

FALL ENROLLMENT

IOWA COMMUNITY COLLEGES

2018



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**COMMUNITY COLLEGES &
WORKFORCE PREPARATION**
PROSPERITY THROUGH EDUCATION

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Executive Summary

The Iowa Department of Education collects enrollment information from all 15 community colleges. This report summarizes several aspects of community college enrollment as reported for the 2018 fall semester/quarter. Some highlights of this report include:

- » Fall 2018 enrollment decreased less than one percent to 89,894 students.
- » Part-time enrollment remained larger than full-time enrollment and reached an all-time high of 63.3 percent of total fall enrollment.
- » Minorities comprised 22.6 percent of fall enrollment.
- » Total credit hours registered decreased 1.3 percent to 772,764 credit hours.
- » Average course load for full-time students is 13.9 which is slightly higher than last fall, and average course load for part-time students remained unchanged.
- » Students with no program of study comprised 37.6 percent of total fall enrollment, followed by college parallel programs (32.9 percent) and CTE programs (27.6 percent).
- » Number of high school students participating in joint enrollment grew 2.9 percent to 35,943 students.
- » The majority of high school students (98.1 percent) participated in joint enrollment through contracted courses between high schools and community colleges.





Table of Contents

Students	1
Students Demographics	3
Academics	5
Program Type	7
Career Clusters	8
Online Enrollment	9
Joint Enrollment	10
Immediate Enrollment	11
Enrollment Projections	13
References	14

Students

In fall 2018, a total of 89,894 students enrolled in Iowa community colleges, a slight decrease (less than one percent) in enrollment from last fall. Figure 1 displays fall enrollment data since 1968, illustrating that although there has been a year-to-year decrease in fall enrollment since 2011, historically, fall enrollment has increased substantially in the past 50 years.

Figure 2 on the following page illustrates that full-time students (i.e., students who

enrolled in more than 12 credit hours) as a percentage of total fall enrollment has steadily declined from 90.9 percent in 1968 to 36.7 percent in 2018. Total enrollment decreased at all but five community colleges in Iowa, resulting in an average decrease statewide of 0.7% (Table 1). This fall, enrollment of full-time students was 33,005 (36.7 percent of total enrollment) compared to 34,195 students (37.8 percent) last fall. While the percentage of full-time students has been decreasing since 1968, the percentage of part-time student has increased steadily over the years. In fall 2018, a record high 56,889 students were enrolled as part-time students, which accounted for 63.3 percent of total enrollment, compared to 56,336 part-time students (62.2 percent of total enrollment) last fall.

