

# Iowa Community College Education Outcomes

**Certificate, Diploma and Associate Degree Programs**  
*Academic Year 2014 to Academic Year 2019*

**Released 2022**



**COMMUNITY COLLEGES &  
WORKFORCE PREPARATION**



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Published: 2022

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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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## 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 in partnership with the community colleges across the state, 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,

A handwritten signature in black ink that reads "Ann Lebo". The signature is fluid and cursive, written in a professional style.

Ann Lebo, Director  
Iowa Department of Education

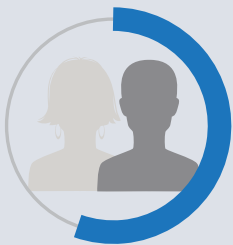
# Education Outcomes Iowa Community Colleges

Certificate, Diploma and Associate Degree Programs  
Academic Year 2018/2019

Iowa's Community Colleges provide a wide array of educational options to students through community college certificate, diploma and associate degree programs. These programs are designed to meet state and regional economic needs of both the workforce and businesses. Annually, student cohorts are established for research into education outcomes where students are followed into further education, training or employment. These outcomes inform students about wages and employment options, businesses with skilled worker supply and educators in program development and improvement.

## Student Demographics

The majority of credit students are female, under age 25 and not racially diverse.



**56.4%** of credit students were female.



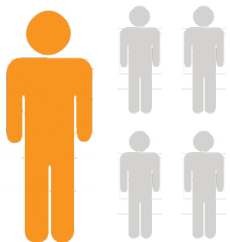
**70.1%** of credit students were younger than 25 years of age.



**18.9%** of credit students who reported their race/ethnicity were of a racial or ethnic minority group.

## Continuing Education

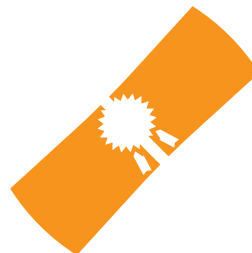
Credit programs often lead to enrollment in further education and/or transfer.



**49.1%** of students who completed their program in AY 2019 enrolled in further education.



**78.8%** of students who continued their education did so at an Iowa college or university.

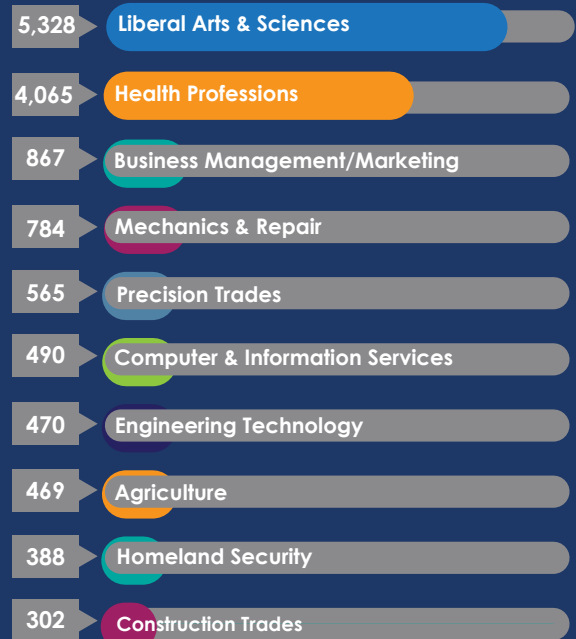


**93.1%** of AY 2018-2019 students did **not** have a previous degree.

## Top 10 Credit Programs



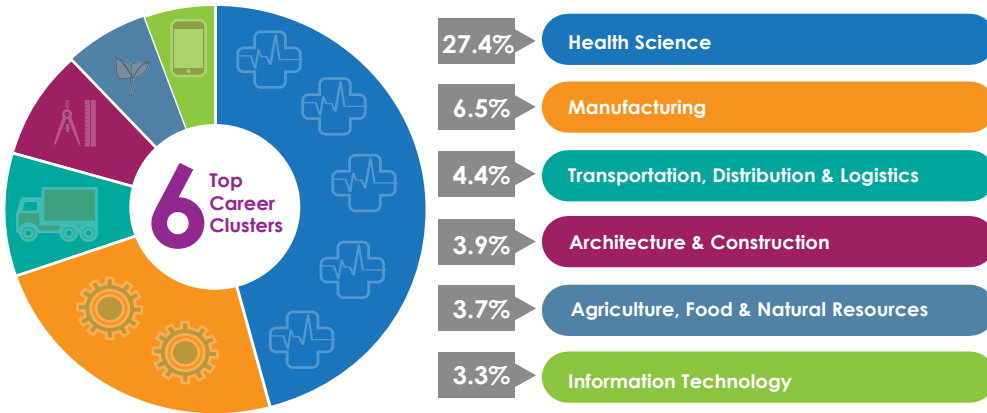
Liberal Arts & Sciences and programs in health care professions comprise the highest number of completions in AY2018-2019.





## Top Career Clusters

The National Career Clusters Framework organizes programs into 16 career clusters. Excluding college parallel/liberal arts (35.9%), the top career clusters by completion were health science and manufacturing.

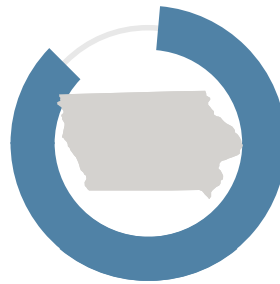


## Employment

The majority of students in community college credit programs stay in Iowa and are employed the first year following completion of their programs.



**91.2%** of credit students were employed in the first year following exit from their programs.

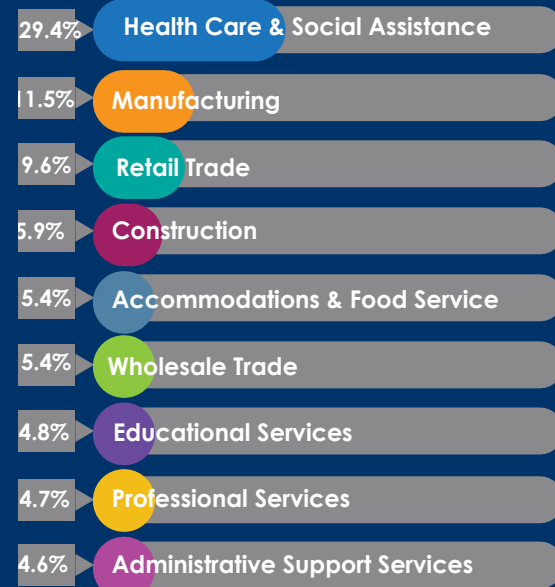


**81.3%** of credit students were employed in the state of Iowa.

## Top Industries for Employment



Of the credits students who completed in AY 2018-2019 and employed the year following program exit (2020), over one-fourth were employed in health care and social assistance.



Read the full report [https://educateiowa.gov/iowa-community-college-program-outcomes#Iowa\\_Community\\_College\\_Program\\_Outcomes\\_Interactive\\_Charts](https://educateiowa.gov/iowa-community-college-program-outcomes#Iowa_Community_College_Program_Outcomes_Interactive_Charts)

## Earnings

Earnings in the first year following program completion vary based on a variety of factors, including the duration of training, type of award and employer demand. The following examples provide median annual wages by type of award; however, wages vary based on program.

Short-term Certificate	Long-term Certificate/Diploma	Associate Degree
\$28,337	\$33,262	\$36,732



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## 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] 2015, 2016, 2017, 2018 and 2019). 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 as either “short-term” (less than 22 credit hours) or “long-term” (22 or more credit hours) 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., September 1, 2018, to August 31, 2019 is AY 2019). Students who received awards in AY 2015, 2016, 2017, 2018 or 2019 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 were 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 Programs Statewide Total Awards

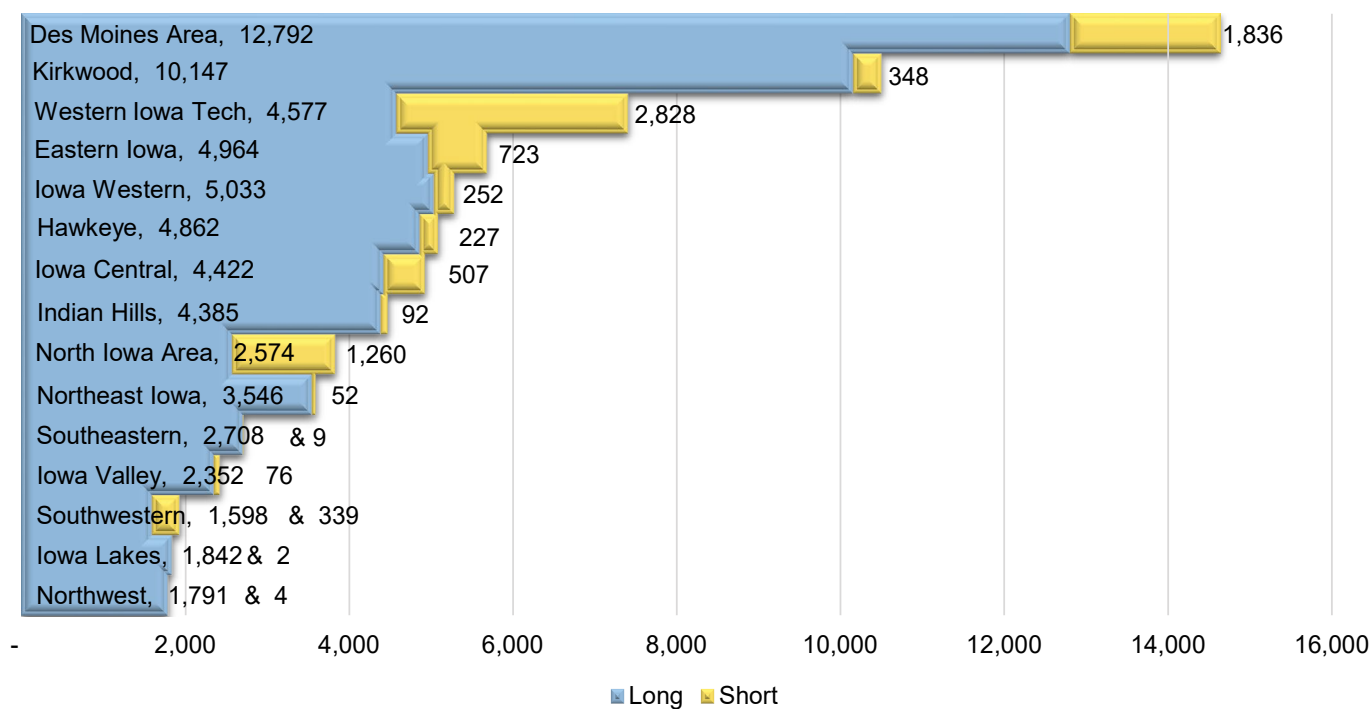
For this portion of the report, an aggregate analysis was conducted on 76,148 short- and long-term credit awards received by Iowa community college students from AY 2015 through AY 2019. Though each college yielded a different number of total awards, in aggregate there were 53,070 associate degrees, 12,561 diplomas, 1,986 long-term certificates and 8,531 short-term certificates awarded to graduates by the 15 Iowa community colleges during academic years 2015 to 2019 (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 hierarchical 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 2015 TO AY 2019 TOTAL SHORT- AND LONG-TERM AWARDS**

