Business Management, Marketing, and Related	832	752	605	567	586	3,342
47	Mechanics and Repairers, General	574	554	496	554	562	2,740
01	Agriculture	429	412	476	464	515	2,296
15	Engineering Technologies and Engineering Related	350	418	339	296	283	1,686
11	Computer and Information Sciences and Support Services	346	340	298	308	337	1,629
43	Homeland Security, Law Enforcement, Firefighting, and Related Protective Services	220	210	269	197	149	1,045
12	Personal and Culinary Services	152	131	105	148	135	671
10	Communications Technologies/Technicians and Support Services	109	133	131	118	135	626
48	Precision Production Trades	86	111	107	121	126	551
50	Visual and Performing Arts	92	113	105	84	87	481
19	Family and Consumer Sciences/Human Sciences	123	92	80	89	95	479
46	Construction Trades	68	77	78	78	76	377
44	Humans Services	70	85	56	56	60	327
30	Multi/Interdisciplinary Studies	58	64	44	35	24	225
03	Natural Resources and Conservation	42	48	40	33	33	196
22	Legal Professions and Studies	43	33	35	25	52	188
16	Foreign Languages, Literatures, and Linguistics	18	22	16	19	14	89
09	Communication, Journalism, and Related Programs	3	5	12	18	26	64
41	Science Technologies/Technicians	6	11	13	8	6	44
31	Parks, Recreation, Leisure, and Fitness Studies	8	9	4	10	12	43
49	Transportation and Materials Moving	10	10	4	3	11	38
14	Engineering	12	10	5	7	2	36
26	Biological & Biomedical Sciences	12	4	6	7	1	30
45	Social Sciences	4	1	3	3	4	15
34	Health Related Knowledge and Skills	1	-	1	-	-	2
13	Education	-	-	-	-	-	-
Total Associate Degrees		11,653	11,509	10,912	11,206	10,619	55,899

Career and Technical Education (CTE) Diplomas by CIP

In Iowa, diploma programs are designed to provide students with technical training and skill development leading to entry-level employment.

All 15 of Iowa's community colleges offer long-term CTE diploma programs covering many different areas of study, with the majority in health care, skilled trades, engineering, and computer-related fields. Since only one of Iowa's community colleges offered short-term diplomas during the five-year study period (total 39), both long- and short-term diplomas were combined in Table 5. The majority of short-term diplomas were awarded in the mechanics and repairers program (27), followed by health professions (12). Long-term diplomas in health professions continue to surpass all other diploma programs, making up 48.1 percent of all diplomas awarded in AY 2017.

Throughout the five-year study period, the distribution of diplomas awarded has remained relatively the same.

TABLE 5. AY 2013 TO AY 2017 LONG-TERM AND SHORT-TERM DIPLOMAS BY TWO-DIGIT CIP

CIP	Description	AY2013	AY2014	AY2015	AY2016	AY2017	Total
51	Health Professions and Related	1,578	1,190	1,473	1,324	1,142	6,707
48	Precision Production Trades	251	186	335	319	294	1,385
47	Mechanics and Repairers, General	220	93	195	243	238	989
46	Construction Trades	175	116	187	195	206	879
52	Business Management, Marketing, and Related	175	119	141	115	107	657
12	Personal and Culinary Services	62	67	84	113	75	401
19	Family and Consumer Sciences/Human Sciences	61	49	46	74	58	288
01	Agriculture	64	33	47	59	63	266
15	Engineering Technologies and Engineering Related	38	39	50	57	78	262
50	Visual and Performing Arts	36	40	25	53	40	194
11	Computer and Information Sciences and Support Services	31	29	14	44	29	147
10	Communications Technologies/Technicians and Support Services	7	6	21	15	18	67
49	Transportation and Materials Moving	12	9	18	10	8	57
43	Homeland Security, Law Enforcement, Firefighting, and Related Protective Services	6	4	2	8	9	29
03	Natural Resources & Conservation	9	7	4	3	1	24
13	Education	6	1	5	7	2	21
31	Parks, Recreation, Leisure, and Fitness Studies	-	7	3	3	-	13
44	Human Services	-	-	1	6	5	12
22	Legal Professions and Studies	1	4		1	1	7
09	Communication, Journalism, and Related Programs	2	3	-	-	-	5
26	Biological and Biomedical Sciences	-	-	-	1	-	1
30	Multi/Interdisciplinary Studies	1	-	-	-	-	1
14	Engineering	-	-	-	-	-	-
16	Foreign Languages, Literature, and Linguistics	-	-	-	-	-	-
24	Liberal Arts and Sciences, General Studies	-	-	-	-	-	-
34	Health Related Knowledge and Skills	-	-	-	-	-	-
41	Science Technologies/Technicians	-	-	-	-	-	-
45	Social Sciences	-	-	-	-	-	-
Total Diplomas		2,735	2,002	2,651	2,650	2,374	12,412

Certificates by CIP

Iowa community colleges design certificates to respond to business and industry workforce needs. These technical programs, classified as short-term (less than 22 credits) and long-term (22 credits or more), vary from one to 48 credits.

There were a total of 9,295 certificates awarded over the five-year study period (7,525 short-term and 1,770 long-term). The largest portion of these were awarded in the health professions (4,706) (Table 6).

Iowa's community colleges also award noncredit certificates, which are analyzed in a separate report. These short-term career training opportunities, both credit and noncredit, have a significant impact on the skills workers need to be competitive in the workforce.

Noncredit CTE employment outcomes and data can be found at: https://educateiowa.gov/documents/program-outcome/2018/09/noncredit-career-and-technical-education-program-employment .

TABLE 6. AY 2013 TO AY 2017 CERTIFICATES LONG- AND SHORT-TERM (LT AND ST) BY TWO-DIGIT CIP

CIP	Description	AY2013	AY2014	AY2015	AY2016	AY2017	Total LT	Total ST	Total
51	Health Professions and Related	655	763	828	1,182	1,278	520	4,186	4,706
52	Business Management, Marketing, and Related	177	198	224	171	158	289	639	928
48	Precision Production Trades	152	160	222	203	161	319	579	898
47	Mechanics and Repairers, General	83	83	91	93	137	162	325	487
49	Transportation and Materials Moving	123	25	74	84	88	-	394	394
11	Computer and Information Sciences and Support Services	34	24	46	105	144	129	224	353
19	Family and Consumer Sciences/Human Sciences	30	72	31	68	80	-	281	281
15	Engineering Technologies and Engineering Related	50	47	33	68	71	191	78	269
13	Education	50	51	49	47	41	-	238	238
43	Homeland Sec., Law Enforce., Firefighting and Related Protective Services	11	15	12	48	45	42	89	131
46	Construction Trades	8	4	37	31	38	-	118	118
12	Personal and Culinary Services	4	23	24	29	33	11	102	113
50	Visual and Performing Arts	8	9	13	29	32	-	91	91
22	Legal Professions and Studies	26	13	7	14	18	78	-	78
03	Natural Resources and Conservation	9	10	14	6	28	-	67	67
01	Agriculture	14	12	16	13	8	14	49	63
16	Foreign Languages, Literature, and Linguistics	4	-	-	14	9	8	19	27
31	Parks, Recreation, Leisure, and Fitness	-	1	7	4	8	-	20	20
44	Human Services	3	6	3	2	-	-	14	14
26	Biological and Biomedical Sciences	1	2	-	3	4	7	3	10
10	Communications Tech./Technicians and Support Services	-	1	3	3	1	-	8	8
14	Engineering	-	1	-	-	-	-	1	1
09	Communication, Journalism, and Related Programs	-	-	-	-	-	-	-	-
24	Liberal Arts and Sciences, General Studies	-	-	-	-	-	-	-	-
30	Multi/Interdisciplinary Studies	-	-	-	-	-	-	-	-
34	Health Related Knowledge and Skills	-	-	-	-	-	-	-	-
41	Science Technologies/Technicians	-	-	-	-	-	-	-	-
45	Social Sciences	-	-	-	-	-	-	-	-
Total Certificates		1,442	1,520	1,734	2,217	2,382	1,770	7,525	9,295

Time-to-Degree

To measure the amount of time it took students to earn their awards (i.e., time-to-degree), enrollment data were extracted from the MIS for the six years prior to completion for students who received awards between AY 2013 and AY 2017. For example, data for AY 2013 graduates were extracted from AY 2013, 2012, 2011, 2010, 2009, and 2008 to determine if they were enrolled in their degree programs during these prior years.

There is a variance in completion time when looking at associate degrees independently. Table 7 shows that three-fourths (75.5 percent) of students who received an associate of applied arts (AAA) degree received their award by the end of year two. In comparison, just over two-fifths (44.2 percent) of students finished their AGS degree within the same period of time.

Figure 4, on the following page, illustrates the distribution of time-to-degree in aggregate for associate degrees earned by students. Table 7 illustrates the percentage of cohort graduates by the number of years they took to complete their programs. Figure 5, on the following page, displays the time-to-degree in cumulative format, illustrating the total percentage of students who completed degrees in one to four years.

TABLE 7. AY 2013 TO AY 2017 TIME-TO-DEGREE FOR ASSOCIATE DEGREES BY PERCENT

Years	AA	AS	AGS	AAA	AAS	APS	ASCO	All
Less than 1	11.3%	10.3%	11.4%	1.6%	4.9%	5.6%	5.3%	8.1%
Year 1	31.2%	27.3%	16.4%	49.0%	35.3%	43.3%	28.4%	32.6%
Year 2	26.6%	24.3%	16.4%	24.9%	23.3%	32.2%	26.0%	24.7%
Year 3	15.1%	16.8%	16.5%	11.8%	16.3%	7.8%	17.9%	15.8%
Year 4	10.6%	13.5%	24.8%	7.9%	12.4%	4.4%	14.0%	11.9%
Year 5+	5.2%	7.8%	14.6%	5.0%	7.8%	6.7%	8.4%	6.8%