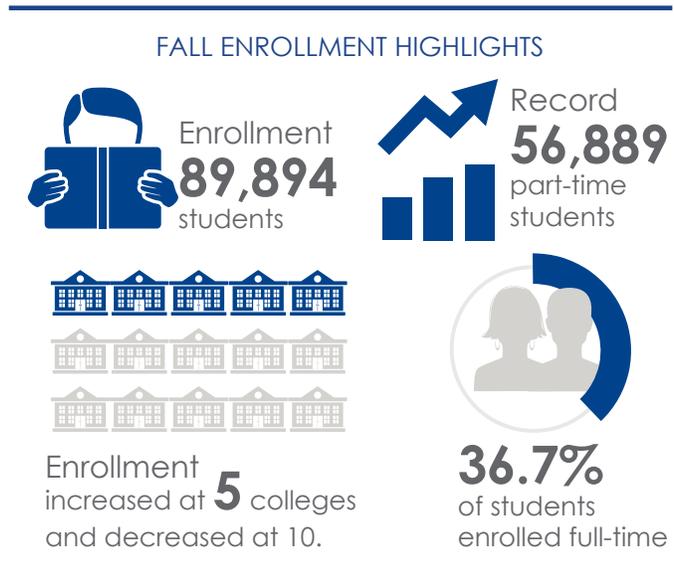


FIGURE 1: FALL ENROLLMENT BY STATUS: 1968-2018

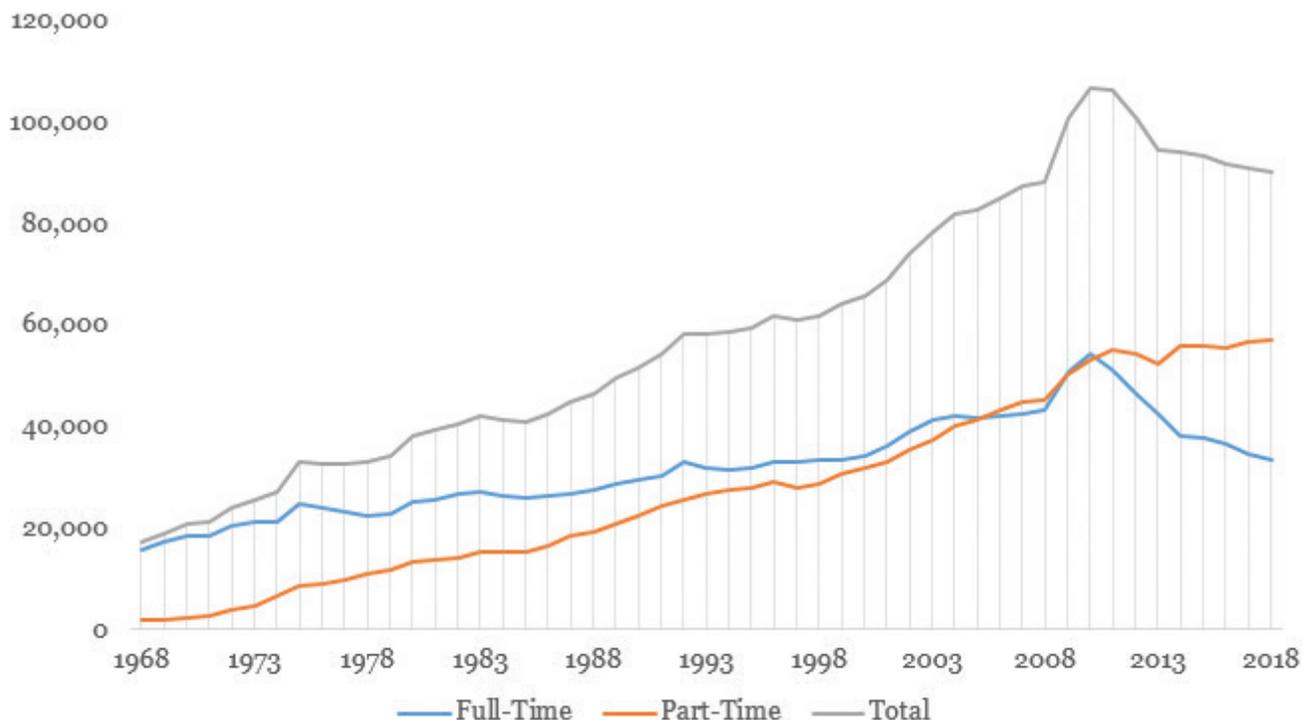


FIGURE 2: HISTORICAL ENROLLMENT OF FULL-TIME STUDENTS AND PART-TIME STUDENTS AS A PERCENT OF TOTAL ENROLLMENT: 1968-2018

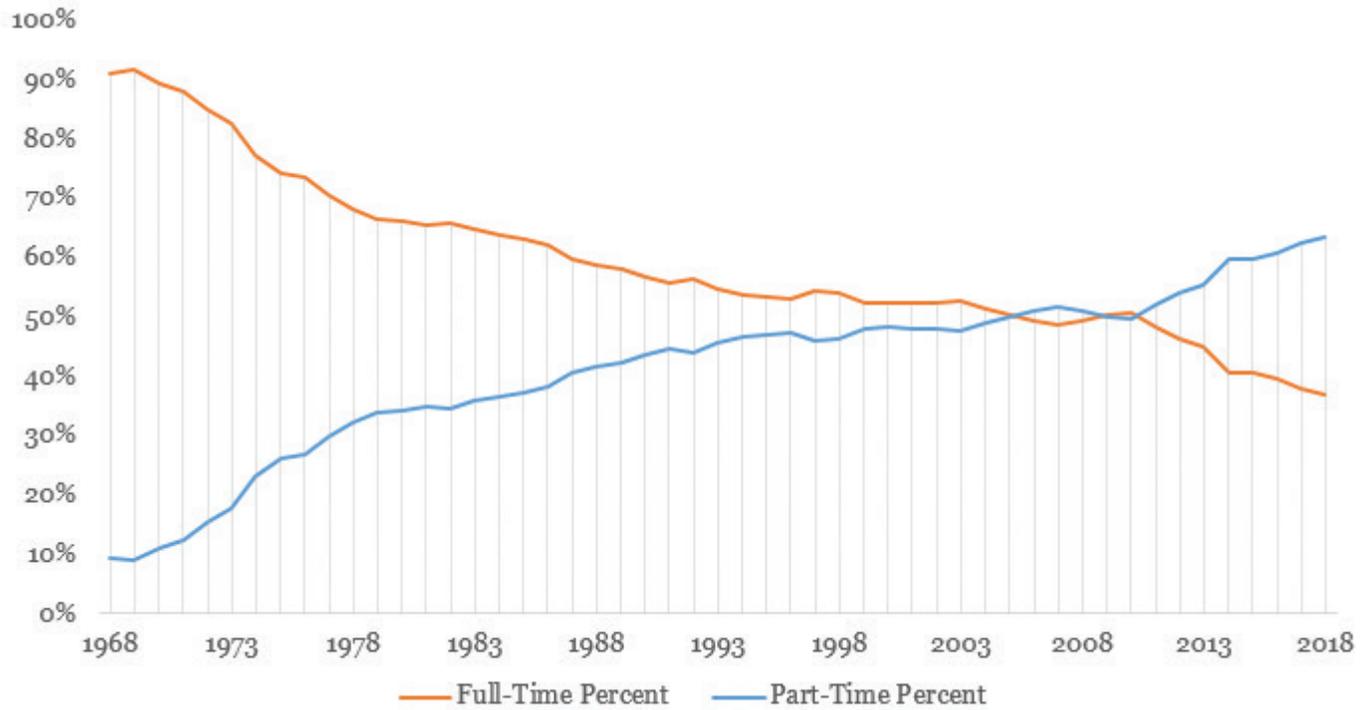


TABLE 1: FALL 2018 ENROLLMENT BY COLLEGE

College	Total	Full-Time		Part-Time		Change (%) from last year
		N	%	N	%	
Northeast Iowa	4,418	1,134	25.7	3,284	74.3	-2.8
North Iowa Area	2,995	1,412	47.1	1,583	52.9	1.6
Iowa Lakes	2,120	1,024	48.3	1,096	51.7	2.6
Northwest Iowa	1,747	579	33.1	1,168	66.9	6.4
Iowa Central	5,350	2,691	50.3	2,659	49.7	-2.5
Iowa Valley	2,754	1,335	48.5	1,419	51.5	-4.6
Hawkeye	5,234	2,258	43.1	2,976	56.9	-6.6
Eastern Iowa	7,771	2,403	30.9	5,368	69.1	1.4
Kirkwood	14,322	5,414	37.8	8,908	62.2	-1.1
Des Moines Area	23,474	6,430	27.4	17,044	72.6	2.1
Western Iowa Tech	5,673	1,786	31.5	3,887	68.5	-1.0
Iowa Western	6,023	2,705	44.9	3,318	55.1	-2.4
Southwestern	1,547	683	44.1	864	55.9	-1.7
Indian Hills	3,918	1,977	50.5	1,941	49.5	-4.2
Southeastern	2,548	1,174	46.1	1,374	53.9	-4.1
TOTAL	89,894	33,005	36.7	56,889	63.3	-0.7

Students Demographics

In fall 2018, 55.2 percent of students enrolled were female, 44.7 percent were male, and less than 0.1 percent didn't report gender (Figure 3). Females have outnumbered males nationally in higher education since 1980.