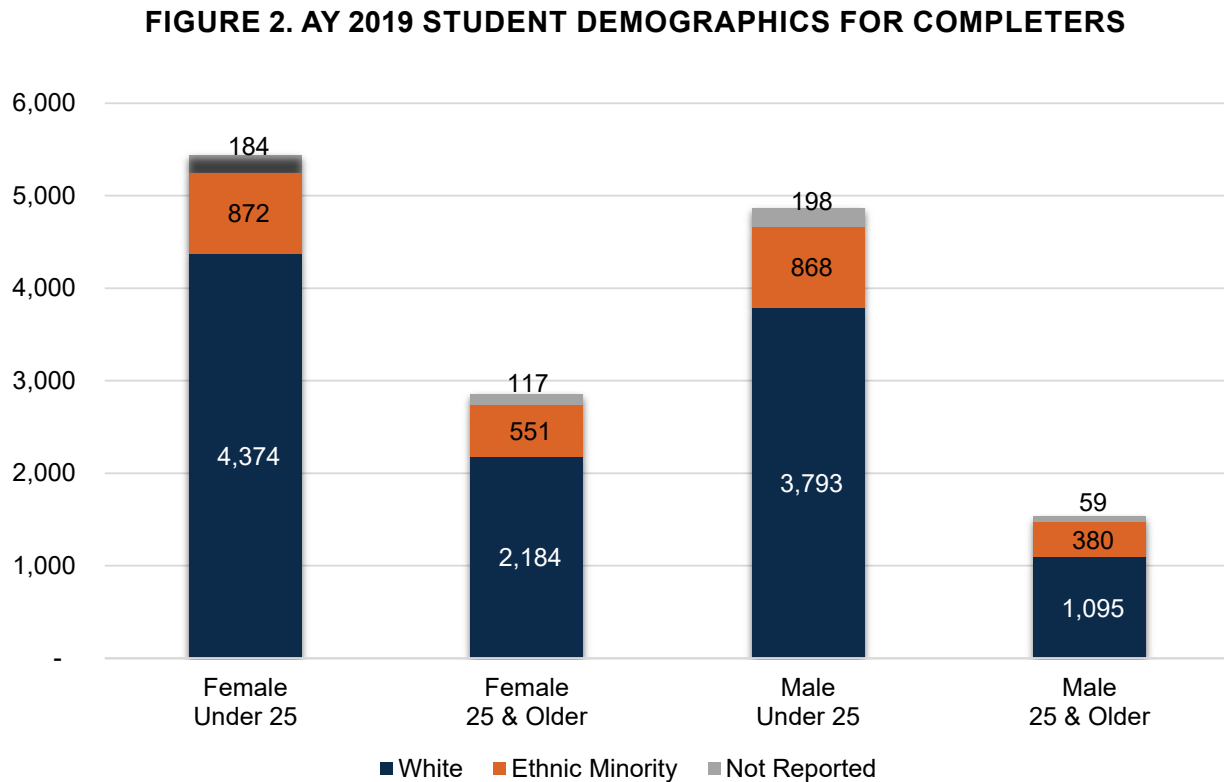


## Student Demographics

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 25 years of age and older”. Race/ethnicity was grouped into two categories: “white” and “racial/ethnic minority”.

There were a total of 8,282 female students, 6,393 male students and no students with unknown gender. The majority of students in AY 2019 were under the age of 25 (10,289) and white (8,167). However, there was a greater percentage of ethnic minority male students who were 25 years of age and older (25.8 percent), compared to those under 25 (18.6 percent). Ethnic minority female students also represented a greater percentage of those 25 years of age or older (20.1 compared to 16.6 percent).

Figure 2 below visually illustrates the Iowa community college student completer population demographics in AY 2019.



## Awards and Programs by Gender

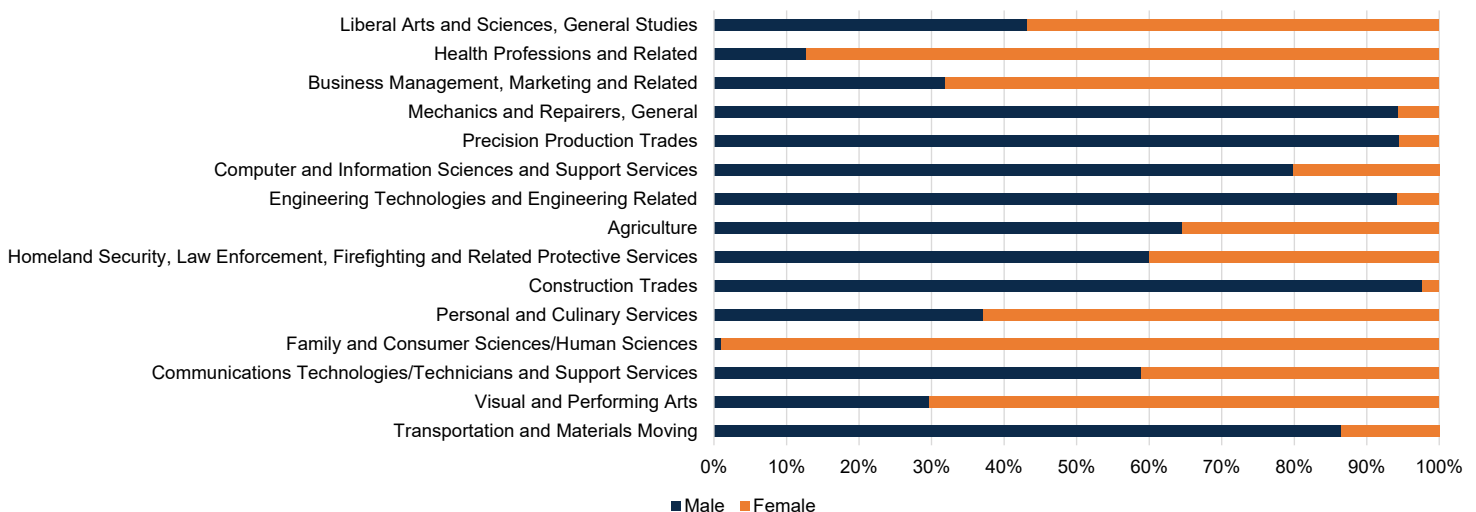
More female than male community college students received awards in AY 2019 (56.4 percent of all awards). The female students also represented higher percentages of those who earned associate degrees (56.3 percent), diplomas (58.8 percent) and certificates (54.5 percent). However, if each 2-digit Classification of Instructional Programs (CIP) code is analyzed separately, there is a deviation from this continuum, shown in the figure below.

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, female workers have held jobs in health care, administrative and human services-related occupations, whereas male workers have been more apt to attain employment in occupations relating to engineering, manufacturing, construction and transportation.

Figure 3 illustrates the percentage of male and female students for the top programs completed in AY 2019. Female students dominated the training completion in health professions, business management and family and consumer sciences/human services. Male students far outnumbered female students in mechanic and repair training, precision trades, computer technology, engineering, construction, and transportation. All program completions by gender can also 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 2019  
BY NUMBER OF AWARDS BY GENDER**



## 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 “those 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 were the most popular among the younger group (41.4 percent), whereas the older group predominately completed programs in health professions (38.6 percent). Interestingly, the second largest percentages for each group were in the same two categories. Table 1 shows that close to one-fourth of students age 25 and older completed liberal arts and sciences programs (22.8 percent), while close to one-fourth of students under the age of 25 completed health professions programs (22.6 percent).

Another intriguing fact is that there were little differences in the percentages of younger to older students by program type. There was a slight variance between completed programs but, generally, the percentages reflected interest in mechanics and repair, precision production, business management, agriculture, computer sciences and engineering technologies. 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 2019**

Classification of Instructional Program (CIP)	Percent of Students Under Age 25	Percent of Students Age 25 and Over
Liberal Arts and Sciences, General Studies	41.4%	22.8%
Health Professions and Related	22.6%	38.6%
Mechanics and Repairers, General	6.0%	3.7%
Precision Production Trades	4.7%	1.8%
Agriculture	4.2%	0.7%
Business Management, Marketing and Related	4.2%	9.7%
Computer and Information Sciences and Support Services	2.8%	4.6%
Engineering Technologies and Engineering Related	2.6%	4.5%
Construction Trades	2.6%	0.8%
Homeland Security, Law Enforcement, Firefighting and Related Protective Services	1.7%	4.8%
Personal and Culinary Services	1.6%	1.6%
Communications Technologies/Technicians and Support Services	1.3%	0.5%
Family and Consumer Sciences/Human Sciences	1.2%	1.5%
Visual and Performing Arts	0.9%	0.6%
Education	0.7%	0.0%
Natural Resources and Conservation	0.5%	0.1%
Legal Professions and Studies	0.3%	0.7%
Human Services	0.2%	0.9%
Transportation and Materials Moving	0.2%	1.3%
Communication, Journalism and Related Programs	0.2%	0.2%
Foreign Languages, Literatures and Linguistics	0.1%	0.2%
Parks, Recreation, Leisure and Fitness Studies	0.1%	0.1%
Multi/Interdisciplinary Studies	0.0%	0.4%
Biological and Biomedical Sciences	0.0%	0.0%
Social Sciences	0.0%	0.0%
Engineering	0.0%	0.0%
Science Technologies/Technicians	0.0%	0.0%
<b>Total</b>	<b>100.0%</b>	<b>100.0%</b>



## Programs by Race/Ethnicity

Throughout this report, race/ethnicity groups are defined as either “white” or “racial/ethnic minority”, aggregating all students who self-identified with a race or ethnicity other than white into one category. Over 2,600 students (19.0 percent) were in the racial/ ethnic minority group, and the remaining 11,396 students were white (81.0 percent). The 557 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 similar programs as white students (Table 2). Both groups of students had the highest percentages in liberal arts and sciences, health professions, mechanics and repairers and business management. However, there was a higher percentage of minority students who completed computer and information sciences training as compared to white students .

**TABLE 2. PROGRAMS BY TWO-DIGIT CIP BY RACE/ETHNICITY, AY 2019**

Classification of Instructional Program (CIP)	White		Racial/Ethnic Minority	
	Number	Percent	Number	Percent
Liberal Arts and Sciences, General Studies	4,032	79.2%	1,062	20.8%
Health Professions and Related	3,105	81.2%	721	18.8%
Business Management, Marketing and Related	699	83.4%	139	16.6%
Mechanics and Repairers, General	613	81.7%	137	18.3%
Precision Production Trades	456	87.0%	68	13.0%
Agriculture	428	96.4%	16	3.6%
Computer and Information Sciences and Support Services	366	81.2%	85	18.8%
Engineering Technologies and Engineering Related	360	79.8%	91	20.2%
Homeland Security, Law Enforcement, Firefighting and Related Protective Services	264	71.4%	106	28.6%
Construction Trades	244	83.3%	49	16.7%
Personal and Culinary Services	185	80.4%	45	19.6%
Family and Consumer Sciences/Human Sciences	156	82.1%	34	17.9%
Communications Technologies/Technicians and Support Services	120	83.3%	24	16.7%
Visual and Performing Arts	99	89.2%	12	10.8%
Transportation and Materials Moving	55	71.4%	22	28.6%
Education	54	80.6%	13	19.4%
Natural Resources and Conservation	53	93.0%	4	7.0%
Legal Professions and Studies	46	80.7%	11	19.3%
Humans Services	45	71.4%	18	28.6%
Communication, Journalism and Related Programs	16	61.5%	10	38.5%
<b>Total</b>	<b>11,396</b>	<b>81.0%</b>	<b>2,667</b>	<b>19.0%</b>

## 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 2015 to 2019.

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

**TABLE 3. AY 2015 TO AY 2019 STATEWIDE AWARDS BY TWO-DIGIT CIP**

CIP	Description	AY2015	AY2016	AY2017	AY2018	AY2019	Total
24	Liberal Arts & Sciences, General Studies	5,553	6,004	5,448	5,274	5,328	27,607
51	Health Professions & Related	4,332	4,460	4,260	3,959	4,065	21,076
52	Business Management, Marketing & Related	970	853	851	785	867	4,326
47	Mechanics & Repairers, General	782	890	937	843	784	4,236
48	Precision Production Trades	664	643	581	553	565	3,006
01	Agriculture	539	536	586	484	469	2,614
11	Computer and Information Sciences & Support Services	358	457	510	535	490	2,350
15	Engineering Technologies & Engineering Related	422	429	432	470	470	2,223
46	Construction Trades	302	304	320	313	302	1,541
43	Homeland Security, Law Enforcement, Firefighting & Related Protective Services	283	253	203	261	388	1,388
12	Personal & Culinary Services	213	290	243	233	234	1,213
19	Family & Consumer Sciences/Human Sciences	157	231	233	202	194	1,017
10	Communications Technologies/Technicians & Support Services	155	136	154	142	151	738
50	Visual & Performing Arts	143	166	159	137	118	723
49	Transportation & Materials Moving	96	97	107	89	81	470
44	Human Services	60	64	65	63	67	319
03	Natural Resources & Conservation	58	42	62	59	58	279
22	Legal Professions & Studies	42	40	71	40	60	253
13	Education	54	54	43	28	71	250
30	Multi/Interdisciplinary Studies	44	35	24	20	19	142
09	Communication, Journalism & Related Programs	12	18	26	21	26	103
16	Foreign Languages, Literature & Linguistics	16	25	23	17	20	101
31	Parks, Recreation, Leisure & Fitness Studies	14	17	20	15	13	79
41	Science Technologies/Technicians	13	8	6	6	1	34
26	Biological & Biomedical Sciences	6	11	5	6	2	30
14	Engineering	5	7	2	1	-	15
45	Social Sciences	3	3	4	3	1	14
34	Health Related Knowledge & Skills	1	-	-	-	-	1
<b>Total</b>		<b>15,297</b>	<b>16,073</b>	<b>15,375</b>	<b>14,559</b>	<b>14,844</b>	<b>76,148</b>

## Associate Degrees by CIP—AY 2015 to AY 2019 Totals

During academic years 2015 through 2019, 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 2015 through AY 2019. Liberal arts and science degrees consistently account for slightly more than 50 percent of all such degrees awarded (50.9 percent in AY 2015, 53.6 percent in AY 2016, 51.3 percent in AY 2017, 52.0 percent in AY 2018 and 52.3 percent in AY 2019).