FIGURE 4. TIME-TO-DEGREE FOR ASSOCIATE DEGREES EARNED, AY 2013 TO AY 2017

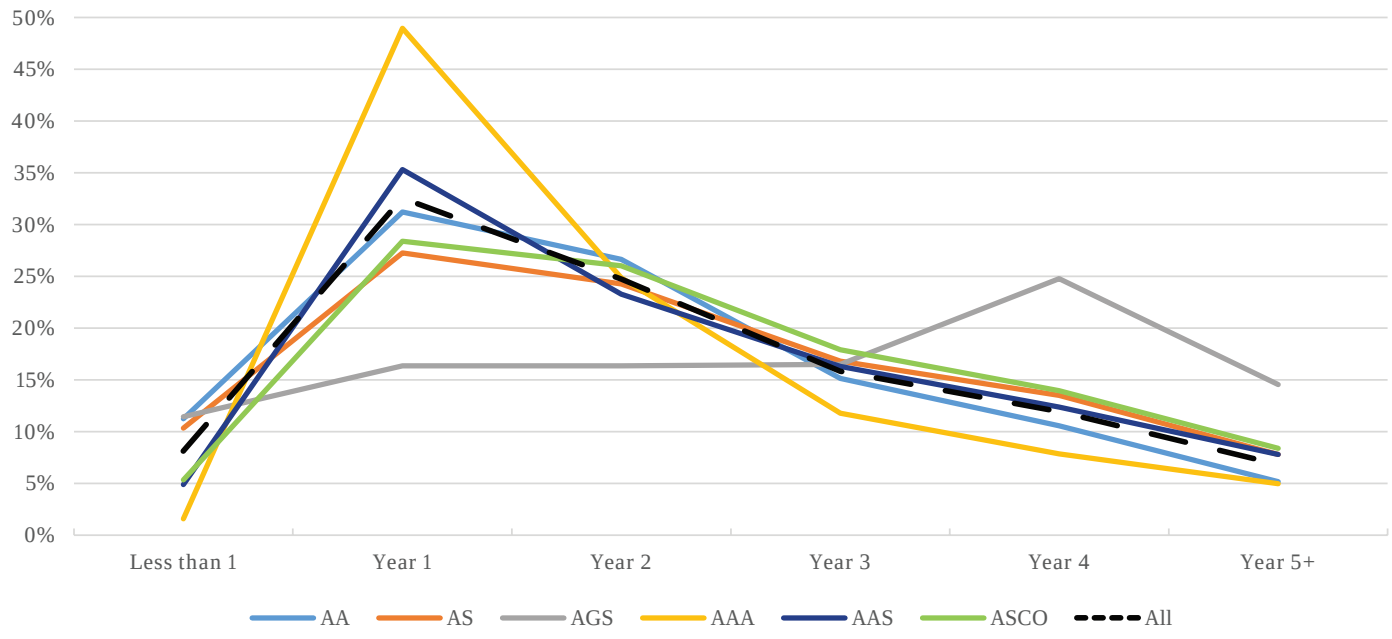
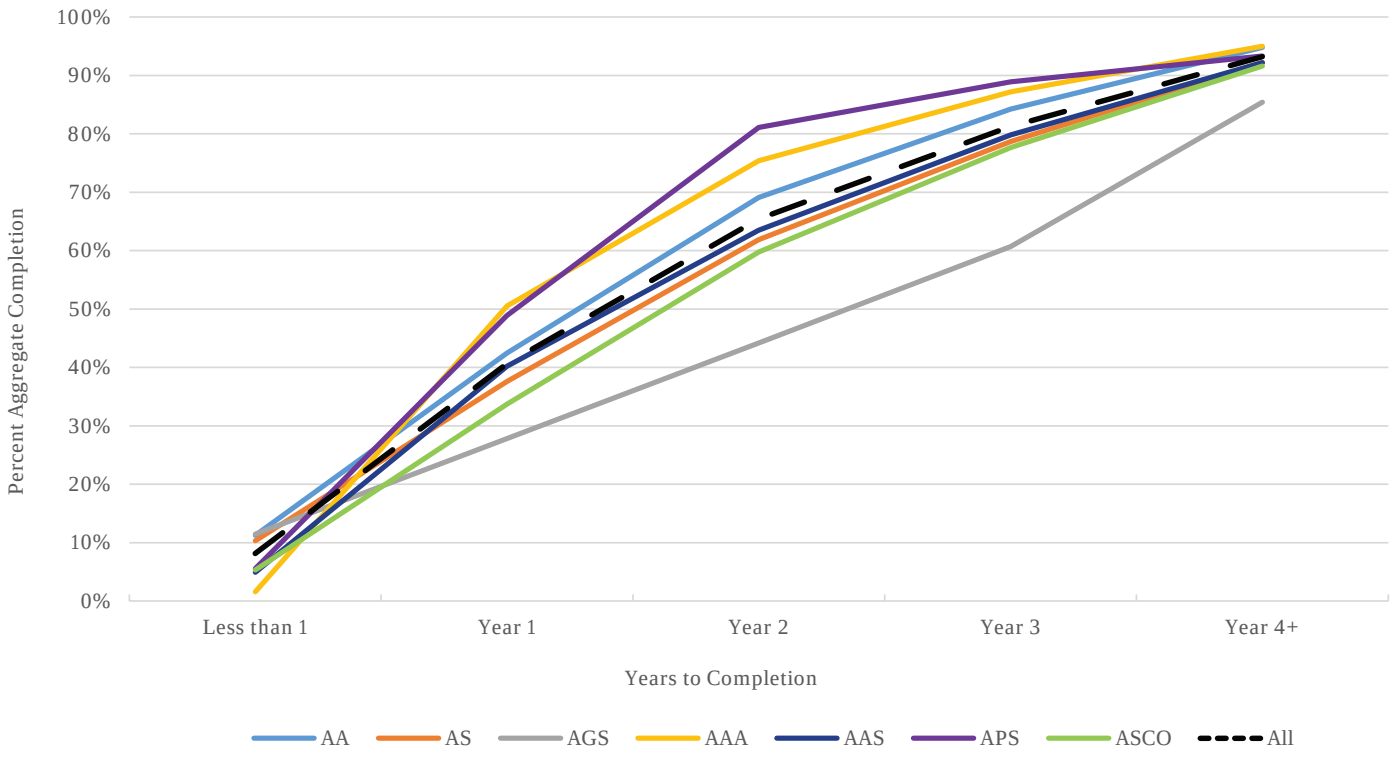


FIGURE 5. CUMULATIVE TIME-TO-DEGREE FOR ASSOCIATE DEGREES, AY 2013 TO AY 2017

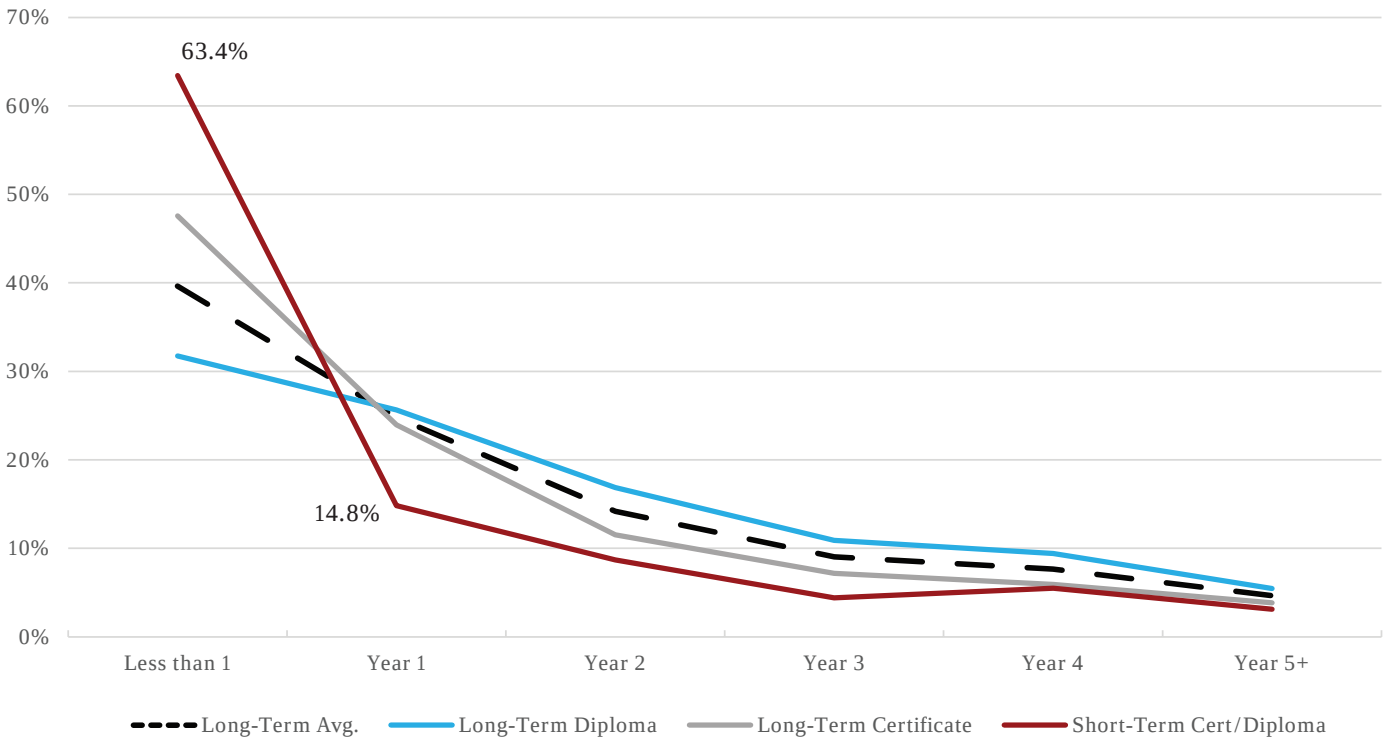


Note: *Annual cohorts include students who entered an Iowa community college, in any term, within an academic year (9/1-8/31).*

In Figure 6, certificates and diplomas were divided into three groups, long-term (LT) diplomas, LT certificates, and an aggregation of both short-term (ST) diplomas and certificates. A diploma requires at least 15 semester credits, of which three credits must be general education, while a certificate can range from 1 to 48 credits, with no general education requirement. Long-term diploma and certificate programs consist of 22 or more credits, while short-term programs consist of less than 22 credits.

Figure 6 illustrates why the LT and ST awards must be reported separately. Due to the acquisition of fewer credits, most (63.4 percent) ST diplomas and certificates were completed in less than one year, with another 14.8 percent completed by the end of year one (total 78.3 percent). In contrast, the majority of long-term certificates and diplomas were completed by year two (83.1 percent for certificates and 74.2 percent for diplomas).

FIGURE 6. TIME-TO-DEGREE FOR DIPLOMA AND CERTIFICATE AWARDS, AY 2013 TO AY 2017



Joint Enrollment

Each year, tens-of-thousands of Iowa high school students collectively jointly enroll in college credit coursework through Iowa's 15 community colleges, three public universities, and numerous private postsecondary institutions.

The Department defines joint enrollment as a high school student enrolled in a postsecondary course. Students may jointly enroll through contracted courses offered at the high school (concurrent enrollment) or at the college (postsecondary enrollment options). They may also enroll in non-contracted courses as a tuition-paying student.

Since this section focuses on program completion, the students represented include only those who were jointly enrolled while in high school, continued their education at one of Iowa's community colleges, and completed a degree, diploma, or certificate during academic years 2013 to 2017.

Over the five-year study period, a total of 17,499 students earned an average of 14.2 college credits during high school (Table 8). Of the AY 2017 completers, 44.5 percent earned an associate of arts (AA) degree and 27.0 percent earned an associate of applied science (AAS) degree in career and technical (CTE) programs. Another 22.7 percent earned diplomas and certificates (Table 9).

Other reports produced by the Department specific to joint enrollment can be found at: https://www.educateiowa.gov/document-type/joint-enrollment.

TABLE 8. COMMUNITY COLLEGE AWARDS EARNED BY JOINT ENROLLMENT (JE) STUDENTS BY ACADEMIC YEAR

	AY2013	AY2014	AY2015	AY2016	AY2017	Total/Average
Number of Students	3,134	3,265	3,431	3,753	3,916	17,499
Average Number of JE Years	1.4	1.4	1.4	1.4	1.4	1.4
Average Number of JE Credits	13.1	13.4	13.9	14.7	15.7	14.2

Note: *The average number of JE years was calculated by counting students as jointly enrolled if they appeared in the MIS any time during that academic year and were enrolled in a course through an Iowa community college.*

TABLE 9. AY 2017 JOINTLY-ENROLLED STUDENTS BY LONG- AND SHORT-TERM AWARD TYPES

Award Type	Number of Students		Percent
	Long-Term	Short-Term	
AA	1,447	-	44.5%
AS	132	-	4.1%
AGS	42	-	1.3%
AAA	6	-	0.2%
AAS	876	-	27.0%
APS	3	-	0.1%
ASCO	4	-	0.1%
Diploma	511	1	15.7%
Certificate	229	665	7.0%
Total	3,250	666	100%