The average age of community students this fall is 20.9 with a median age of 19, which is consistent with last year. Figure 4 displays the age distribution of students enrolled in community colleges this fall. Students between 18 and 22 (40.8 percent) and students under 18 (36.6 percent) are the two largest age groups served by Iowa's community colleges, followed by students between 23 and 26 (7.7 percent), and between 31 and 39 (5.9 percent). Other age groups in total comprised less than 10 percent of fall enrollment this year.

STUDENT DEMOGRAPHIC HIGHLIGHTS



55.2%
of students
are female



Median Age
of students
19



22.6%
of students are
minorities

FIGURE 3: FALL 2018 ENROLLMENT BY GENDER

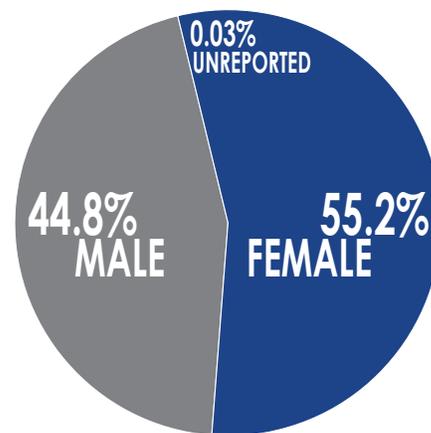
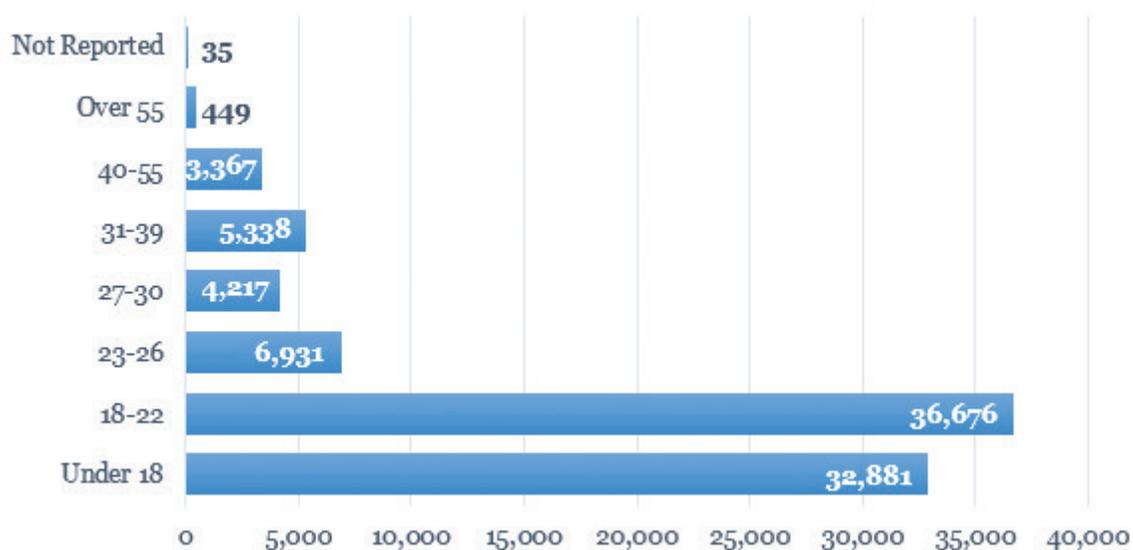


FIGURE 4: AGE DISTRIBUTION OF STUDENTS ENROLLED IN FALL 2018



This fall, 7,090 students (7.9 percent) did not report their race and ethnicity. Among the 82,804 students (Figure 5) who reported their race and ethnicity, 22.6 percent of students are minorities, compared to 22.2 percent last year. Hispanic were the second largest racial/ethnic group (8.9 percent), followed by African-American (7.4 percent), and Asian (3.0 percent). More than two percent indicated they were part of multiple racial and ethnic groups. American Indian and Pacific Islander constitute 0.6 percent and 0.1 percent, respectively.