**TABLE 4. AY 2015 TO AY 2019 ASSOCIATE DEGREES BY TWO-DIGIT CIP**

CIP	Description	AY2015	AY2016	AY2017	AY2018	AY2019	Total
24	Liberal Arts & Sciences, General Studies	5,553	6,004	5,448	5,274	5,328	27,607
51	Health Professions & Related	2,031	1,954	1,840	1,860	1,877	9,562
52	Business Management, Marketing & Related	605	567	586	465	554	2,777
47	Mechanics & Repairers, General	496	554	562	500	471	2,583
01	Agriculture	476	464	515	414	399	2,268
11	Computer & Information Sciences & Support Services	298	308	337	308	303	1,554
15	Engineering Technologies & Engineering Related	339	296	283	312	295	1,525
43	Homeland Security, Law Enforcement, Firefighting & Related Protective Services	269	197	149	160	145	920
10	Communications Technologies/Technicians & Support Services	131	118	135	121	126	631
12	Personal & Culinary Services	105	148	135	126	114	628
48	Precision Production Trades	107	121	126	116	100	570
19	Family & Consumer Sciences/Human Sciences	80	89	95	80	82	426
46	Construction Trades	78	78	76	82	82	396
50	Visual & Performing Arts	105	84	87	87	76	439
44	Humans Services	56	56	60	61	65	298
22	Legal Professions & Studies	35	25	52	29	49	190
03	Natural Resources & Conservation	40	33	33	46	47	199
09	Communication, Journalism & Related Programs	12	18	26	20	23	99
49	Transportation & Materials Moving	4	3	11	25	21	64
30	Multi/Interdisciplinary Studies	44	35	24	20	19	142
31	Parks, Recreation, Leisure & Fitness Studies	4	10	12	10	9	45
16	Foreign Languages, Literatures & Linguistics	16	19	14	8	8	65
41	Science Technologies/Technicians	13	8	6	6	1	34
26	Biological & Biomedical Sciences	6	7	1	3	1	18
45	Social Sciences	3	3	4	3	1	14
14	Engineering	5	7	2	1	-	15
34	Health Related Knowledge & Skills	1	-	-	-	-	1
13	Education	-	-	-	-	-	-
<b>Total</b>		<b>10,912</b>	<b>11,206</b>	<b>10,619</b>	<b>10,137</b>	<b>10,196</b>	<b>53,070</b>

## 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 (a total of 24 at Indian Hills in industrial technology, HVAC or health (ward clerk)), both long- and short-term diplomas were combined in Table 5. The majority of CTE diplomas were awarded in health professions followed by precision production trades and mechanics and repairers training. Health professions continue to surpass all other diploma programs, making up 48.2 percent of all diplomas awarded in AY 2019.

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

**TABLE 5. AY 2015 TO AY 2019 LONG-TERM AND SHORT-TERM DIPLOMAS BY TWO-DIGIT CIP**

CIP	Description	AY2015	AY2016	AY2017	AY2018	AY2019	Total
51	Health Professions & Related	1,473	1,324	1,142	1,210	1,157	6,306
48	Precision Production Trades	335	319	294	263	266	1,477
47	Mechanics & Repairers, General	195	243	238	259	201	1,136
46	Construction Trades	187	195	206	194	166	948
52	Business Management, Marketing & Related	141	115	107	155	145	663
12	Personal & Culinary Services	84	113	75	89	100	461
15	Engineering Technologies & Engineering Related	50	57	78	85	112	382
19	Family and Consumer Sciences/Human Sciences	46	74	58	53	58	289
01	Agriculture	47	59	63	59	54	282
11	Computer and Information Sciences & Support Services	14	44	29	62	58	207
50	Visual & Performing Arts	25	53	40	38	20	176
10	Communications Technologies/Technicians & Support Services	21	15	18	19	23	96
43	Homeland Security, Law Enforcement, Firefighting & Related Protective Services	2	8	9	13	8	40
49	Transportation & Materials Moving	18	10	8	-	-	36
13	Education	5	7	2	2	4	20
44	Human Services	1	6	5	2	1	15
31	Parks, Recreation, Leisure & Fitness Studies	3	3	-	3	3	12
03	Natural Resources & Conservation	4	3	1	-	-	8
22	Legal Professions & Studies	-	1	1	3	1	6
26	Biological & Biomedical Sciences	-	1	-	-	-	1
09	Communication, Journalism & Related Programs	-	-	-	-	-	-
14	Engineering	-	-	-	-	-	-
16	Foreign Languages, Literature & Linguistics	-	-	-	-	-	-
24	Liberal Arts & Sciences, General Studies	-	-	-	-	-	-
30	Multi/Interdisciplinary Studies	-	-	-	-	-	-
34	Health Related Knowledge & Skills	-	-	-	-	-	-
41	Science Technologies/Technicians	-	-	-	-	-	-
45	Social Sciences	-	-	-	-	-	-
<b>Total</b>		<b>2,651</b>	<b>2,650</b>	<b>2,374</b>	<b>2,509</b>	<b>2,377</b>	<b>12,561</b>

## Certificates by CIP

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

There were a total of 10,517 certificates awarded over the five-year study period (8,531 short-term and 1,986 long-term). The largest portion of these were awarded in the health professions (5,208) (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/2019/09/noncredit-career-and-technical-education-program-employment>.

**TABLE 6. AY 2015 TO AY 2019 CERTIFICATES LONG- AND SHORT-TERM (LT AND ST) BY TWO-DIGIT CIP**

CIP	Description	AY2014	AY2015	AY2016	AY2017	AY2018	Total LT	Total ST	Total
51	Health Professions & Related	828	1,182	1,278	889	1,031	4,579	629	5,208
48	Precision Production Trades	222	203	161	174	199	688	271	959
52	Business Management, Marketing & Related	224	171	158	165	168	684	202	886
11	Computer and Information Sciences & Support Services	46	105	144	165	129	341	248	589
47	Mechanics & Repairers, General	91	93	137	84	112	271	246	517
43	Homeland Security, Law Enforcement, Firefighting & Related Protective Services	12	48	45	88	235	389	39	428
49	Transportation & Materials Moving	74	84	88	64	60	370	-	370
15	Engineering Technologies & Engineering Related	33	68	71	73	63	62	254	316
19	Family and Consumer Sciences/Human Sciences	31	68	80	69	54	302	-	302
13	Education	49	47	41	26	67	230	-	230
46	Construction Trades	37	31	38	37	54	197	-	197
12	Personal & Culinary Services	24	29	33	18	20	113	11	124
50	Visual & Performing Arts	13	29	32	12	22	108	-	108
03	Natural Resources & Conservation	14	6	28	13	11	72	-	72
01	Agriculture	16	13	8	11	16	46	18	64
22	Legal Professions & Studies	7	14	18	8	10	-	57	57
16	Foreign Languages, Literature & Linguistics	-	14	9	9	12	36	-	36
31	Parks, Recreation, Leisure & Fitness	7	4	8	2	1	22	-	22
10	Communications Technologies/ Technicians & Support Services	3	3	1	2	2	11	-	11
26	Biological & Biomedical Sciences	-	3	4	3	1	-	11	11
44	Human Services	3	2	-	-	1	6	-	6
09	Communication, Journalism & Related Programs	-	-	-	1	3	4	-	4
14	Engineering	-	-	-	-	-	-	-	-
24	Liberal Arts & Sciences, General Studies	-	-	-	-	-	-	-	-
30	Multi/Interdisciplinary Studies	-	-	-	-	-	-	-	-
34	Health Related Knowledge & Skills	-	-	-	-	-	-	-	-
41	Science Technologies/Technicians	-	-	-	-	-	-	-	-
45	Social Sciences	-	-	-	-	-	-	-	-
<b>Total</b>		<b>1,734</b>	<b>2,217</b>	<b>2,382</b>	<b>1,913</b>	<b>2,271</b>	<b>8,531</b>	<b>1,986</b>	<b>10,517</b>

## 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 2015 and AY 2019. For example, data for AY 2015 graduates were extracted from AY 2015, 2014, 2013, 2012, 2011 and 2010 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 over three-fourths (77.6 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-thirds (65.8 percent) of students finished their AGS degree within the same period of time.

Figure 4, on the following page, represents the same data illustrating visually the distribution of time-to-degree for each associate degree type, while Figure 5 displays the time-to-degree in cumulative format, illustrating the total percentage of students who completed degrees in one to four years.

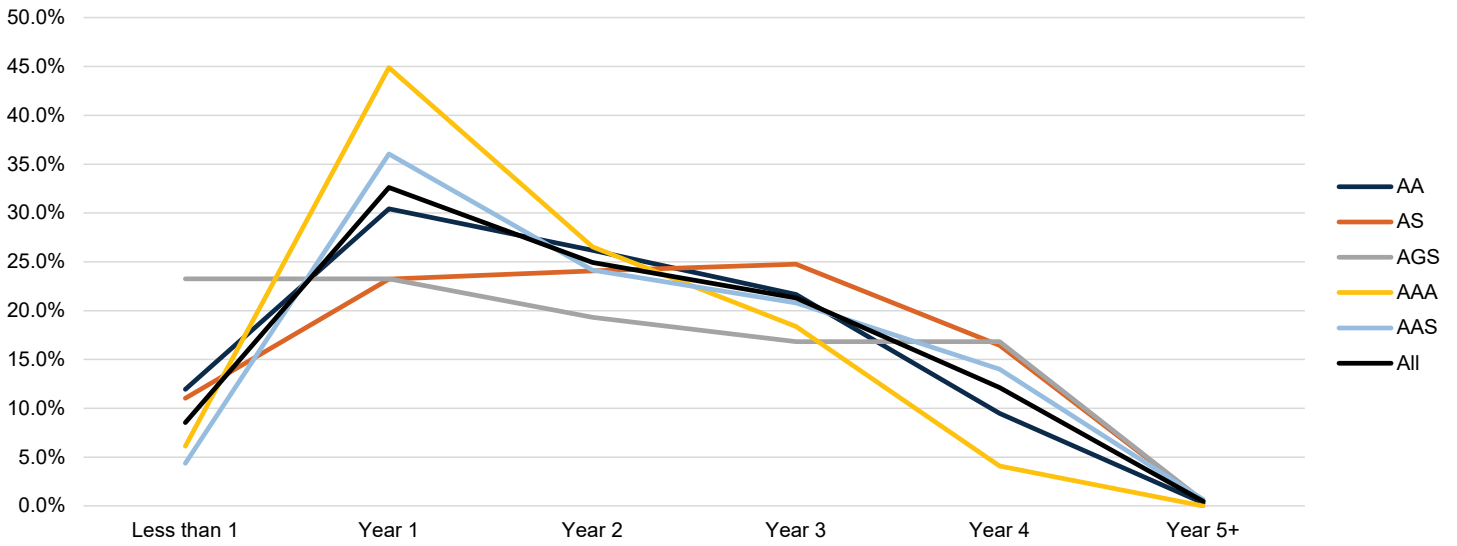
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**TABLE 7. AY 2015 TO AY 2019 TIME-TO-DEGREE FOR ASSOCIATE DEGREES BY PERCENT**