Cohort Groups Defined

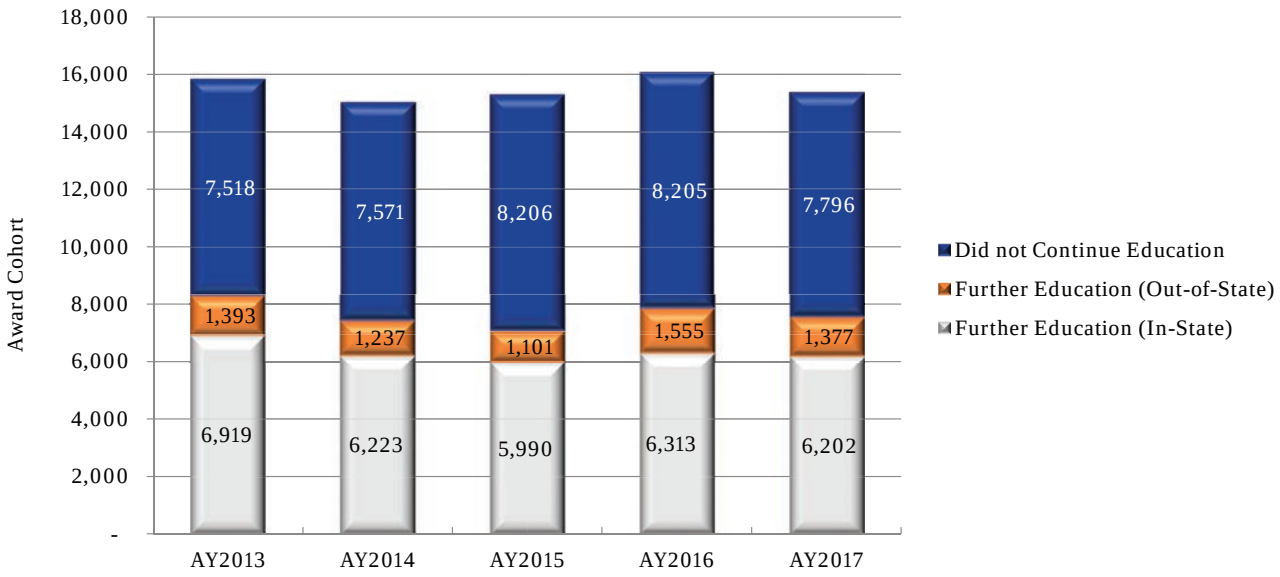
To study the various tracks community college students take after graduation, each cohort was split into three groups: 1) those who continued their education in Iowa, 2) those who continued out-of-state, and 3) those who did not continue their education. Figure 7 represents the five cohorts of graduates, delineated into these three groups by colored sections of each bar.

The majority of each cohort's graduates who continued their education did so within the state of Iowa, while a small portion transferred out-of-state. The remainder did not continue their education and were analyzed regarding in- and out-of-state employment as reported later in this report.

In order to identify these three groups within each student cohort, MIS data (individual student records) were matched with the National Student Clearinghouse (NSC) database to identify the student participation in two- or four-year, in- or out-of-state, and public or private institutions during the year following the completion of a community college program. If a graduate was matched (i.e., found) within the NSC database, he or she was placed into the "Pursuing Further Education" cohort for further analysis. If a graduate was not matched within the NSC database, he or she was placed into the "Workforce" cohort. Since all of the student records had to contain a SSN in order to be used for the workforce cohort, the number of students will vary from previous portions of the report due to insufficient data. Furthermore, each of those who entered the workforce the year following his or her award was re-matched to the NSC database to ascertain whether he or she entered a postsecondary institution in subsequent years.

As illustrated in Figure 7, of the 15,375 students (unduplicated count) who received an award in AY 2017, 6,202 of the 7,579 who continued their education the year following their award (81.8 percent) did so in Iowa, while 1,377 left Iowa to continue their education.

FIGURE 7. STATUS OF GRADUATES FIRST YEAR AFTER AWARD



Retention and Migration

The vast majority of Iowa community college graduates remained in Iowa after completing their programs (83.3 percent) (see Figure 8). Half (49.4 percent) continued their education following completion of a community college award, with most students remaining in Iowa (40.8 percent). Of those students who continued their education at an institution outside of Iowa, most enrolled in one of Iowa's contiguous states, such as Nebraska (1,448) and Illinois (1,017). For those who ventured farther away, the highest concentrations enrolled at institutions in Utah (262), Arizona (240), or Texas (213) within one year after graduation. Students who were neither found in further education nor employment were labeled as "unknown" for this report.

Figure 9 represents aggregate numbers by state for those who continued their education either in- or out-of-state one year after their award (AY 2013 to AY 2017). If students were enrolled in different colleges at the same time, the college with the most recent attendance date within that year was used.

When looking at migration patterns, whether it be students who transferred to an out-of-state college or sought employment outside of Iowa, percentages were relatively small (8.6 percent and 7.5 percent respectively). Each of these groups is studied in more detail in the subsequent sections of this report.

FIGURE 8. AY 2013 TO AY 2017 RETENTION AND MIGRATION, FIRST YEAR FOLLOWING AWARD

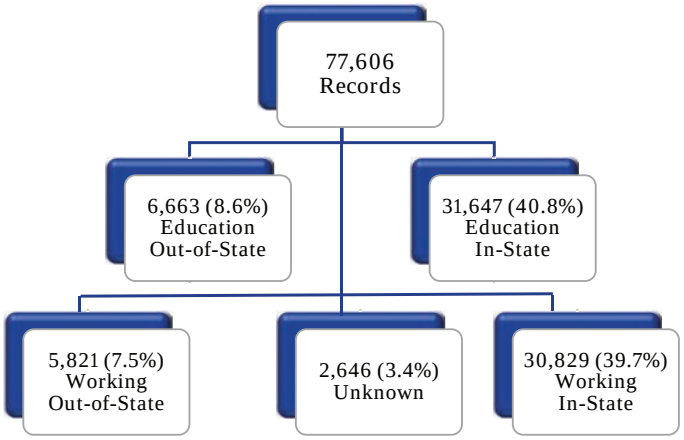
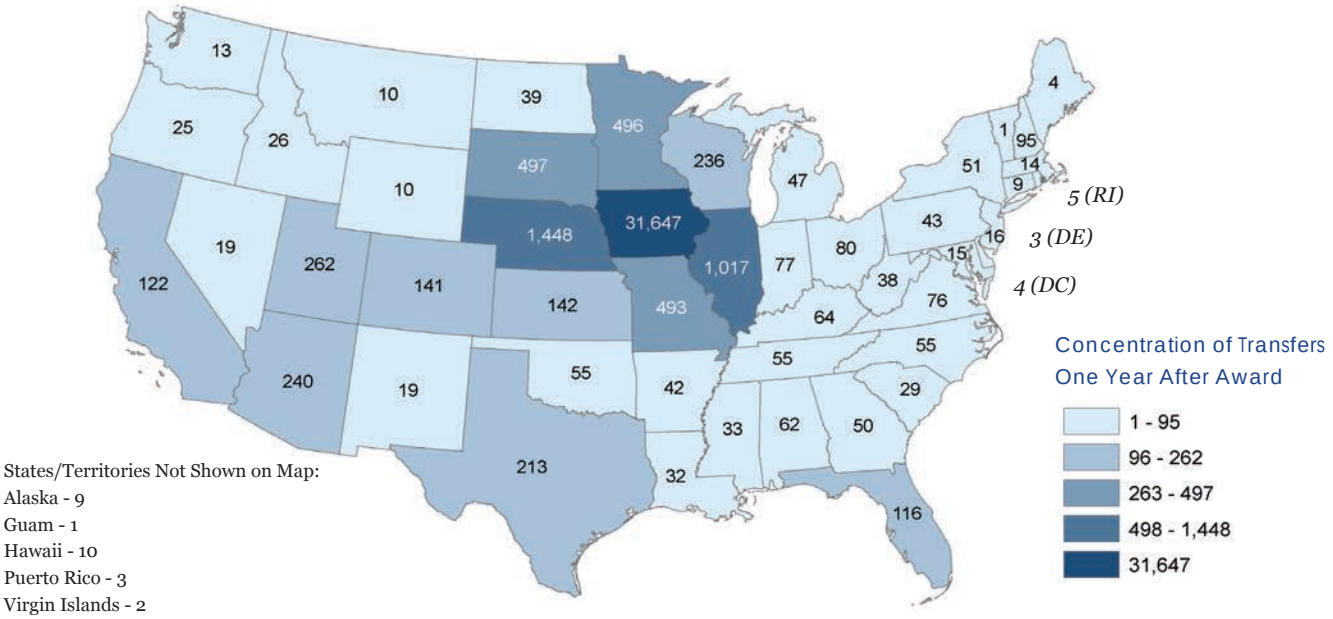


FIGURE 9. AY 2013 TO AY 2017 COHORTS EDUCATIONAL MIGRATION, FIRST YEAR FOLLOWING AWARD



States/Territories Not Shown on Map:
Alaska - 9
Guam - 1
Hawaii - 10
Puerto Rico - 3
Virgin Islands - 2

Pursuing Further Education Cohort

Using the NSC database, the Department was able to identify Iowa community college graduates who transferred to other postsecondary institutions. Table 10 illustrates the distribution of these graduates based on their transfer institution types (transferred the first year after their graduation).

Using the AY 2017 cohort as an example, 6,202 students continued their education at an in-state institution the academic year following graduation, whereas, 1,377 students continued their education at an out-of-state institution. Of those who continued their education in-state, 39.5 percent enrolled at a two-year public college and 29.3 percent transferred to an in-state four-year public college.

The number of students who continued their education out-of-state was nearly the same when comparing the 2013 cohort (1,393) to the 2017 cohort (1,377), although there was a large increase in numbers in the 2016 cohort.

TABLE 10. AY 2013 TO AY 2017 FURTHER EDUCATION, FIRST YEAR FOLLOWING AWARD

Year Following Community College Award	Characteristics of Institution		Continued Education In-State		Continued Education Out-of-State	
	2-Year	4-Year	Number	Percent	Number	Percent
2013 Cohort						
2014	2-Year	Private	14	0.2%	1	0.0%
		Public	3,562	42.9%	131	1.6%
	4-Year	Private	1,530	18.4%	546	6.6%
		Public	1,813	21.8%	715	8.6%
		Total	6,919	83.2%	1,393	16.8%
2014 Cohort						
2015	2-Year	Private	10	0.1%	4	0.1%
		Public	3,151	42.2%	94	1.3%
	4-Year	Private	1,331	17.8%	471	6.3%
		Public	1,731	23.2%	668	9.0%
		Total	6,223	83.4%	1,237	16.6%
2015 Cohort						
2016	2-Year	Private	0	0.0%	1	0.0%
		Public	3,031	42.7%	104	1.5%
	4-Year	Private	1,218	17.2%	424	6.0%
		Public	1,741	24.6%	572	8.1%
		Total	5,990	84.5%	1,101	15.5%
2016 Cohort						
2017	2-Year	Private	0	0.0%	2	0.0%
		Public	2,914	37.0%	103	1.3%
	4-Year	Private	1,144	14.5%	488	6.2%
		Public	2,255	28.7%	962	12.2%
		Total	6,313	80.2%	1,555	19.8%
2017 Cohort						
2018	2-Year	Private	0	0.0%	0	0.0%
		Public	2,996	39.5%	117	1.5%
	4-Year	Private	985	13.0%	440	5.8%
		Public	2,221	29.3%	820	10.8%
		Total	6,202	81.8%	1,377	18.2%

Workforce Cohort

The following sections of this report analyze the annual employment and wage trends of the graduates who did not continue their education. Students with previous degrees prior to the academic year, and those who received multiple awards within the same academic year, were also identified. Previous degrees and multiple awards may play a part in not only employability, but also in higher wages, though further research will be needed to validate this theory.

Both in- and out-of-state employment data were gathered using the Iowa Unemployment Insurance (UI) database and the Wage Record Interchange System (WRIS). Out-of-state employment was measured using the WRIS. The number of unmatched records included graduates employed by an employer that does not pay UI tax or who were unemployed for the described periods of time.

Due to the availability of five years of wage data for the AY 2013 cohort, it is used as an example in Table 11. This table illustrates the aggregate employment and wages for the AY 2013 cohort in the first five years of data available after graduation.