In terms of residency, 90.2 percent students enrolled in Iowa’s community colleges this fall are Iowans. Residents from other states accounted for 8.6 percent of enrolled student, and foreign nationals comprised 1.3 percent (Figure 6).

FIGURE 6: FALL 2018 ENROLLMENT BY RESIDENCY

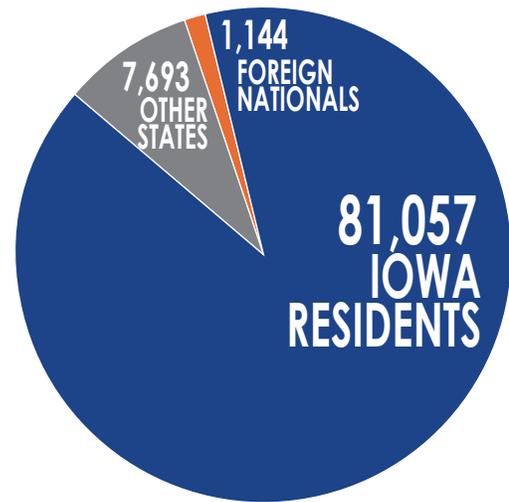
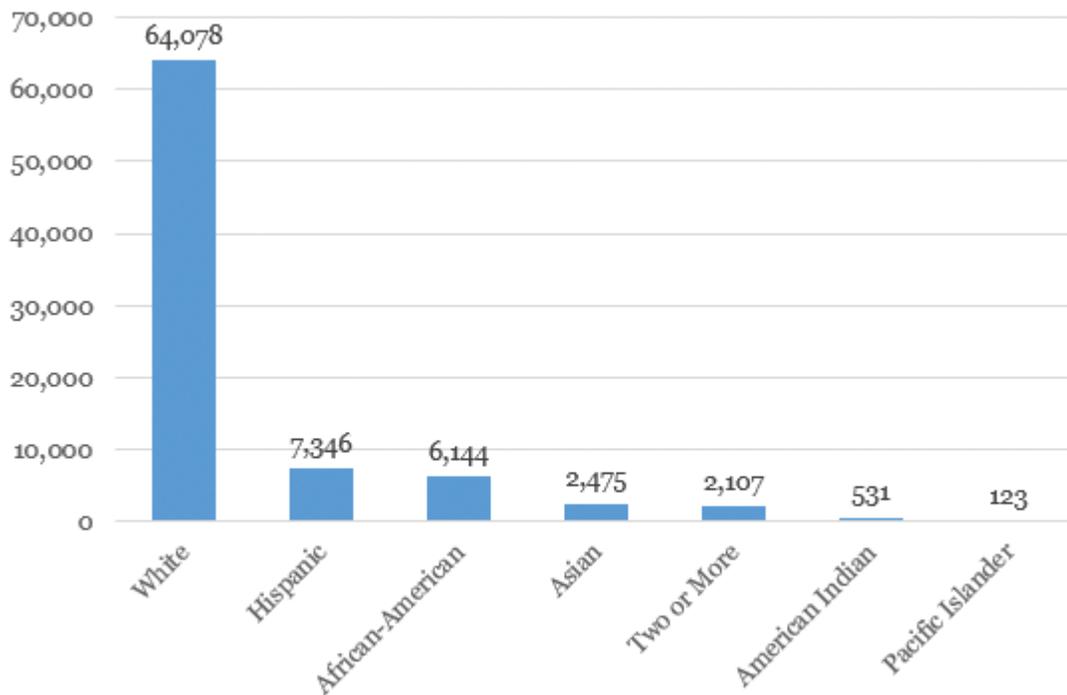