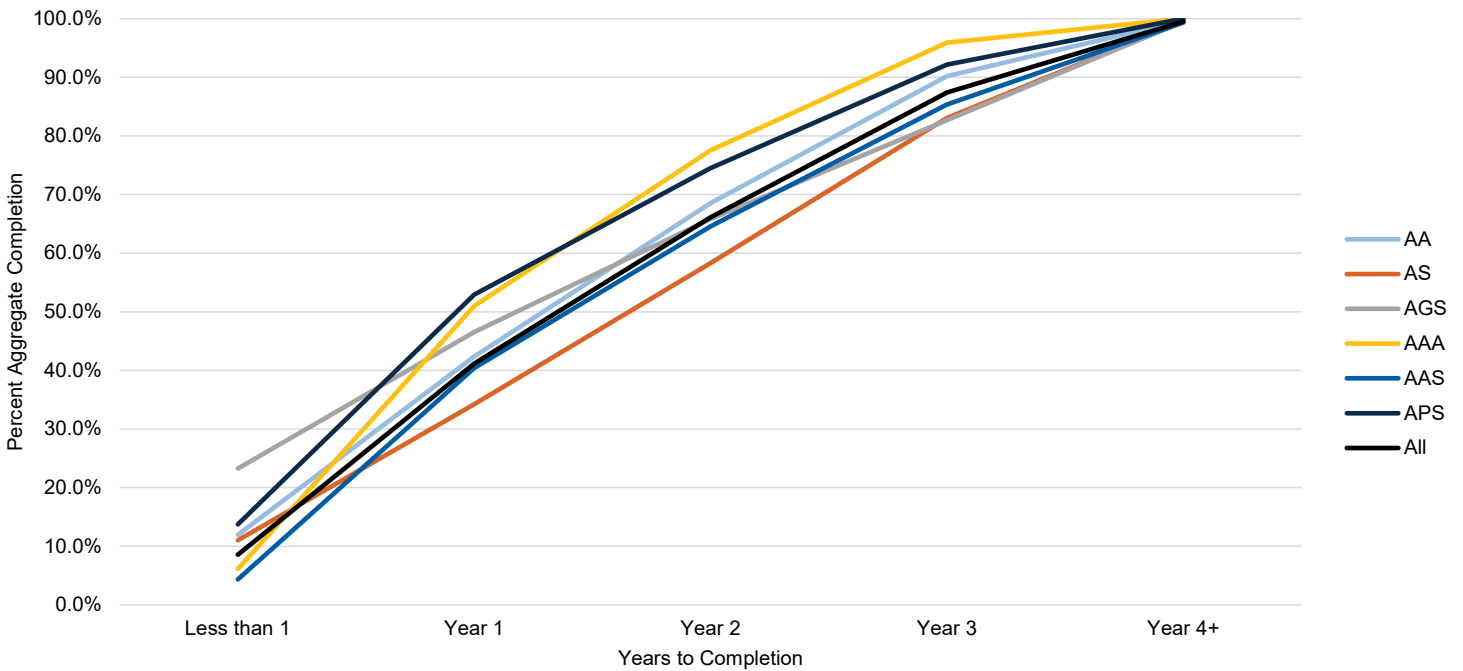
Years	AA	AS	AGS	AAA	AAS	APS	All
Less than 1	11.9%	11.0%	23.3%	6.1%	4.4%	13.7%	8.5%
Year 1	30.4%	23.2%	23.3%	44.9%	36.1%	39.2%	32.6%
Year 2	26.2%	24.1%	19.3%	26.5%	24.1%	21.6%	24.9%
Year 3	21.6%	24.7%	16.8%	18.4%	20.8%	17.6%	21.3%
Year 4	9.5%	16.4%	16.8%	4.1%	14.0%	7.8%	12.1%
Year 5+	0.3%	0.5%	0.5%	0.0%	0.7%	0.0%	0.5%
First 2 Years	68.6%	58.3%	65.8%	77.6%	64.6%	74.5%	66.1%



**FIGURE 4. TIME-TO-DEGREE FOR ASSOCIATE DEGREES EARNED, AY 2015 TO AY 2019**



**FIGURE 5. CUMULATIVE TIME-TO-DEGREE FOR ASSOCIATE DEGREES, AY 2015 TO AY 2019**

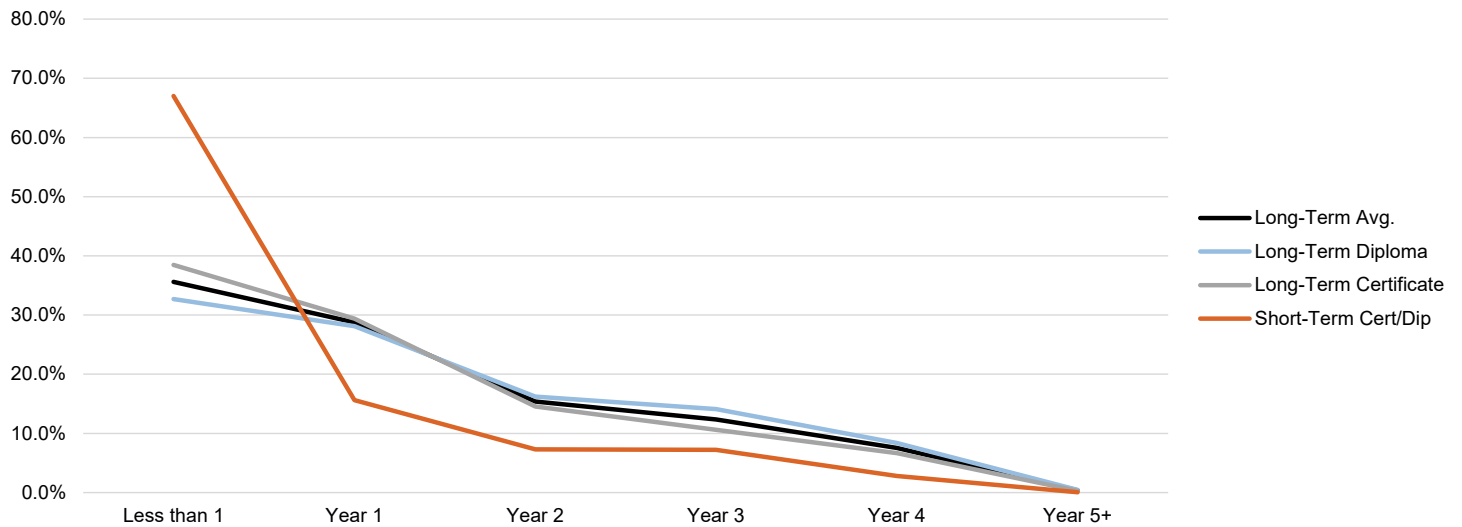


**Note:** Annual cohorts include students who entered an Iowa community college, in any term, within an academic year.

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 7 illustrates why the LT and ST awards must be reported separately. Due to the acquisition of fewer credits, most (67.0 percent) ST diplomas and certificates were completed in less than one year, with another 15.6 percent completed by the end of year one (total 82.6 percent). In contrast, the majority of long-term certificates and diplomas were completed by year two (82.4 percent for certificates and 77.0 percent for diplomas).

**FIGURE 6. TIME-TO-DEGREE FOR DIPLOMA AND CERTIFICATE AWARDS, AY 2015 TO AY 2019**



## Joint Enrollment

Each year, tens of thousands of Iowa high school students 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 2015 to 2019.

Over the five-year study period, a total of 19,887 students (an increase of 1,214 from the previous report) earned an average of 16.1 college credits during high school (Table 8). Of the AY 2019 completers, 38.2 percent earned an associate of arts (AA) degree and 23.0 percent earned an associate of applied science (AAS) degree in career and technical (CTE) programs. Another 32.5 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, ACADEMIC YEARS 2015-2019**

	AY2015	AY2016	AY2017	AY2018	AY2019	Total/ Average
Number of Students	3,431	3,753	3,916	4,308	4,479	19,887
Average Number of JE Years	1.4	1.4	1.4	1.7	1.7	1.5
Average Number of JE Credits	13.9	14.7	15.7	18.0	18.4	16.1

**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 2019 JOINTLY-ENROLLED STUDENTS BY LONG- AND SHORT-TERM AWARD TYPES**

Award Type	Number of Students		Percent
	Long-Term	Short-Term	
AA	1,709	-	38.2%
AS	231	-	5.2%
AGS	39	-	0.9%
AAA	6	-	0.1%
AAS	1,032	-	23.0%
APS	8	-	0.2%
ASCO	-	-	0.0%
Diploma	609	2	13.6%
Certificate	96	747	18.8%
<b>Total</b>	<b>3,730</b>	<b>749</b>	<b>100%</b>

## Student Retention

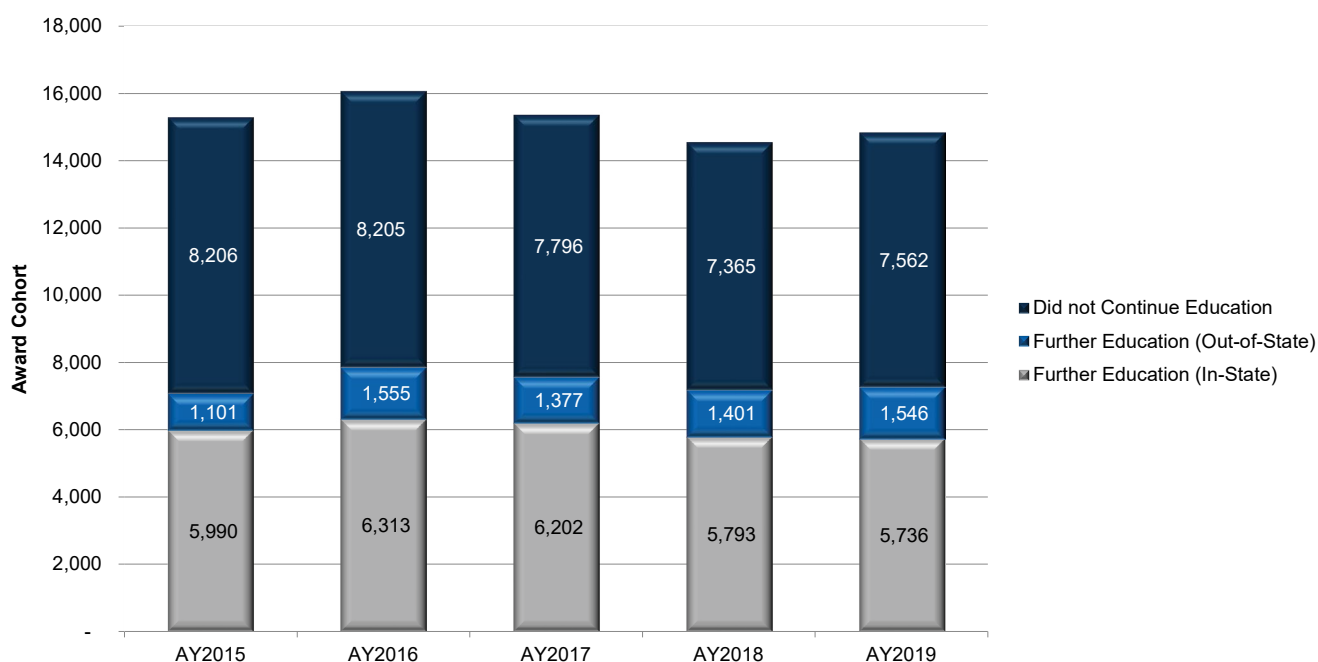
To study the various tracks community college students take after graduation, each cohort was split into three groups: 1) those who continued their education in Iowa, 2) those who continued out-of-state and 3) those who did not continue their education. Figure 8 represents the five cohorts of graduates, 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 an 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 14,844 students (unduplicated count) who received an award in AY 2019, 5,736 of the 7,282 who continued their education the year following their award (78.8 percent) did so in Iowa, while 1,546 left Iowa to continue their education.