The data show that, in AY 2014 (October 1, 2013 to September 30, 2014), 91.9 percent of those who did not continue their education were employed the year following program completion. Additionally, 9.4 percent had earned a previous degree and 12.0 percent had earned more than one award. In order to compare wages from 2014 to current wages (2018), a cost of living adjustment was applied and documented in the Adjusted Median Wage column in Figures 11 and 12 (a detailed explanation is contained in the Employment and Wage Record Methodology section). This adjustment was used to standardize wages in order to determine whether "real" wages increased over the study period.

Table 12 shows employment and wage data from the first year following award for each of the most recent five cohorts. The adjusted median wage increased from $28,813 for the AY 2013 cohort to $32,159 for the AY 2017 cohort, which represents an 11.6 percent increase.

TABLE 11. FIVE-YEAR EMPLOYMENT AND WAGE TRENDS FOR AY 2013 COHORT

Year of Employment[1]	% Matched to Employment	Adjusted Median Wages	% with Previous Degree[2]	% Earning More than One Award
2014	91.9%	$28,813	9.4%	12.0%
2015	90.8%	$33,346	9.8%	12.3%
2016	89.2%	$36,584	9.8%	12.5%
2017	88.3%	$38,112	9.9%	12.7%
2018	87.2%	$39,574	9.8%	12.7%

1. Ex. 2018 defined as October 1, 2017, through September 30, 2018,
2. Percentage calculated of those matching employment in that year.

TABLE 12. EMPLOYMENT AND WAGES BY COHORT, FIRST YEAR FOLLOWING AWARD

Cohort Year	Year of Employment	% Matched to Employment	Adjusted Median Wages	% with Previous Degree	% Earning More than One Award
2013	2014	91.9%	$28,813	9.4%	12.0%
2014	2015	91.9%	$30,516	9.8%	12.2%
2015	2016	91.9%	$31,458	6.1%	13.7%
2016	2017	91.6%	$31,705	5.8%	12.6%
2017	2018	91.6%	$32,159	5.9%	14.7%

Employment and Wages by State

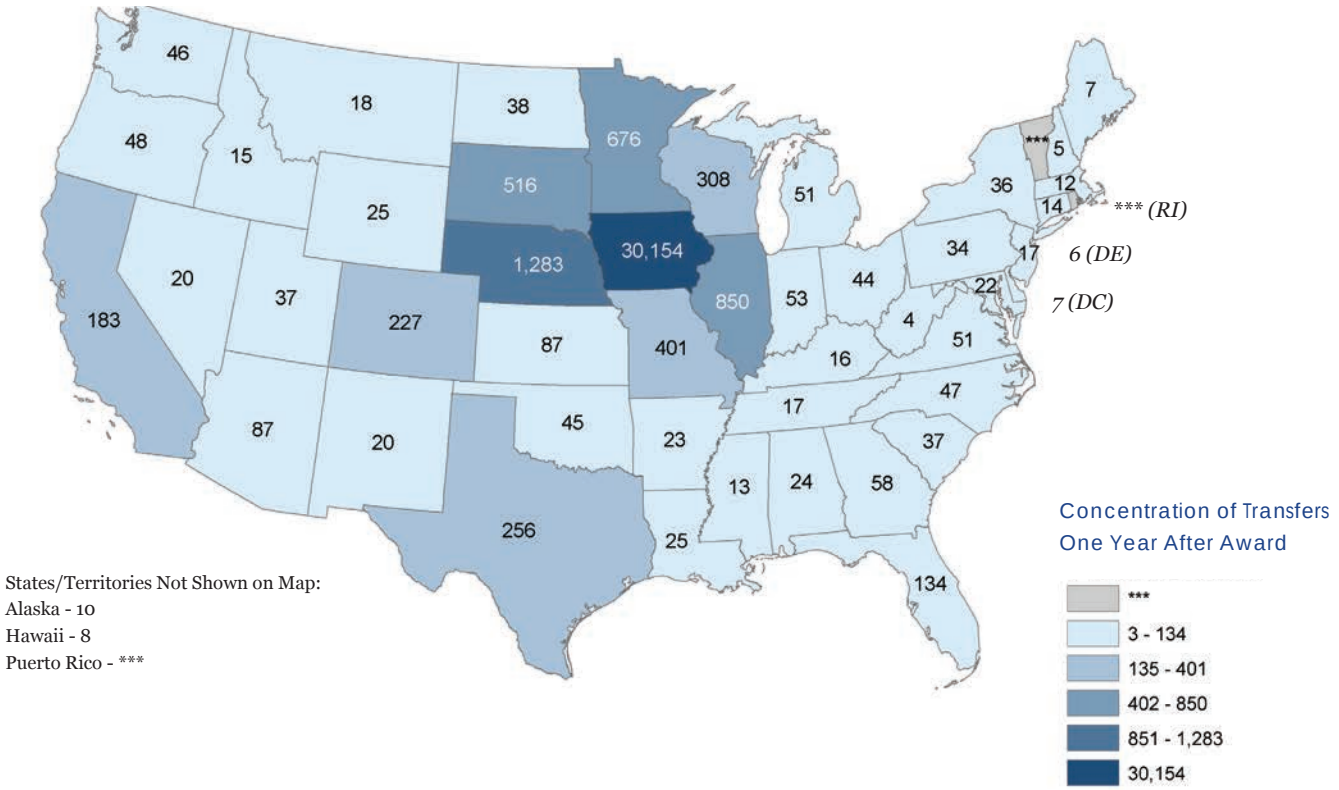
The WRIS was used to identify individuals who were employed out-of-state the year following graduation based on primary employment. Though the records do not identify hours worked (i.e., full- or part-time), overtime, or occupation, they do identify the number of graduates working in other states.

Figure 10 illustrates that the majority (83.5 percent) of those who received an award in AY 2013 through AY 2017, and who matched to employment data in the first year following the award, remained in Iowa.

Similar to those who continued their education, most graduates who were employed outside of Iowa (4,034 out of the 5,966 or 67.6 percent) were employed in bordering states. The states that account for the most employment in the first year following award (other than Iowa) were Nebraska (1,283 matched employment), Illinois (850), Minnesota (676), South Dakota (516), and Missouri (401).

Detailed employment and wage information relating to all cohorts can be found using the link provided in Appendix A.

FIGURE 10. PRIMARY EMPLOYMENT BY STATE,FIRST YEAR FOLLOWING AWARD, AY 2013 TO AY 2017 COHORTS



*** Suppressed due to small cell size.

Employment and Wages by Award Type

Tables 13 and 14 reflect the employment and wages, in aggregate, for those in the AY 2017 cohort who were employed in the year following graduation (2018). For example, of the 3,914 AAS graduates who did not continue their education the year after graduation, 93.2 percent matched employment records within that year and earned an annual median wage of $37,307 (see AAS row in Table 13). Though the percentage of AAS graduates who matched employment within one year of graduation is among the highest of the award categories listed, all types exceeded a 76 percent employment match.

In aggregate, Table 14 shows that all AY 2017 associate degree recipients had a 91.4 percent employment match in the first year after graduation. Long-term diploma and certificate recipients had a 93.6 percent employment match, while short-term diploma and certificate recipients had a 90.1 percent employment match. Though the AAS degree graduates had a significantly higher median wage when analyzed separately (Table 13), the data (Table 14) show that the associate degree median wage was $2,419 higher than the median wage for long-term certificate/diploma graduates in the first year after graduation.

TABLE 13. AY 2017 COHORT, 2018 EMPLOYMENT AND WAGES BY AWARD TYPE

Award Type	Year of Employment[1]	Number in Cohort (not Enrolled)	Matched to Employment		Adjusted Median Wage	Percent with Previous Degree	Percent Earning More than One Award
			#	%			
AA	2018	1,446	1,269	87.8%	$24,494	4.2%	4.7%
AS	2018	98	84	85.7%	$24,150	0.0%	6.0%
ASCO	2018	41	35	85.4%	$31,649	0.0%	5.7%
APS	2018	21	16	76.2%	$26,295	0.0%	12.5%
AGS	2018	127	107	84.3%	$30,055	0.0%	7.5%
AAA	2018	39	37	94.9%	$21,449	10.8%	0.0%
AAS	2018	3,914	3,647	93.2%	$37,307	6.8%	18.4%
Diploma (>= 22 cr.)	2018	1,041	980	94.1%	$30,061	4.9%	11.1%
Certificate (>= 22 cr.)	2018	254	232	91.3%	$32,878	12.1%	70.3%
Cert./Dipl. (< 22 cr.)	2018	666	600	90.1%	$27,435	5.3%	1.7%

TABLE 14. AY 2017 COHORT, 2018 EMPLOYMENT AND WAGES BY AWARD TYPE AGGREGATE

Award Type	Year of Employment[1]	Number in Cohort (not Enrolled)	Matched to Employment		Adjusted Median Wage	Percent with Previous Degree	Percent Earning More than One Award
			#	%			
Certificate/Diploma (< 22 cr.)	2018	666	600	90.1%	$27,435	5.3%	1.7%
Certificate/Diploma (>= 22 cr.)	2018	1,295	1,212	93.6%	$30,661	6.3%	22.4%
Associate	2018	5,686	5,195	91.4%	$33,080	5.9%	14.4%

1. 2018 wages defined as October 1, 2017 through September 30, 2018.

Employment and Wages by Gender

For the five cohorts in this portion of the study (N=7,647), there were more females than males who did not continue their education following completion of their award. In the AY 2017 cohort, 53.4 percent were female (Figure 11). Furthermore, the distribution of awards and programs by gender varied significantly, but that information was not examined for this report (see Appendix A for a link to employment data by career cluster and gender).

Table 15 provides the employment and wages of AY 2017 award recipients who entered the workforce in the first year after graduation (i.e., did not continue their education). Females matched employment at a higher rate (92.7 percent) than males (90.5 percent), but their adjusted median wage was lower than that of males, $29,904 to $35,182, respectively.

In order to do an analysis of the gender wage gap among recent Iowa community college graduates, other factors would need to be controlled, such as program and award type. Similarly, factors such as age, race/ethnicity, and previous education would need to be taken into account.

Overall, 6.8 percent of female awardees who matched employment had an associate degree or higher prior to receiving the award, while only 4.8 percent of males had previously earned degrees.

Interestingly, a higher percent of males than females in this cohort had earned more than one award (17.4 percent compared to 12.4 percent).

FIGURE 11.PERCENT OF AWARDS BY GENDER, AY 2017 COHORT

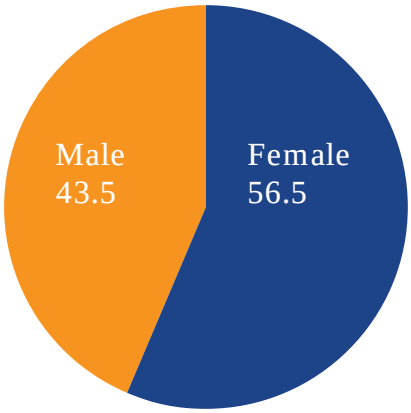


TABLE 15. EMPLOYMENT AND WAGES BY GENDER, FIRST YEAR FOLLOWING AWARD AY 2017 COHORT

Gender	Year of Employment[1]	Number in Cohort	Number in Cohort (not Enrolled)	Matched to Employment		Adjusted Median Wage	Percent with Previous Degree	Percent Earning More than One Award
				#	%			
Female	2018	8,567	4,084	3,784	92.7%	$29,904	6.8%	12.4%
Male	2018	6,585	3,563	3,223	90.5%	$35,182	4.8%	17.4%

1. 2018 wages defined as October 1, 2017 through September 30, 2018.

Employment and Wages by Race/Ethnicity

Of the 7,647 award recipients in the AY 2017 cohort who did not continue their education, 16.3 percent were of a minority racial/ethnic group, 80.4 percent were white/non-Hispanic, and 3.3 percent did not report race or ethnicity (Figure 12).