FIGURE 5: FALL 2018 ENROLLMENT BY RACE AND ETHNICITY



Academics

Students attending Iowa's community colleges this fall registered for 772,764 credit hours, compared to 783,036 credit hours last fall (a 1.3 percent decrease). On average, students enrolled in 8.6 credit hours in the fall semester, which is consistent with last fall. Figures 7 and 8, respectively display

the change of total credit hours, and average credit hours registered per student over the past five years. The decreases in total credit hours and average credit hours, as indicated in two figures, align with the enrollment decline in recent years.

STUDENT ACADEMIC HIGHLIGHTS



8.6
Average
number of
credit hours



Total Credit
Hours Down
1.3%
since last year

FIGURE 7: TOTAL CREDIT HOURS REGISTERED: 2014-2018

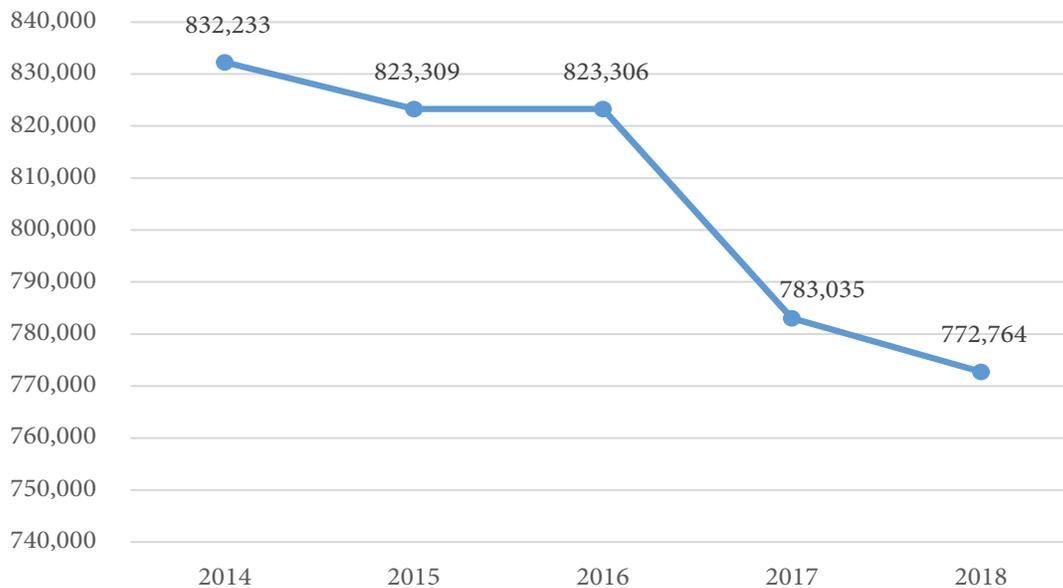


FIGURE 8: AVERAGE CREDIT HOURS REGISTERED PER STUDENT: 2014-2018

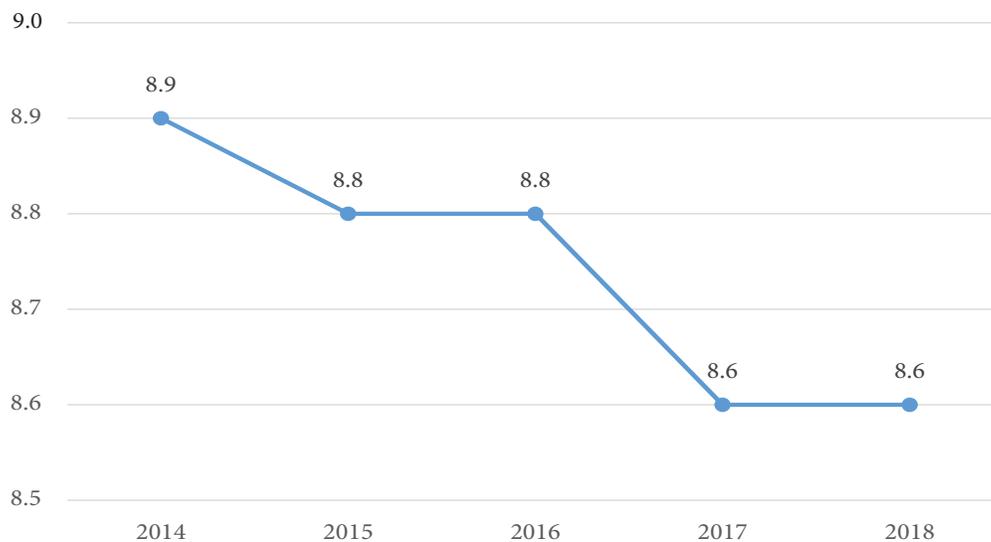


Table 2 summarizes credit hours registered this fall by college. Full-time students registered for 457,413 credit hours, accounting for 59.2 percent of total credit hours registered. This represents a slight decrease from last fall, in which full-time students registered for 60.5 percent of total hours. However, the average course load for full-time students is 13.9, which is slightly higher than that of last fall.

Part-time students registered for 315,351 credit hours, accounting for 40.8 percent of total credit hours, representing a 1.9 percent increase from last fall. The average course load for part-time students remained virtually unchanged from last fall's 5.5 credit hours.

TABLE 2: SUMMARY OF FALL 2018 TOTAL REGISTERED CREDIT HOURS BY COLLEGE

College	Total Hours	Credit Hours Taken by Full-Time Students		Credit Hours Taken by Part-Time Students		Average Course Load	