**FIGURE 7. STATUS OF GRADUATES FIRST YEAR AFTER AWARD**





## 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 2019 cohort as an example, 5,736 students continued their education at an in-state institution the academic year following graduation, whereas, 1,546 students continued their education at an out-of-state institution. Of those who continued their education in-state, 38.1 percent enrolled at a two-year public college and 28.8 percent transferred to an in-state four-year public college.

The number of students who continued their education out-of-state increased when comparing the 2018 cohort (1,323) to the 2019 cohort (1,546) though the number of students still remains over a thousand each year.

**TABLE 10. AY 2015 TO AY 2019 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
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%
2018 Cohort						
2019	2-Year	Private	0	0.0%	3	0.0%
		Public	2,692	39.5%	72	1.1%
	4-Year	Private	915	13.4%	441	6.5%
		Public	1,890	27.7%	807	11.8%
Total			5,497	80.6%	1,323	19.4%
2019 Cohort						
2020	2-Year	Private	0	0.0%	1	0.0%
		Public	2,775	38.1%	93	1.3%
	4-Year	Private	866	11.9%	565	7.8%
		Public	2,095	28.8%	887	12.2%
Total			5,736	78.8%	1,546	21.2%



## 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 State Wage Interchange System (SWIS). Out-of-state employment was measured using the SWIS. The number of unmatched records may include 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 2015 cohort, it is used as an example in Table 11. This table illustrates the aggregate employment and wages for the AY 2015 cohort in the first five years of data available after graduation.

The data show that, in AY 2016 (October 1, 2015 to September 30, 2016), 88.6 percent of those who did not continue their education were employed the year following program completion. Additionally, 6.1 percent had earned a previous degree and 13.7 percent had earned more than one award. In order to compare wages from 2016 to current wages (2020), a cost of living adjustment was applied and documented in the Adjusted Median Wage column in Tables 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 \$31,458 for the AY 2015 cohort to \$35,394 for the AY 2019 cohort, which represents a 12.5 percent increase.

**TABLE 11. FIVE-YEAR EMPLOYMENT AND WAGE TRENDS FOR AY 2015 COHORT**

Year of Employment <sup>1</sup>	% Matched to Employment	Adjusted Median Wages	% with Previous Degree <sup>2</sup>	% Earning More than One Award
2016	88.6%	\$35,723	6.1%	13.7%
2017	86.2%	\$37,551	6.1%	14.0%
2018	84.2%	\$39,315	6.1%	14.2%
2019	82.7%	\$41,598	5.7%	13.7%
2020	87.4%	\$44,042	6.1%	14.4%

1. Ex. 2016 defined as October 1, 2015, through September 30, 2016,
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
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%
2018	2019	90.2%	\$32,093	6.8%	13.3%
2019	2020	91.2%	\$35,394	8.1%	12.6%

## Employment and Wages by State

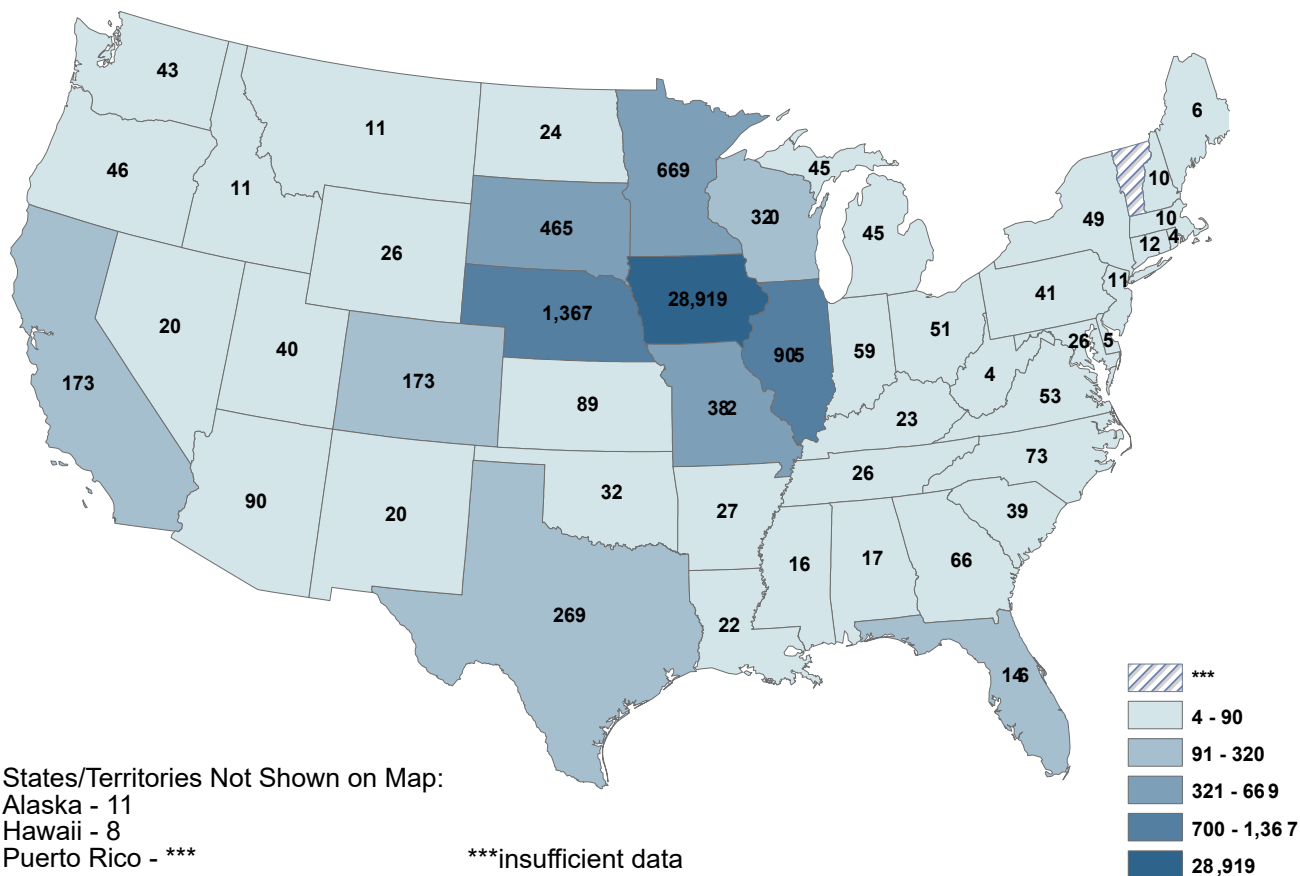
The SWIS was used to identify individuals who were employed out-of-state the year following graduation based on primary employment. Though the records do not identify hours worked (i.e., full- or part-time), overtime, or occupation, they do identify the number of graduates working in other states.

Figure 10 illustrates that the majority (82.7 percent) of those who received an award in AY 2015 through AY 2019, and who matched to employment data in the fourth quarter following the award, remained in Iowa.

Similar to those who continued their education, most graduates who were employed outside of Iowa were employed in bordering states (6,042). The states that account for the most employment in the fourth quarter following award (other than Iowa) were Nebraska (1,367 matched employment), Illinois (905), Minnesota (669), South Dakota (465) and Missouri (382).

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 2015 TO AY 2019 COHORTS**



## Employment and Wages by Award Type

Tables 13 and 14 reflect the employment and wages, in aggregate, for those in the AY 2019 cohort who were employed in the year following graduation (2020). For example, of the 3,729 AAS graduates who did not continue their education the year after graduation, 93.6 percent matched employment records within that year and earned an annual median wage of \$40,443 (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 an 80 percent employment match.

In aggregate, Table 14 shows that all AY 2019 associate degree recipients had an average 92.2 percent employment match in the first year after graduation. Long-term diploma and certificate recipients had a 93.5 percent employment match, while short-term diploma and certificate recipients had an 81.1 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 \$3,470 higher than the median wage for long-term certificate/diploma graduates in the first year after graduation.

**TABLE 13. AY 2019 COHORT, 2020 EMPLOYMENT AND WAGES BY AWARD TYPE**

Award Type	Year of Employment <sup>1</sup>	Number in Cohort (not Enrolled)	Matched to Employment		Adjusted Median Wage	Percent with Previous Degree	Percent Earning More than One Award
			#	%			
AA	2020	1,344	1,192	88.7%	\$26,899	3.3%	3.9%
AS	2020	123	115	93.5%	\$32,443	7.0%	3.5%
APS	2020	28	24	85.7%	\$33,358	8.3%	8.3%
AGS	2020	85	70	82.4%	\$31,529	4.3%	8.6%
AAA	2020	38	36	94.7%	\$22,485	5.6%	0.0%
AAS	2020	3,729	3,492	93.6%	\$40,443	9.9%	18.5%
Diploma (>= 22 cr.)	2020	989	930	94.0%	\$32,211	7.6%	13.7%
Certificate (>= 22 cr.)	2020	164	148	90.2%	\$40,788	21.6%	0.0%
Cert./Dipl. (< 22 cr.)	2020	790	641	81.1%	\$28,337	5.8%	1.2%

**TABLE 14. AY 2019 COHORT, 2020 EMPLOYMENT AND WAGES BY AWARD TYPE AGGREGATE**

Award Type	Year of Employment <sup>1</sup>	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.)	2020	790	641	81.1%	\$28,337	5.8%	1.2%
Certificate/Diploma (>= 22 cr.)	2020	1,153	1,078	93.5%	\$33,262	9.6%	11.8%
Associate	2020	5,347	4,929	92.2%	\$36,732	8.1%	14.3%

1. 2019 wages defined as October 1, 2018 through September 30, 2019.

## Employment and Wages by Gender

For the AY 2019 students in this portion of the study (N=7,290), there were more females than males who did not continue their education following completion of their award. In the AY 2019 cohort, 56.8 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).

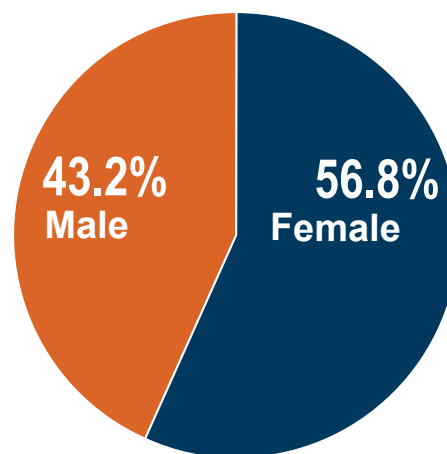
Table 15 provides the employment and wages of AY 2019 award recipients who entered the workforce in the first year after graduation (i.e., did not continue their education) by gender. Females matched employment at a higher rate (92.7 percent) than males (89.4 percent), but their adjusted median wage was lower than that of males, \$33,351 to \$37,883, 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 also need to be considered.

Overall, 10.7 percent of female awardees who matched employment had obtained a previous degree prior to receiving their award in AY 2019, 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 (15.4 percent compared to 10.3 percent).