Table 16 provides the employment and wages of the AY 2017 award recipients who entered the workforce in the first year after graduation (i.e., did not continue their education). Racial/ethnic minority graduates matched employment at a lower rate (88.8 percent) than white/non-Hispanics (92.3 percent), and their adjusted median wage was also lower than that of white/non-Hispanics ($27,938 and $32,797, respectively).

Similar to the gender wage gap, in order to do a thorough analysis of the racial/ethnic wage gap among recent Iowa community college graduates, other factors would need to be controlled, such as program and award type. Similarly, factors such as age, gender, and previous education would need to be taken into account.

FIGURE 12. PERCENT OF AWARDS BY RACE/ETHNICITY, AY 2017 COHORT

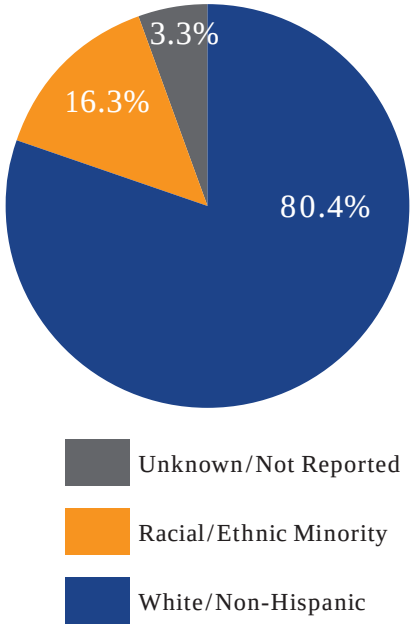


TABLE 16. EMPLOYMENT AND WAGES BY RACE/ETHNICITY, FIRST YEAR FOLLOWING AWARD, AY 2017 COHORT

Race/Ethnicity	Year of Employment[1]	Number in Cohort	Number in Cohort (not Enrolled)	Matched to Employment		Adjusted Median Wage	Percent with Previous Degree	Percent Earning More than One Award
				#	%			
Racial/Ethnic Minority	2018	2,468	1,091	969	88.8%	$27,938	6.3%	16.8%
White/Non-Hispanic	2018	12,182	6,299	5,813	92.3%	$32,797	5.7%	14.5%
Unknown/Not Reported	2018	502	257	225	87.5%	$32,622	9.8%	12.0%

1. 2018 wages defined as October 1, 2017 through September 30, 2018.

Employment and Wages by Industry Sector

Figure 13 shows the employment and median wages by industry sector for the AY 2017 cohort in the first year after award completion. The industry sectors are from the North American Industry Classification System (NAICS) code included in the Iowa UI and WRIS wage data. The bars represent the percentage of the cohort that matched employment records, and the dots represent the 2018 median annual wage.

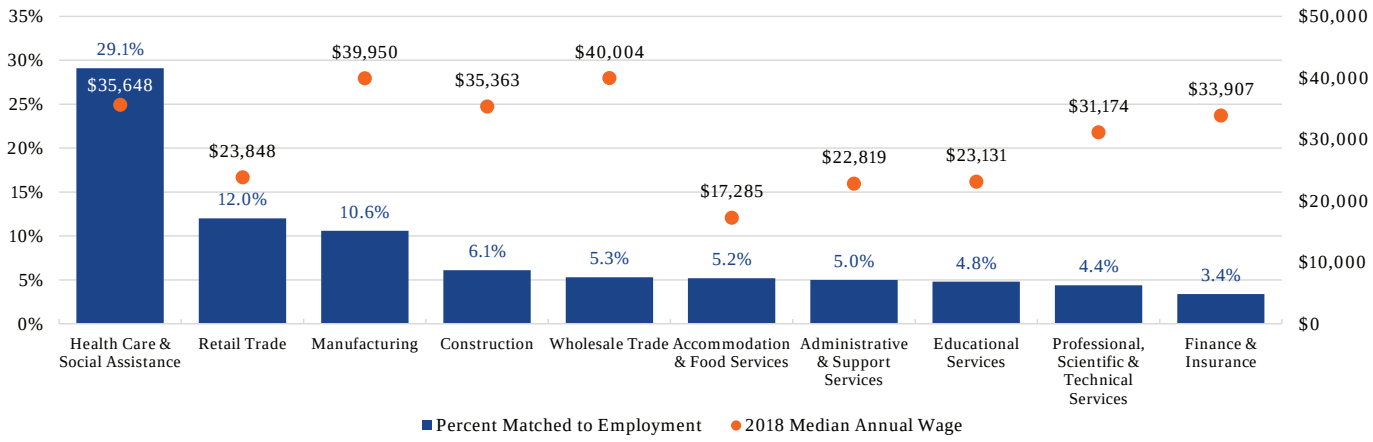
Industry sectors are defined by the type of business that an employer engages in, not the occupation of an employee (defined by the day-to-day tasks the employee performs). As an example, a person who received a degree in health science could be a pharmaceutical technician working in the pharmacy of a large retail store. While they are doing work related to the health care field and specific to their training, they are reported to be employed in the retail trade sector.

Figure 13 also illustrates that employers in the health care and social assistance industry sector employ more than twice the number of AY 2017 Iowa community college graduates (29.1 percent) than the next largest industry sector (retail trade at 12.0 percent). The next largest industry sector, by employment, is manufacturing (10.6 percent), with the remaining sectors accounting for less than seven percent each. As expected, these proportions tend to change over time. For instance, the order of the five largest industry sectors of employment for AY 2013 graduates in 2018 (i.e., five years after award completion) is slightly different, with health care and social assistance still being the largest, followed by manufacturing, retail trade, construction, and wholesale trade.

Among the industry sectors employing 250 or more AY 2017 graduates, those with the highest median wages in the year after award were wholesale trade ($40,004), manufacturing ($39,950), and health care and social assistance ($35,648). However, it is essential to note that wages vary widely depending on the type of program the graduates completed.

Complete industry data for all cohorts and all years can be found by accessing the link in Appendix A.

FIGURE 13. MEDIAN WAGES BY INDUSTRY, FIRST YEAR FOLLOWING AWARD, AY 2017 COHORT (TOP TEN INDUSTRIES BY EMPLOYMENT)



Employment and Wages by Award Type and Industry

Table 17 shows the employment and median wages by industry sector for the AY 2017 cohort in the first year after graduation by award type. While only the top three industry sectors by employment are shown per award type, the complete data for all cohorts and all years can be found by accessing the link in Appendix A.

As illustrated below, wages vary substantially within the same industry sector across award types, and vice versa. For instance, the median wage for Associate of Arts (AA) recipients employed in the health care and social assistance industry sector is $24,530, as compared to $44,608 for those with Associate of Applied Sciences (AAS) degrees in the same industry. However, as noted on the previous page, wage levels vary widely by program and occupations within industry sectors.

TABLE 17. AY 2017 COHORT, 2018 INDUSTRY MEDIAN WAGES BY AWARD TYPE

Award Type	Year of Employment[1]	Industry Sector of Employment	Matched to Employment		Adjusted Median Wage
			#	%	
AA	2018	Retail Trade	269	21.2%	$21,465
AA	2018	Health Care & Social Assistance	208	16.4%	$24,530
AA	2018	Accommodation & Food Services	136	10.7%	$15,826
AS	2018	Health Care & Social Assistance	18	21.4%	$21,515
AS	2018	Retail Trade	16	19.0%	$21,460
AS	2018	Accommodation & Food Services	10	11.9%	$20,549
ASCO	2018	Health Care & Social Assistance	12	34.3%	$29,369
ASCO	2018	Finance & Insurance	6	17.1%	$44,341
ASCO	2018	Professional, Scientific & Technical Services	4	11.4%	$33,471
AGS	2018	Health Care & Social Assistance	20	18.7%	$34,816
AGS	2018	Retail Trade	17	15.9%	$26,600
AGS	2018	Administrative & Support Services	11	10.3%	$28,263
AAA	2018	Retail Trade	10	27.0%	$16,908
AAA	2018	Accommodation & Food Services	5	13.5%	$19,581
AAA	2018	Health Care & Social Assistance	3	8.1%	$20,509
AAS	2018	Health Care & Social Assistance	1,191	32.7%	$44,608
AAS	2018	Manufacturing	391	10.7%	$42,316
AAS	2018	Retail Trade	360	9.9%	$26,924
Diploma (>= 22 cr.)	2018	Health Care & Social Assistance	331	33.8%	$29,416
Diploma (>= 22 cr.)	2018	Manufacturing	142	14.5%	$40,007
Diploma (>= 22 cr.)	2018	Construction	123	12.6%	$33,089
Certificate (>= 22 cr.)	2018	Health Care & Social Assistance	56	24.1%	$31,333
Certificate (>= 22 cr.)	2018	Manufacturing	28	12.1%	$39,083
Certificate (>= 22 cr.)	2018	Retail Trade	22	9.5%	$14,043
Cert./Dipl. (< 22 cr.)	2018	Health Care & Social Assistance	191	31.8%	$25,087
Cert./Dipl. (< 22 cr.)	2018	Manufacturing	62	10.3%	$39,604
Cert./Dipl. (< 22 cr.)	2018	Retail Trade	61	10.2%	$22,115

Employment and Wages by CIP

When analyzing wage and employment data, it is important to note the restrictions and limitations of the Iowa UI and WRIS data, as explained in the Process and Methodology section of this report. Two important factors that impact the data are: (1) the wage data only represent employees of companies that pay UI tax; and (2) the number of hours worked are not reported within the data, making it impossible to identify part- versus full-time employment. The primary reason for utilizing the median annual wage for analysis is that it mitigates the effects of outliers to provide a more accurate representation of the typical employee's wages.

Using the AY 2017 cohort of students who did not continue their education in the year following their graduation, recipients were matched to Iowa UI and WRIS data to determine if they obtained employment within the first year after receiving their award. Figure 14 illustrates the data for those graduates who earned an Associate of Applied Science (AAS) by CIP code. For example, 98.7 percent of students who received an AAS in the registered nurse program (CIP 513801), and who did not continue their education, matched employment and earned a median annual wage of $50,706 in 2018; while 92.9 percent of those in the automobile/automotive mechanics technology/technician AAS program (CIP 470604) were matched to employment and earned a median annual wage of $30,849.

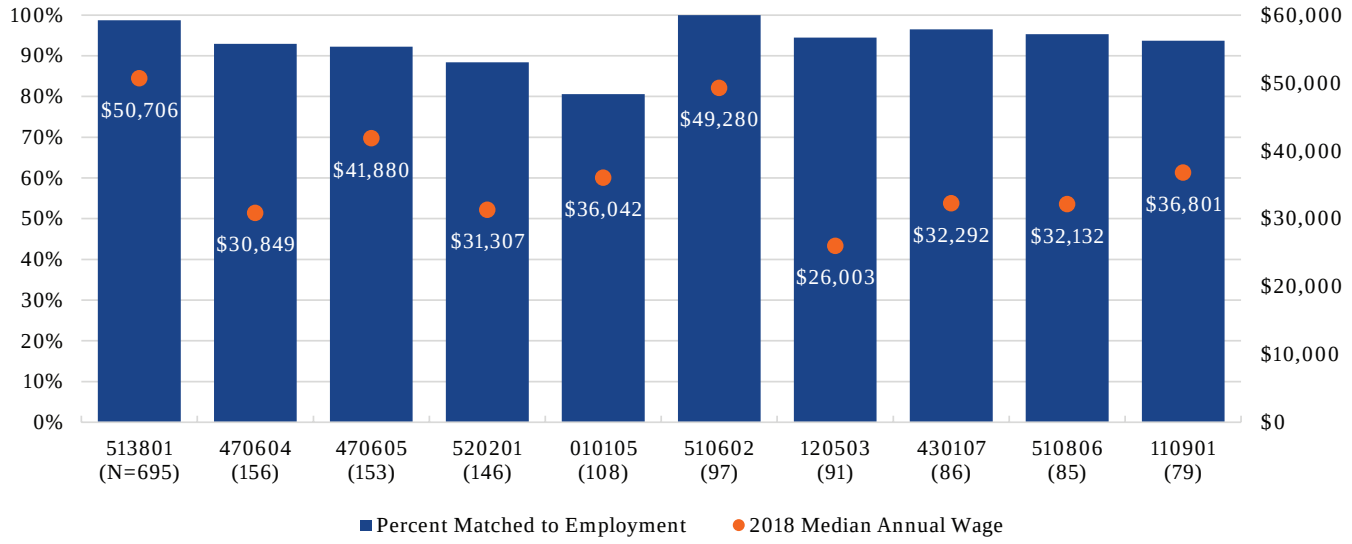
The programs with the most graduates not continuing their education in the first year after award are shown in Figures 14 to 16, while data for all other programs can be found by accessing the link found in Appendix A.