		(N)	(%)	(N)	(%)	Full-Time	Part-Time
Northeast Iowa	34,221	16,158	47.2	18,062	52.8	14.2	5.5
North Iowa Area	28,953	20,426	70.5	8,528	29.5	14.5	5.4
Iowa Lakes	21,173	15,692	74.1	5,481	25.9	15.3	5.0
Northwest Iowa	14,605	8,850	60.6	5,755	39.4	15.3	4.9
Iowa Central	52,724	38,452	72.9	14,272	27.1	14.3	5.4
Iowa Valley	27,048	19,351	71.5	7,697	28.5	14.5	5.4
Hawkeye	48,803	32,108	65.8	16,695	34.2	14.2	5.6
Eastern Iowa	61,736	32,294	52.3	29,442	47.7	13.4	5.5
Kirkwood	127,010	74,495	58.7	52,515	41.3	13.8	5.9
Des Moines Area	182,697	88,178	48.3	94,519	51.7	13.7	5.5
Western Iowa Tech	47,002	25,711	54.7	21,291	45.3	14.4	5.5
Iowa Western	58,240	38,494	66.1	19,747	33.9	14.2	6.0
Southwestern	14,837	9,983	67.3	4,854	32.7	14.6	5.6
Indian Hills	29,184	20,431	70.0	8,753	30.0	10.3	4.5
Southeastern	24,533	16,791	68.4	7,742	31.6	14.3	5.6
TOTAL	772,764	457,413	59.2	315,351	40.8	13.9	5.5

Note: Rounding may yield minor inaccuracies in total hours.

Program Type

Programs offered by community colleges are generally categorized as college parallel (transfer arts and sciences), career and technical education (CTE), or general studies (GS). College parallel programs prepare students for matriculation into four-year colleges or universities; CTE programs prepare students for the

workforce; and GS allows students to receive a two-year degree with a custom-selected set of courses, not leading to a specific occupation or direct transfer. Students who declared two or more different types of programs were reported as a separate group. Students who were not eligible or were not willing to declare their programs of study for a variety of reasons (e.g., high school students taking college credits as joint enrollment) were identified as a group with no program of study (No POS).