**FIGURE 11. PERCENT OF AWARDS BY GENDER, AY 2019 COHORT**



**TABLE 15. EMPLOYMENT AND WAGES BY GENDER, FIRST YEAR FOLLOWING AWARD AY 2019 COHORT**

Gender	Year of Employment <sup>1</sup>	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	2020	8,177	3,945	3,656	92.7%	\$33,351	10.7%	10.3%
Male	2020	6,216	3,345	2,992	89.4%	\$37,883	4.8%	15.4%

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

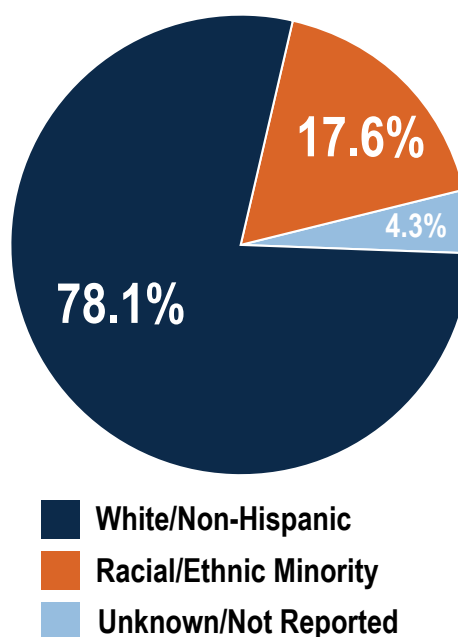
## Employment and Wages by Race/Ethnicity

Of the 7,290 award recipients in the AY 2019 cohort who did not continue their education, 17.6 percent were of a racial/ethnic minority group, 78.1 percent were white/non-Hispanic and 4.3 percent did not report race or ethnicity (Figure 12).

Table 16 provides the employment and wages by race/ethnicity of the AY 2019 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 (87.9 percent) than white/non-Hispanics (92.1 percent), and their adjusted median wage was also lower than that of white/non-Hispanics (\$32,968 and \$35,717, 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 also need to be considered.

**FIGURE 12. PERCENT OF AWARDS BY RACE/ETHNICITY, AY 2019 COHORT**



**TABLE 16. EMPLOYMENT AND WAGES BY RACE/ETHNICITY, FIRST YEAR FOLLOWING AWARD, AY 2019 COHORT**

Race/Ethnicity	Year of Employment <sup>1</sup>	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	2020	2,530	1,164	1,023	87.9%	\$32,968	8.7%	14.2%
White/Non-Hispanic	2020	11,243	5,850	5,385	92.1%	\$35,717	8.0%	12.3%
Unknown/Not Reported	2020	620	276	240	87.0%	\$34,372	6.7%	13.3%

1. AY 2020 wages defined as October 1, 2019 through September 30, 2020.

## Employment and Wages by Industry Sector

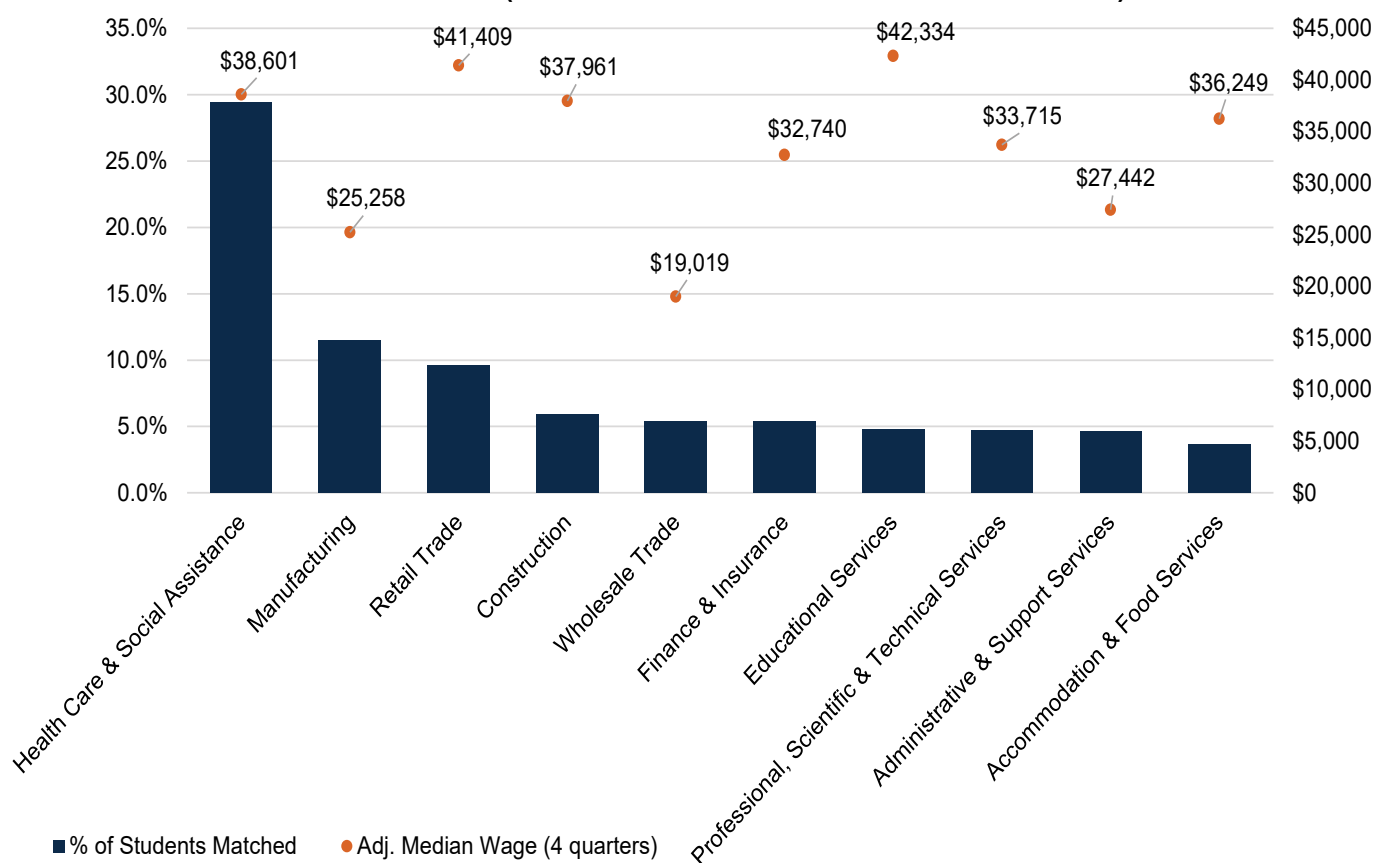
Figure 13 shows the employment and median wages by industry sector for the AY 2019 cohort in the first year after award completion (2020). The industry sectors are based on the North American Industry Classification System (NAICS) code included in the Iowa UI and SWIS wage data. The bars represent the percentage of the cohort that matched employment records, and the dots represent the 2020 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 2019 Iowa community college graduates (29.4 percent) than the next largest industry sector (manufacturing at 11.5 percent). The next largest industry sector, by employment, is retail trade (9.6 percent), with the remaining sectors accounting for less than six percent each. As expected, these proportions tend to change over time. For example, the order of the five largest industry sectors of employment for AY 2015 graduates in 2019 (i.e., five years after award completion) is slightly different, with health care and social assistance still being the largest, followed by retail trade, and then manufacturing. Complete industry data for all cohorts and all years can be found by accessing the link in Appendix A.

Among the industry sectors employing 250 or more AY 2019 graduates, those with the highest adjusted median wages in the year after award were educational services (\$42,334), retail trade (\$41,409), healthcare and social assistance (\$38,601), construction (\$37,961), accommodation and food services (\$36,249) and professional and technical services (\$33,715). However, it is essential to note that wages vary widely depending on the type of program the graduates completed and jobs obtained within the industry.

**FIGURE 13. MEDIAN WAGES BY INDUSTRY, FIRST YEAR FOLLOWING AWARD, AY 2019 COHORT (TOP TEN INDUSTRIES BY EMPLOYMENT)**





## Employment and Wages by Award Type and Industry

Table 17 shows the employment and median wages for the top three industry sector for the AY 2019 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 annual wage for Associate of Arts (AA) recipients employed in the health care and social assistance industry sector is \$26,598 as compared to \$47,530 for those with Associate of Applied Science (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 2019 COHORT, 2020 INDUSTRY MEDIAN WAGES BY AWARD TYPE  
(TOP THREE)**

Award Type	Year of Employment <sup>1</sup>	Industry Sector of Employment	Matched to Employment		Adjusted Median Wage
			#	%	
AA	2020	Retail Trade	225	18.9%	\$21,870
AA	2020	Health Care & Social Assistance	185	15.5%	\$26,598
AA	2020	Accommodation & Food Services	119	10.0%	\$16,546
AS	2020	Health Care & Social Assistance	24	20.9%	\$32,622
AS	2020	Retail Trade	19	16.5%	\$22,710
AS	2020	Manufacturing	12	10.4%	\$41,569
AGS	2020	Administrative & Support Services	12	17.1%	\$30,843
AGS	2020	Health Care & Social Assistance	12	17.1%	\$29,284
AGS	2020	Retail Trade	11	15.7%	\$32,766
AAA	2020	Manufacturing	6	16.7%	\$30,631
AAA	2020	Professional, Scientific & Technical Services	6	16.7%	\$22,858
AAA	2020	Other Services	4	11.1%	\$20,356
AAS	2020	Health Care & Social Assistance	1,211	34.7%	\$47,530
AAS	2020	Retail Trade	340	9.7%	\$28,991
AAS	2020	Manufacturing	313	9.0%	\$45,086
Diploma (>= 22 cr.)	2020	Health Care & Social Assistance	288	31.0%	\$30,474
Diploma (>= 22 cr.)	2020	Manufacturing	136	14.6%	\$39,966
Diploma (>= 22 cr.)	2020	Construction	127	13.7%	\$36,162
Certificate (>= 22 cr.)	2020	Manufacturing	23	15.5%	\$42,873
Certificate (>= 22 cr.)	2020	Health Care & Social Assistance	22	14.9%	\$42,246
Certificate (>= 22 cr.)	2020	Public Administration	21	14.2%	\$56,394
Cert./Dipl. (< 22 cr.)	2020	Health Care & Social Assistance	201	31.4%	\$25,793
Cert./Dipl. (< 22 cr.)	2020	Retail Trade	80	12.5%	\$19,191
Cert./Dipl. (< 22 cr.)	2020	Manufacturing	68	10.6%	\$39,517

## Employment and Wages by CIP

When analyzing wage and employment data, it is important to note the restrictions and limitations of the Iowa and SWIS 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.

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.

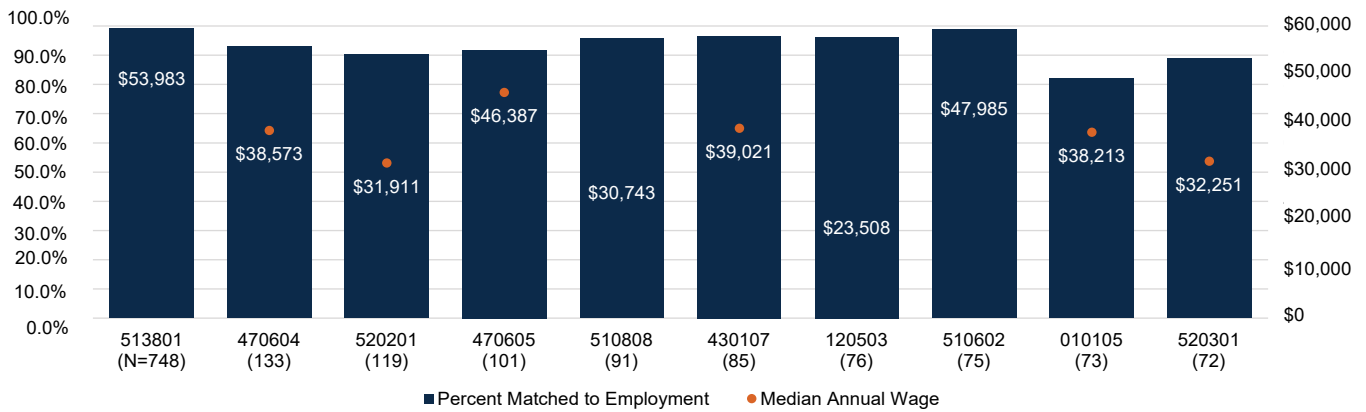
Using the AY 2019 cohort of students who did not continue their education in the year following their graduation, recipients were matched to Iowa and SWIS UI data to determine if they obtained employment within the first year after receiving their award. Figure 14 illustrates the data for those graduates who earned an Associate of Applied Science (AAS) by CIP code. For example, 99.1 percent of students who received an AAS in the registered nursing program (CIP 513801), and who did not continue their education, matched employment and earned a median annual wage of \$53,983 in 2020; while 93.0 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 \$38,573.