Figures 15 and 16 show the AY 2017 cohort outcomes for the largest certificate and diploma programs grouped by 22 or more credits or less than 22 program credits. Figure 15 illustrates the data for those graduates who earned a certificate or diploma requiring 22 or more credits by CIP code. For example, 100.0 percent of students who received a diploma in the lineworker program (CIP 460303), and who did not continue their education, matched employment and earned a median annual wage of $49,904 in 2018.

Figure 16 illustrates the data for those graduates who earned a certificate or diploma requiring less than 22 credits by CIP code. For example, 90.5 percent of students who received a certificate or diploma in the emergency medical technology/technician (EMT paramedic) program (CIP 510904), and who did not continue their education, matched employment and earned a median annual wage of $36,288 in 2018.

Appendix A contains data for other programs not shown here.

FIGURE 14. EMPLOYMENT AND WAGES BY ASSOCIATE OF APPLIED SCIENCE (AAS) DEGREE, AY 2017 COHORT, FIRST YEAR FOLLOWING AWARD

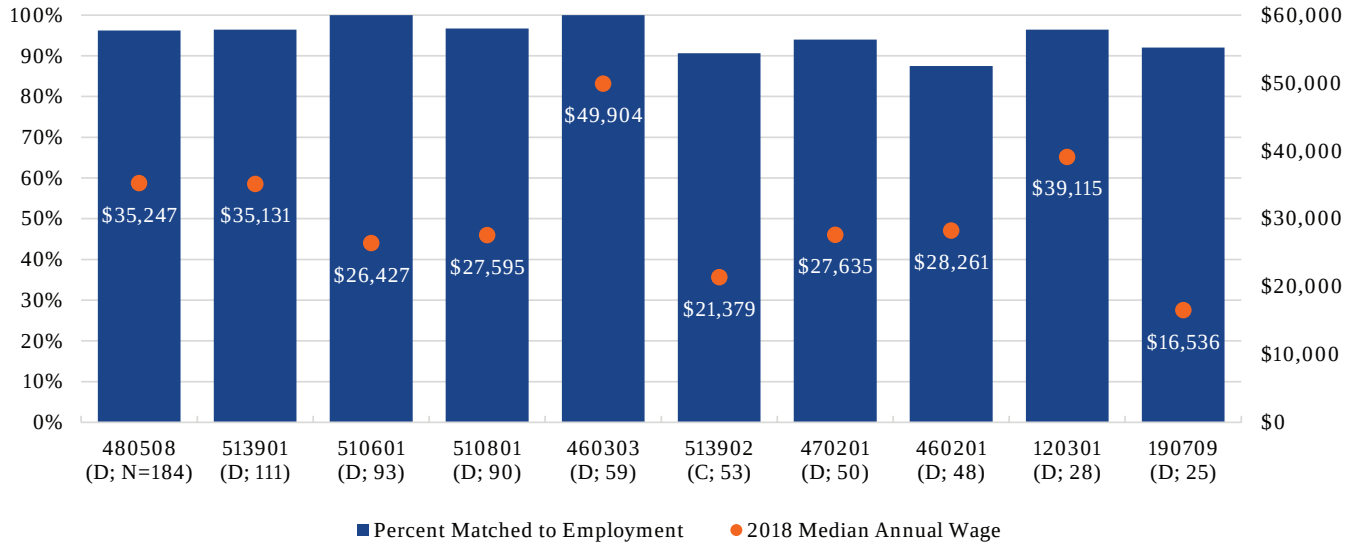


Program Legend:

513801: Registered Nursing/Registered Nurse
470604: Automobile/Automotive Mechanics Technology
470605: Diesel Mechanics Technology/Technician
520201: Business Administration and Management, General
010105: Agricultural/Farm Supplies Retailing and Wholesaling
510602: Dental Hygiene/Hygienist
120503: Culinary Arts/Chef Training
430107: Criminal Justice/Police Science
510806: Physical Therapy Technician/Assistant
110901: Computer Systems Networking and Telecommunications

See Appendix A for other CIP codes not represented above.

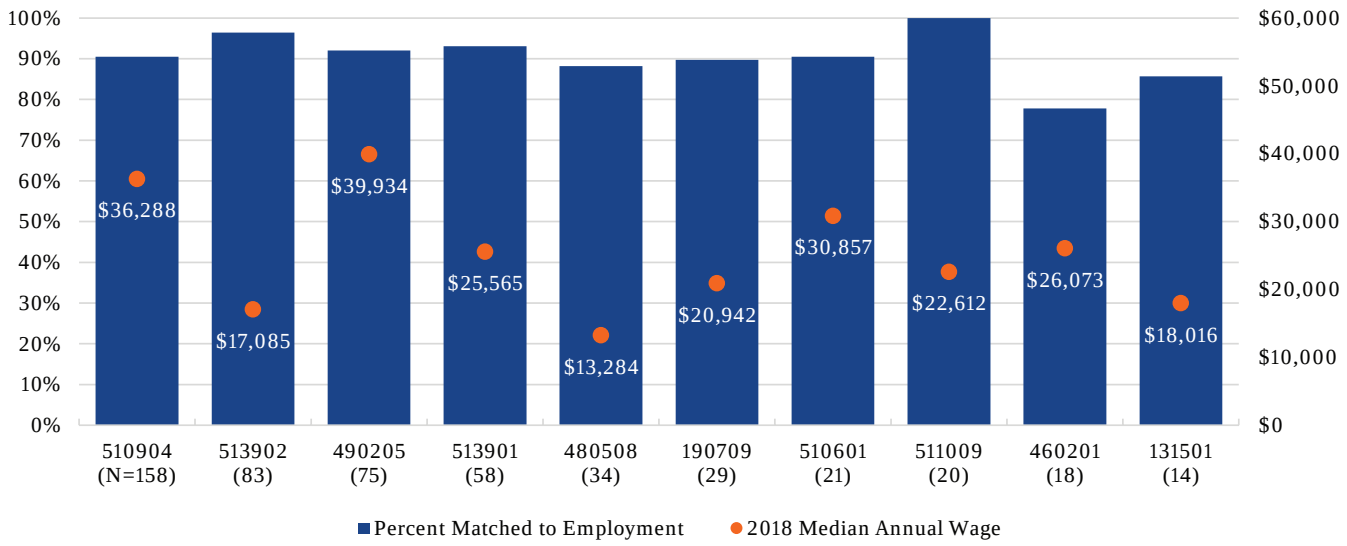
FIGURE 15. EMPLOYMENT, AND WAGES BY CERTIFICATE (C)/DIPLOMA (D) PROGRAM (22 OR MORE CREDITS), AY 2017 COHORT, FIRST YEAR FOLLOWING AWARD



Certificate (C)/Diploma (D) (22 or m=More Credits) Program Legend:

480508: Welding Technology/Welder
513901: Licensed Practical/Vocational Nurse Training
510601: Dental Assisting/Assistant
510801: Medical/Clinical Assistant
460303: Lineworker
513902: Nursing Assistant/Aide and Patient Care Assistant/Aide
470201: HVAC/R Maintenance Technology/Technician
460201: Carpentry/Carpenter
120301: Funeral Service and Mortuary Science, General
190709: Child Care Provider/Assistant

FIGURE 16. EMPLOYMENT, AND WAGES BY CERTIFICATE/DIPLOMA PROGRAM (LESS THAN 22 CREDITS), AY 2017 COHORT, FIRST YEAR FOLLOWING AWARD



Certificate/Diploma (Less than 22 Credits) Program Legend:

510904: Emergency Medical Technology/Technician (EMT Paramedic)
513902: Nursing Assistant/Aide and Patient Care Assistant/Aide
490205: Truck/Bus Driver/Commercial Vehicle Operator/Instructor
513901: Licensed Practical/Vocational Nurse Training
480508: Welding Technology/Welder
190709: Child Care Provider/Assistant
510601: Dental Assisting/Assistant
511009: Phlebotomy Technician/Phlebotomist
460201: Carpentry/Carpenter
131501: Teacher Assistant/Aide

Career Clusters

Career and technical education (CTE) in Iowa consists of educational programs offering courses designed to prepare individuals for immediate employment in current or emerging occupations. These programs consist of competency-based, applied learning opportunities that contribute to a student's academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability, and occupational-specific skills.

CTE programs at the community college level can be presented as a part of the national career cluster framework. Each career cluster represents a distinct grouping of occupations and industries based on the knowledge and skills required. The following 16 career clusters and related career pathways provide an important organizing tool for schools to develop more effective programs of study and curriculum.

Agriculture, Food, and Natural Resources:
Producing, processing, marketing, distribution, financing, and development of agricultural commodities and resources.

Architecture and Construction:
Designing, planning, managing, building, and maintaining the built environment.

Arts, A/V Technology, and Communications:
Designing, producing, exhibiting, performing, writing, and publishing multimedia content.

Business, Management, and Administration:
Planning, organizing, directing, and evaluating business functions essential to efficient and productive business operations.

Education and Training:
Planning, managing, and providing education, training, and related learning support services.

Finance:
Planning and related services for financial and investment planning, banking, insurance, and business financial management.

Government and Public Administration:
Planning and executing government functions at the local, state, and federal levels.

Health Science:
Planning, managing, and providing therapeutic and diagnostic services, health informatics, and biotechnology research and development.

Hospitality and Tourism:
Preparing individuals for employment related to restaurant and food/beverage services, lodging, travel and tourism, recreation, amusement, and attractions.

Human Services:
Preparing individuals for employment that relates to families and human needs such as counseling and mental health services, family and community services, personal care, and consumer services.

Information Technology (IT):
Building linkages in IT occupations for entry level, technical, and professional careers related to the design, development, support, and management of hardware, software, multimedia, and systems integration services.

Law, Public Safety, Corrections, and Security:
Planning, managing, and providing legal, public safety, protective services, and homeland security.

Marketing:
Planning, managing, and performing marketing activities to reach organizational objectives such as brand management, professional sales, merchandising, marketing, communications, and market research.

Manufacturing:
Planning, managing, and performing the processing of materials into intermediate or final products and related professional and technical support activities.

Science, Technology, Engineering, and Mathematics (STEM):
Planning, managing, and providing scientific research and professional and technical services, including laboratory and testing, and research and development services. Please note that most STEM occupations are embedded in other career clusters.

Transportation, Distribution, and Logistics:
Planning, managing, and moving people, materials, and goods by road, pipeline, air, rail, and water, and related professional and technical support services such as transportation infrastructure planning, management, logistics services, mobile equipment, and facility maintenance.

Awards by Career Cluster

Career clusters represent groupings of occupational programs designed to prepare students for success in their areas of interest by concentrating on developing particular skill sets that will help them attain meaningful employment. However, when researching career clusters, it is important to note that each cluster represents multiple industries and a variety of occupations.

Table 18 illustrates the number of awards earned by Iowa community college students by career cluster from AY 2013 to AY 2017. The list also includes awards earned by students in the college parallel/liberal arts (AA and AS degrees) programs. Although some of these AA and AS degree programs focus somewhat on specific fields, such as criminal justice or business, the courses are not focused on direct employment skill development like the courses in Career and Technical Education (CTE) programs.