Figures 15 and 16 show the AY 2019 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, 95.0 percent of students who received a certificate or diploma in the nursing assistant program (CIP 513902), and who did not continue their education, matched employment and earned a median annual wage of \$20,448 in 2020.

Figure 16 illustrates the data for those graduates who earned a certificate or diploma requiring less than 22 credits by CIP code. For example, 94.5 percent of students who received a certificate or diploma in the welding technology program (CIP 480508), and who did not continue their education, matched employment and earned a median annual wage of \$38,774 in 2020.

Appendix A contains data for other programs not shown here.

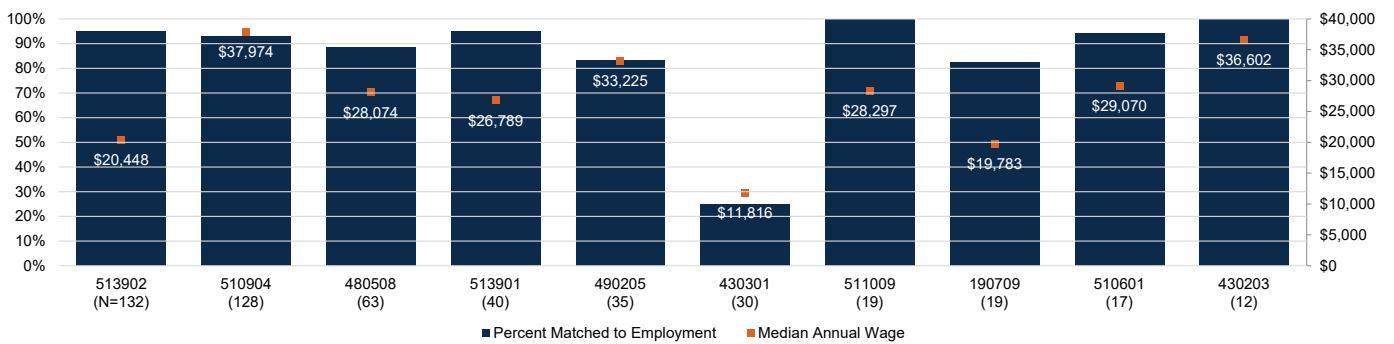
**FIGURE 14. EMPLOYMENT AND WAGES BY ASSOCIATE OF APPLIED SCIENCE (AAS) DEGREE, AY 2019 COHORT, FIRST YEAR FOLLOWING AWARD**



**Program Legend:**

- 513801: Registered Nursing/Registered Nurse
  - 470604: Automobile/Automotive Mechanics Technology
  - 520201: Business Administration and Management, General
  - 470605: Diesel Mechanics Technology/Technician
  - 510808: Veterinary/Animal Health Technology
  - 430107: Criminal Justice/Police Science
  - 120503: Culinary Arts/Chef Training
  - 510602: Dental Hygiene/Hygienist
  - 010105: Agricultural/Farm Supplies Retailing and Wholesaling
  - 520301: Accounting
- See Appendix A for other CIP codes not represented above.

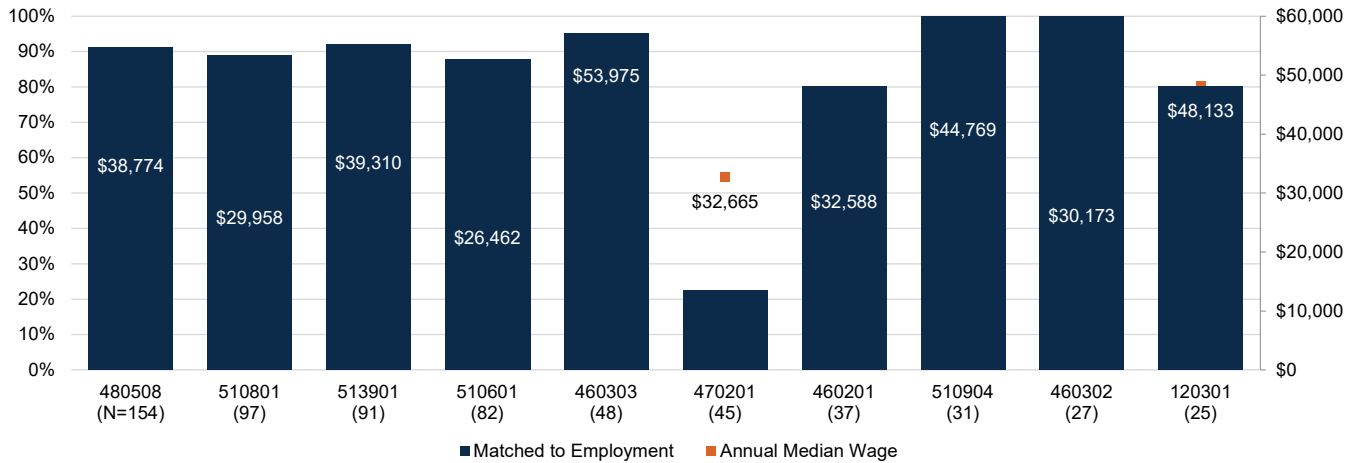
**FIGURE 15. EMPLOYMENT, AND WAGES BY CERTIFICATE (C)/DIPLOMA (D) PROGRAM(22 OR MORE CREDITS), AY 2018 COHORT, FIRST YEAR FOLLOWING AWARD**



**Program Legend:**

- 513902: Nursing Assistant/Aide and Patient Care Assistant/Aide
  - 510904: Emergency Medical Technology/Technician (EMT Paramedic)
  - 480508: Welding Technology/Welder
  - 513901: Licensed Practical/Vocational Nurse Training
  - 490205: Truck and Bus Driver/Commercial Vehicle Operator and Instructor
  - 430301: Homeland Security
  - 511009: Phlebotomy Technician/Phlebotomist
  - 190709: Child Care Provider/Assistant
  - 510601: Dental Assisting/Assistant
  - 430203: Fire Science/Fire-fighting
- See Appendix A for other CIP codes not represented above.

**FIGURE 16. EMPLOYMENT AND WAGES BY CERTIFICATE/DIPLOMA PROGRAM (LESS THAN 22 CREDITS), AY 2019 COHORT, FIRST YEAR FOLLOWING AWARD**



**Program Legend:**

480508: Welding Technology  
 510601: Dental Assisting/Assistant  
 460201: Carpentry  
 120301: Mortuary Science  
 510801: Medical Assisting

460303: Lineworker  
 510904: EMT/Paramedic  
 513901: Licensed Practical Nursing  
 470201: HVAC  
 460302: Electrician  
 See Appendix A for other CIP codes not represented above.

## 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, sales, research, merchandising, marketing and communications.

**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 2015 to AY 2019. 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 Table 18 and Figure 17 due to insufficient data for the Government and Public Administration career cluster.*

**TABLE 18. AWARDS BY CAREER CLUSTER, AY 2015 - AY 2019**

Cluster Name	2015 Awards	2016 Awards	2017 Awards	2018 Awards	2019 Awards	Total Awards	Increase/Decrease AY 2015 to AY 2019
College Parallel/Liberal Arts	5,554	6,004	5,448	5,274	5,328	27,608	226
Agriculture, Food and Natural Resource Cluster	624	598	674	553	545	2,994	79
Architecture and Construction Cluster	573	565	609	625	582	2,954	(9)
Arts, Audio/Video Technology and Communications Cluster	292	321	340	291	290	1,534	2
Business, Management and Administration Cluster	548	471	477	395	433	2,324	115
Education and Training Cluster	83	86	83	57	102	411	(19)
Finance Cluster	229	222	202	208	246	1,107	(17)
Health Science Cluster	4,329	4,458	4,259	3,960	4,060	21,066	269
Hospitality and Tourism Cluster	197	262	232	206	222	1,119	(25)
Human Service Cluster	273	360	343	322	314	1,612	(41)
Information Technology Cluster	358	457	510	535	493	2,353	(135)
Law, Public Safety, Corrections and Security Cluster	325	293	274	301	448	1,641	(123)
Manufacturing Career Cluster	1,026	1,012	929	960	966	4,893	60
Marketing Sales and Service Cluster	124	95	91	98	91	499	33
Science, Technology, Engineering and Mathematics Cluster	81	96	89	81	70	417	11
Transportation, Distribution and Logistics Cluster	681	773	815	693	654	3,616	27
<b>Total</b>	<b>15,297</b>	<b>16,073</b>	<b>15,375</b>	<b>14,559</b>	<b>14,844</b>	<b>76,148</b>	<b>453</b>

## Employment by Career Cluster

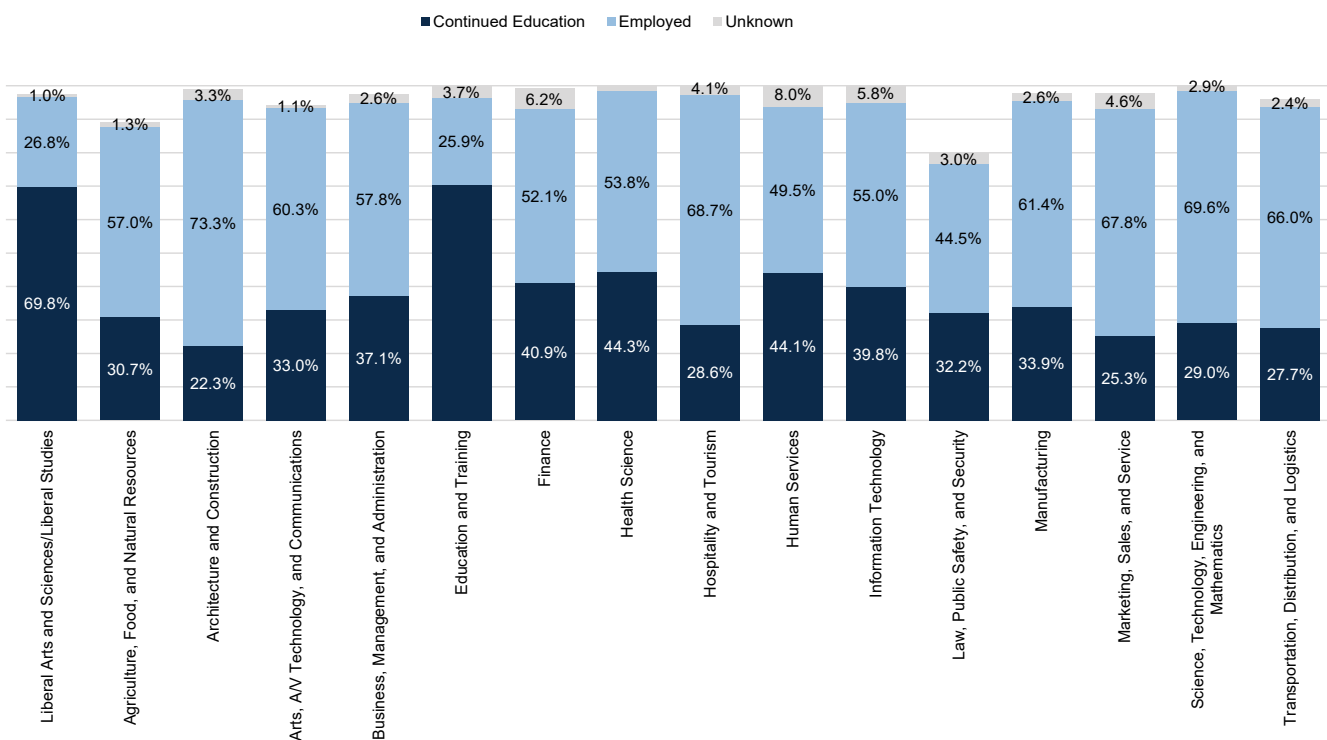
By analyzing and charting each career cluster based on the percentage of students who continued their education versus those who became employed, it is evident which clusters are targeted toward direct employment.

Analyzing the AY 2019 cohort, Figure 18 illustrates that within the first year following award completion, 53.8 percent of the health science graduates became employed, 44.3 percent continued their education, and a small percentage of completers (7.8 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 contrast, the liberal arts and sciences cluster, which is designed for transfer to a four-year institution, had the one of the highest rates of graduates continuing their education (69.8 percent). Naturally, this is accompanied by a lower rate of graduates entering employment after graduation (26.8 percent).

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

**FIGURE 17. ENROLLMENT AND EMPLOYMENT STATUS BY CAREER CLUSTER, AY 2019 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 2015 through AY 2019 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.

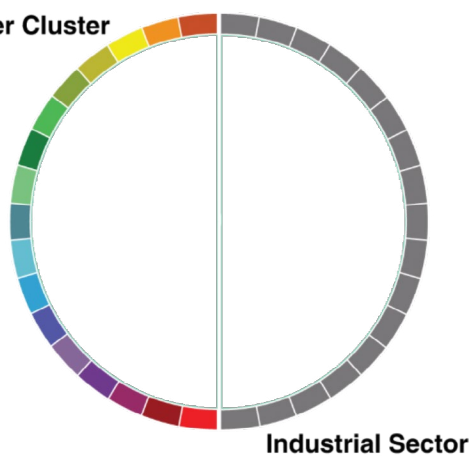
It is important to note that the data show the industry sectors in which completers are primarily employed, not their actual occupations. For instance, health science graduates may be pharmaceutical technicians employed by a pharmacy at a large retail store. While they are doing work related to the health 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 & Natural Resource
- Architecture & Construction
- Arts, Audio/Video Technology & Communications
- Business, Management & Administration
- Education & Training
- Finance
- Government & Public Administration
- Health Science
- Hospitality & Tourism
- Human Services
- Information Technology
- Law, Public Safety, Corrections & Security
- Manufacturing Career
- Marketing Sales & Service
- Science, Technology, Engineering & Mathematics
- Transportation, Distribution & Logistics

Career Cluster



Industrial Sector

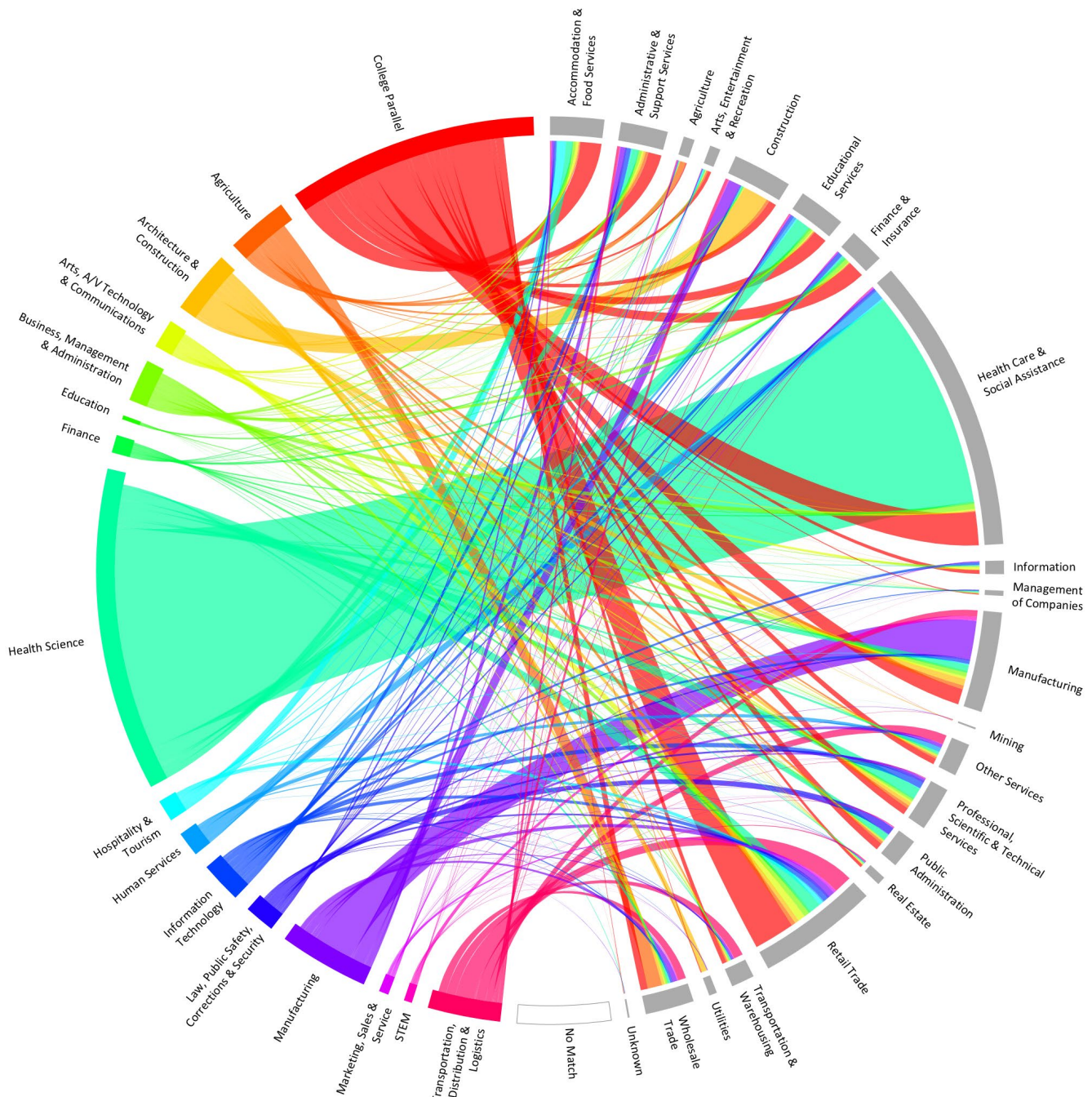
### Industry Cluster

- Accommodation & Food Services
- Admin. Support, Waste Mgmt. & Remediation
- Agriculture, Forestry, Fishing & Hunting
- Arts, Entertainment & Recreation
- Construction
- Educational Services
- Finance & Insurance
- Health Care & Social Assistance
- Information Technology
- Management of Companies & Enterprises
- Manufacturing
- Mining
- Other Services
- Professional, Scientific & Tech. Services
- Public Administration
- Real Estate, Rental & Leasing
- Retail Trade
- Transportation & 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 2015 to AY 2019 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.

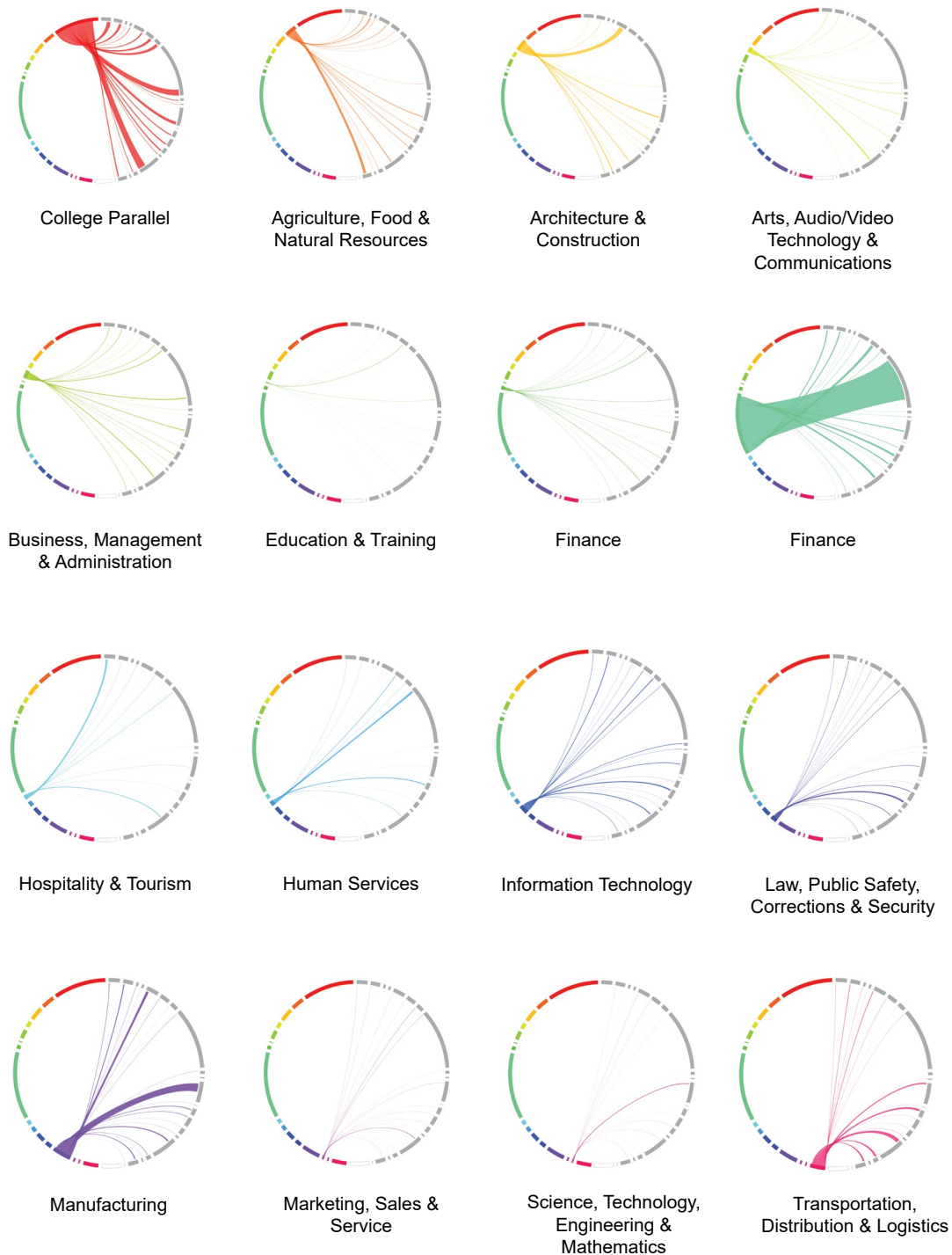
**FIGURE 19. CLUSTER TO INDUSTRY MAPPING FOR AY 2015 TO AY 2019 COMMUNITY COLLEGE GRADUATES**



**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 2015 TO AY 2019, COMMUNITY COLLEGE GRADUATES**



*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 State Wage Interchange System (SWIS) network of state UI wage databases (see Appendix A for a description and the limitations of UI wages).
- Both the actual wage earned (“Unadjusted Median Wage”) and the wage adjusted for inflation (“Adjusted Median Wage”) are included in all tables. Wages were adjusted for inflation to academic year 2020 (October 2019 - September 2020) levels (CPI-u = 266.6158) 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<sub>base</sub> is the CPI value of the base time period (AY 2018), CPI<sub>t</sub> is the CPI value of the time period being adjusted from and W<sub>t</sub> is the wage of the time period being adjusted. 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 the UI wage database (i.e. the median wages only include those who had wages covered by 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 with in 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 and 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, some cells in this report are suppressed due to small cell size using the following rules:
  - #1) Suppress cell if number of employed in 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 greater).



## 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 2015, AY 2016, AY 2017, AY 2018 and AY 2019) 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 (Iowa\_Nebraska)

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 7a: Employment and Wages by Gender by Age

Table 8a: 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 by 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

Tables 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*

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.