College parallel/liberal arts and the health science career cluster account for the majority of awards earned at Iowa's community colleges. As previously discussed, most students in college parallel/liberal arts programs transfer to continue their education; therefore, this category was separated from the CTE clusters for this analysis. Since most of the CTE career cluster graduates move directly into the workforce, they are the focus of the employment and wage research conducted for this report.

Note: *Only 15 of the 16 career clusters are listed in Figure 34 because data was not available for the Government and Public Administration career cluster.*

TABLE 18. AWARDS BY CAREER CLUSTER, AY 2013 - AY 2017

Cluster Name	2013 Awards	2014 Awards	2015 Awards	2016 Awards	2017 Awards	Total Awards
College Parallel/Liberal Arts	5,924	5,720	5,554	6,004	5,448	28,650
Health Science Cluster	4,299	4,089	4,329	4,458	4,259	21,434
Manufacturing Career Cluster	879	880	1,026	1,012	929	4,726
Transportation, Distribution, and Logistics Cluster	749	599	681	773	815	3,617
Agriculture, Food and Natural Resource Cluster	583	535	624	598	674	3,014
Architecture and Construction Cluster	613	517	573	565	609	2,877
Business, Management and Administration Cluster	745	616	548	471	477	2,857
Information Technology Cluster	411	393	358	457	510	2,129
Human Service Cluster	328	367	273	360	343	1,671
Law, Public Safety, Corrections and Security Cluster	307	279	325	293	274	1,478
Arts, Audio/Video Technology and Communications Cluster	225	282	292	321	340	1,460
Finance Cluster	250	236	229	222	202	1,139
Hospitality and Tourism Cluster	219	223	197	262	232	1,133
Marketing Sales and Service Cluster	125	120	124	95	91	555
Science, Technology, Engineering and Mathematics Cluster	89	84	81	96	89	439
Education and Training Cluster	84	91	83	86	83	427
Total	15,830	15,031	15,297	16,073	15,375	77,606

Employment by Career Cluster

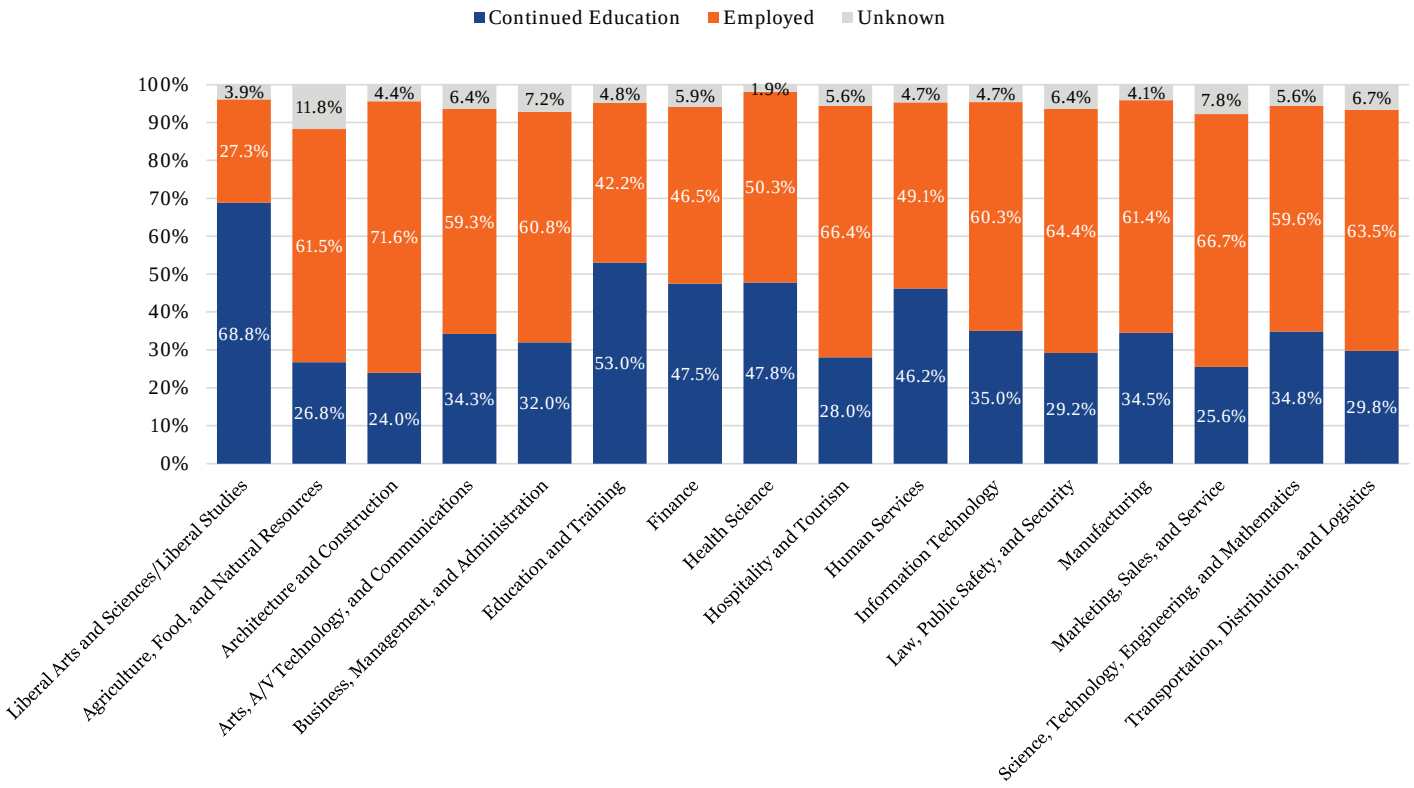
By analyzing and charting each career cluster based on the percentage of students who continued their education versus those who became employed, it is evident which clusters are targeted toward direct employment.

Analyzing the AY 2017 cohort, Figure 17 illustrates that within the first year following award completion, 50.3 percent of the health science graduates became employed, while 47.8 percent continued their education. A small percentage of completers (1.9 percent) could not be found in either the NSC or the UI wage records. These award completers are denoted as "Unknown" in Figure 17.

In contras, the liberal arts and sciences cluster, which is designed for transfer to a four-year institution, had the highest rate of graduates continuing their education (68.8 percent). Naturally, this is accompanied by a lower rate of graduates entering employment after graduation.

Similar data were analyzed for other cohorts and is available by accessing the link found in Appendix A.

FIGURE 17. ENROLLMENT, AND EMPLOYMENT STATUS BY CAREER CLUSTER, AY 2017 COHORT, FIRST YEAR FOLLOWING AWARD



Transition into the Workforce

In the previous sections, career clusters and primary industry sectors of employment were analyzed independently. However, the cross-tabulation of these two variables enables the tracking of completers within each career cluster to the industry sectors in which they secure employment.

Figure 18 provides a visualization used to relate these two variables. The Circos software, which uses polar coordinate mapping to illustrate data relationships, maps the career clusters to the primary industry of employment for each graduate in this study.

The colored bars on the left side of the circle represent career clusters, including college parallel/liberal arts, in which students earned awards. Each colored bar corresponds to one of the 17 career clusters listed on the left. The gray bars on the right side represent the industry sectors in which the graduates became employed. Each gray bar corresponds to one of the 20 aggregate industry sectors listed on the right.

Figure 19 shows the relationship between career clusters and industry sectors for AY 2013 through AY 2017 cohorts via hundreds of ribbons connecting the career cluster graduates (left bars) to their industry sector of employment (right bars). The width of the bars on both sides illustrate the size of the overall number of graduates in each cluster and those employed within each sector. It is important to note that bars/ribbons representing data that were suppressed due to low numbers were removed from Figure 19, resulting in fewer colored and gray bars.

It is important to note that the data show the industry sectors in which completers are primarily employed, not their actual occupations. For instance, health science graduates may be pharmaceutical technicians employed by a pharmacy at a large retail store. While they are doing work related to the health care field, they are reported as employed in the retail trade sector. This distinction between occupation and industry sector is worthwhile to note when analyzing the flow from education to industry as illustrated in Figures 19 and 20 on the following pages.

FIGURE 18. CIRCOS VISUALIZATIONS

Career Cluster

College Parallel/Liberal Arts
Agriculture, Food, and Natural Resource
Architecture and Construction
Arts, Audio/Video Technology, and Communications
Business, Management, and Administration
Education and Training
Finance
Government and Public Administration
Health Science
Hospitality and Tourism
Human Services
Information Technology
Law, Public Safety, Corrections, and Security
Manufacturing Career
Marketing Sales and Service
Science, Technology, Engineering, and Mathematics
Transportation, Distribution, and Logistics

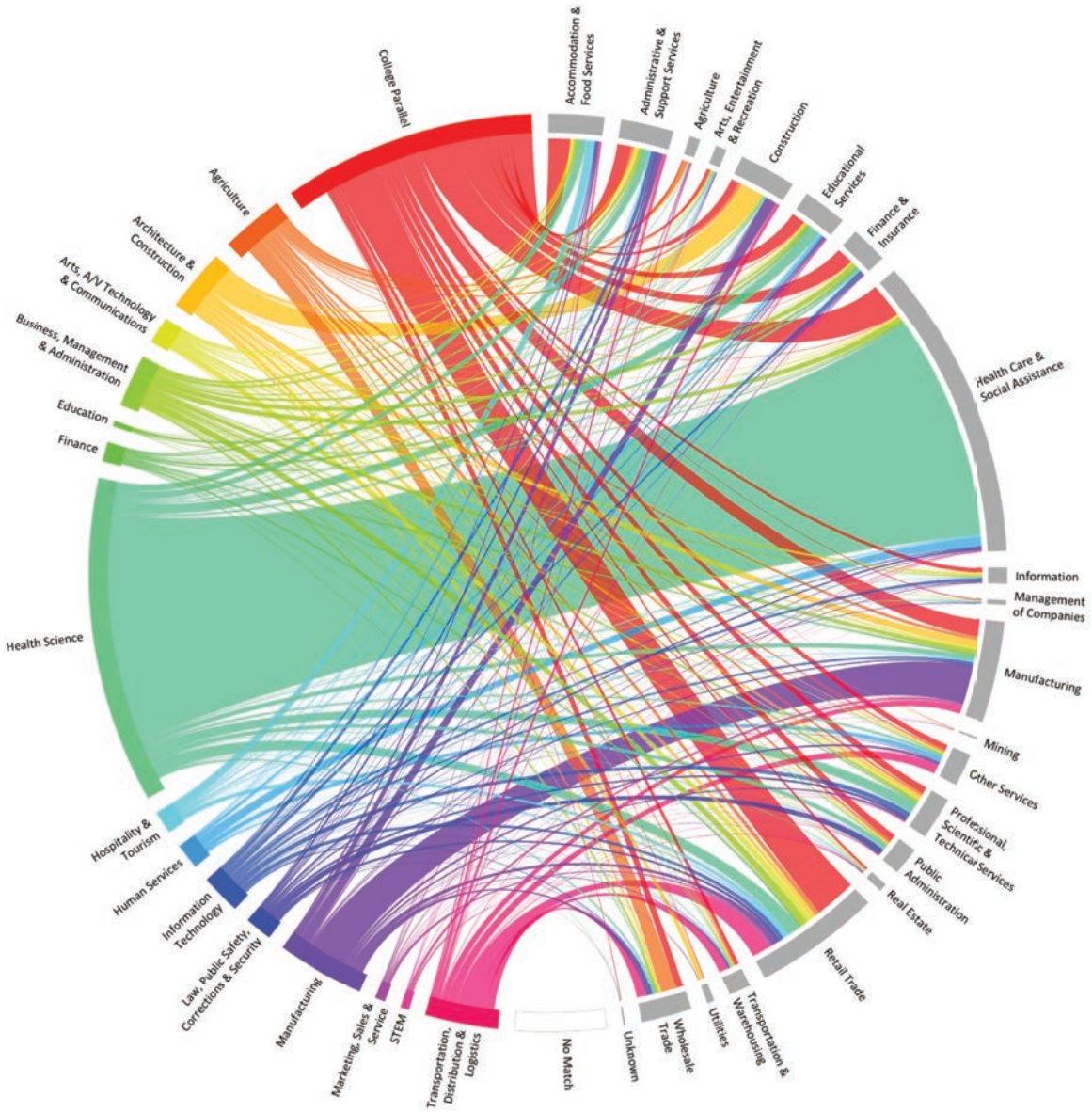
Industry Cluster

Accommodation and Food Services
Admin. Support, Waste Mgmt., and Remediation
Agriculture, Forestry, Fishing, and Hunting
Arts, Entertainment, and Recreation
Construction
Educational Services
Finance and Insurance
Health Care and Social Assistance
Information Technology
Management of Companies and Enterprises
Manufacturing
Mining
Other Services
Professional, Scientific, and Tech. Services
Public Administration
Real Estate, Rental, and Leasing
Retail Trade
Transportation and Warehousing
Utilities
Wholesale Trade

Cluster to Industry

As previously mentioned, students who chose the college parallel/liberal arts program of study and the health science career cluster represent the largest portion of AY 2013 to AY 2017 graduates, which explains why the red (top left) and green (mid left) sectors cover the most area in Figure 19. All graduates who did not continue their education within one year of graduation are graphically represented in this figure, with the "No Match" (mid-bottom) section corresponding to those graduates who did not match UI wage records. This diagram illustrates that the majority of health science completers obtained employment within the health care and social assistance industry; however, this career cluster provided workers in nearly every industry. The college parallel completers were largely disbursed as well, with their largest industry sectors of employment being retail trade, health care and social assistance.

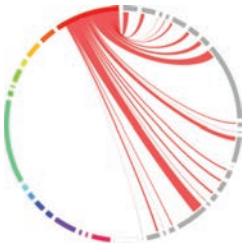
FIGURE 19. CLUSTER TO INDUSTRY MAPPING FOR AY 2013 TO AY 2017 COMMUNITY COLLEGE GRADUATES



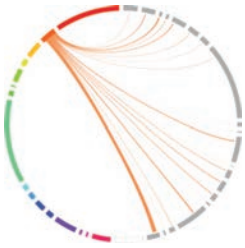
Note: *Ribbons representing cells that are suppressed in the data are not shown in this visualization.*

The circular graphics in Figure 20 illustrate each award category (i.e., career clusters and college parallel program) on the left side of the circle aligning with the industry in which each graduate gained employment. This is simply Figure 19 separated into 16 individual graphics for each career cluster to make it easier to distinguish industry patterns within a cluster.

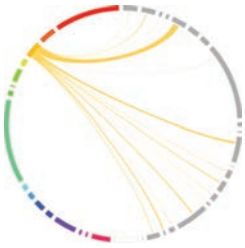
FIGURE 20. INDUSTRY MAPPING BY CLUSTER, AY 2013 TO AY 2017, COMMUNITY COLLEGE GRADUATES



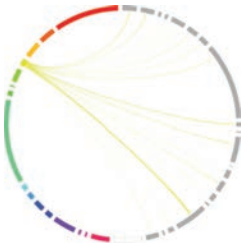
College Parallel



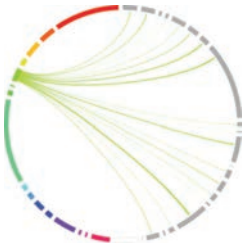
Agriculture, Food, and Natural Resources



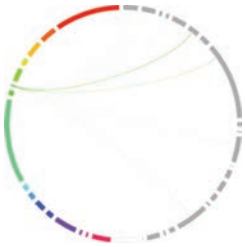
Architecture and Construction



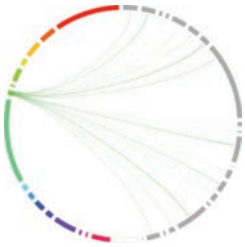
Arts, Audio/Video Technology, and Communications



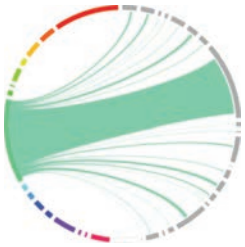
Business, Management, and Administration



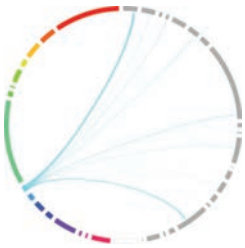
Education and Training



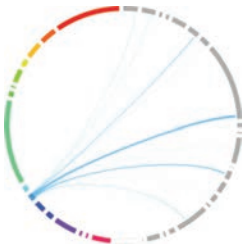
Finance



Health Science



Hospitality and Tourism



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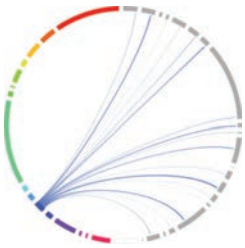
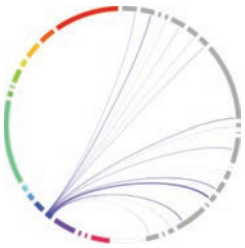


Information Technology



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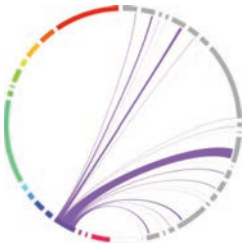

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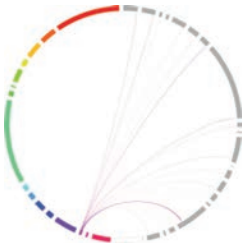

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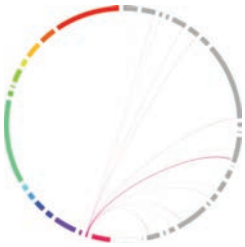
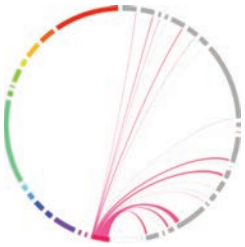


Science, Technology, Engineering, and Mathematics



Transportation, Distribution, and Logistics

Note: *Ribbons representing cells that are suppressed in the data are not shown in this visualization.*

Employment and Wage Record Methodology

- All wages for this report originate either from the Iowa Unemployment Insurance (UI) wage database or the Wage Record Interchange System (WRIS) network of state UI wage databases.

- Both the actual wage earned ("Unadjusted Median Wage") and the wage adjusted for inflation ("Adjusted Median Wage") are included in all wage-related tables. Wages are adjusted for inflation to the academic year 2018 (October 2017 - September 2018) levels (CPI-u = 249.7485) in order to make longitudinal comparisons more legitimate using the Consumer Price Index (CPI-u) as calculated by the U.S. Bureau of Labor Statistics. The formula used for adjusting wages is as follows:

$$W_{adj} = \frac{CPI_t}{CPI_{base}} * W_t$$

  where CPI_{base} is the CPI value of the base time period (AY 2018), CPI_t is the CPI value of the time period being adjusted from, and W_t is the wage of the time period being adjusted from. Wages are adjusted after they have been aggregated by academic year (using academic year average CPI values).

- The aggregate wages reported throughout this report do not include those graduates who did not match with a record in the UI wage database (i.e., the median wages only include those who had wages covered by employer UI tax during that year).

- All wage estimates in the report include ALL wages in the UI wage database for that person in that year. Each individual is associated with just one industry sector and state in each year, and that assignment is based on the industry sector/state of the employer they earned the most wages within that year. So, for example, if Lincoln earned $20,000 in the manufacturing industry sector and $8,000 in the retail trade industry sector in 2018, Lincoln would be included in the overall employment and wages table with a gross wage of $28,000. In the employment and wages by industry sector table, he would be included under the manufacturing industry sector with a gross wage of $28,000 (he would not be counted in retail trade, but the wages he earned in that sector would still be counted).

- Median wages are used in this report rather than average wages to mitigate the effect of outliers. Wage distributions are typically right-skewed, so the median is a better measure of center than the mean which is pulled in the direction of the skew (and is more affected by outliers, particularly with small sample sizes).

- To protect individual identities, small sample size cells were suppressed using the following rules:
  1. Suppress data within the cell if number of employed in the cell is less than three.
  2. If the sum of employed individuals across all suppressed subgroups is less than three, suppress the next smallest subgroup (to ensure the number of suppressed individuals is three or higher).

References

Institute of Educational Sciences, National Center for Education Statistics, *Classification of Instructional Programs*. Retrieved from http://nces.ed.gov/.

Krzywinski, M. I., Schein, J.E., Birol, I., Connors, J., Gascoyne, R., Horsman, D., Jones, S.J., and Marra, M.A. (2009). *Circos: an Information Aesthetic for Comparative Genomics*. Retrieved from http://www.circos.ca/.

Appendix A

Below is a list of the detailed data tables for this report. There is one Excel spreadsheet that contains data for each cohort (AY 2013, AY 2014, AY 2015, AY 2016, and AY 2017) as well as all five combined. It contains statewide data as well as data broken out by each community college. It can be accessed at: https://www.educateiowa.gov/iowa-community-college-program-outcomes.

Table 1: Overall Employment and Wages
Table 2: Overall Employment and Wages by State of Employment
Table 3: Overall Employment and Wages by Industry Sector of Employment
Table 4: Employment and Wages by Gender
Table 5: Employment and Wages by Gender by State of Employment
Table 6: Employment and Wages by Gender by Industry Sector of Employment
Table 7: Employment and Wages by Gender by Age
Table 8: Employment and Wages by Age
Table 9: Employment and Wages by Age by State of Employment
Table 10: Employment and Wages by Age by Industry Sector of Employment
Table 11: Employment and Wages by Race/Ethnicity
Table 12: Employment and Wages by Race/Ethnicity by State of Employment
Table 13: Employment and Wages by Race/Ethnicity by Industry Sector of Employment
Table 14: Employment and Wages by Race/Ethnicity by Age
Table 15: Employment and Wages by Award Type (Aggregated)
Table 16: Employment and Wages by Award Type (Aggregated) by State of Employment
Table 17: Employment and Wages by Award Type (Aggregated) by Industry Sector of Employment
Table 18: Employment and Wages by Award Type
Table 19: Employment and Wages by Award Type by State of Employment
Table 20: Employment and Wages by Award Type by Industry Sector of Employment
Table 21: Employment and Wages by Program (CIP) by Award Type
Table 22: Employment and Wages by Program (CIP) by Award Type by State of Employment
Table 23: Employment and Wages by Program (CIP) by Award Type by Industry Sector of Employment
Table 24: Employment and Wages by Career Cluster
Table 25: Employment and Wages by Career Cluster by State of Employment
Table 26: Employment and Wages by Career Cluster by Industry Sector of Employment
Table 27: Employment and Wages by Career Cluster by Gender
Appendix B: Unemployment Insurance (UI) Records Description and Limitations

COMMUNITY COLLEGES & WORKFORCE PREPARATION

PROSPERITY THROUGH EDUCATION

www.educateiowa.gov/ccpublications

The Division of Community Colleges and Workforce Preparation within the Iowa Department of Education administers a variety of diverse programs that enhance Iowa's educational system and help to prepare a skilled and knowledgeable workforce. Divided between two bureaus — the Bureau of Community Colleges and the Bureau of Career and Technical Education — the Division is committed to providing and supporting opportunities for lifelong learning. In addition to working with Iowa's 15 public community colleges on state accreditation, program approval, equity review, and data reporting, guidance is also provided in the areas of career and technical education, workforce training and economic development, adult education and literacy, military education, the state mandated OWI education program, the GAP Tuition and PACE programs, Senior Year Plus, the National Crosswalk Service Center, and the Statewide Intermediary Network program.