As shown in Figure 9, the No POS group was the largest with 33,758 students, accounting for 37.6 percent of total enrollment, followed by college parallel programs (29,565 students, accounting for 32.9 percent) and CTE programs (24,809 students, accounting for 27.6 percent). This fall, 1,757 students enrolled in GS programs (2.0 percent) and only five students declared two or more different types of programs.

As compared to last year, students with no program of study and students enrolled in CTE programs decreased 1.1 percent and 5.5 percent respectively. Students enrolled in college parallel programs and GS programs increased 4.6 percent and 1.0 percent, respectively. It is worth noting that only five students enrolled in more than two programs this fall, compared to 122 students last fall.

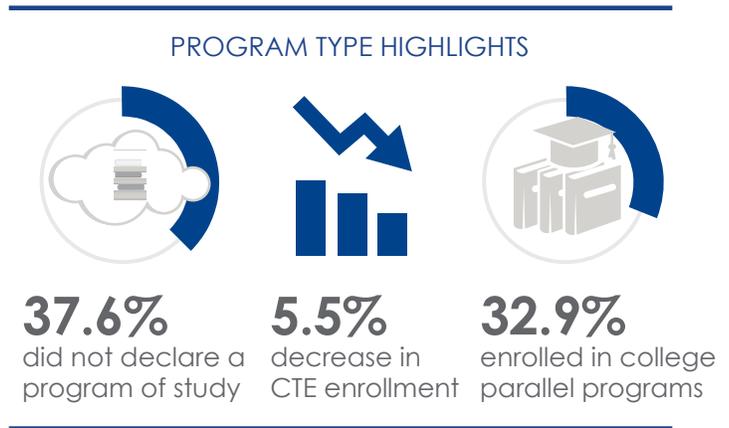
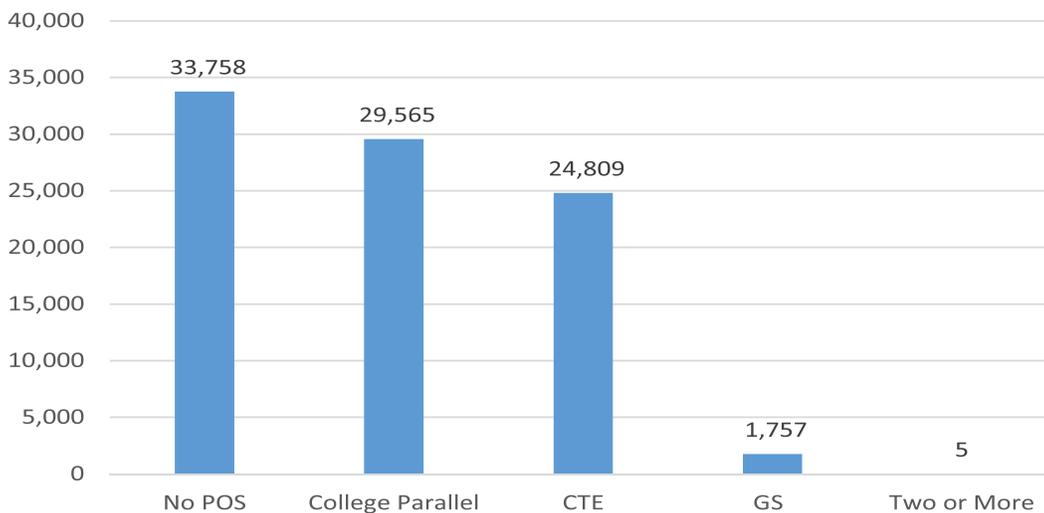


FIGURE 9: FALL 2018 ENROLLMENT BY PROGRAM TYPE



Note: No POS refers to students who were either ineligible or not willing to declare a program of study. Two or more refers to students who declared two or more different programs of study.

Career Clusters

The Iowa Department of Education reports CTE programs by the 16 National Career Clusters Framework that aligns academic programs with occupational fields. Information on career clusters can be obtained from www.careerclusters.org.

Figure 10 displays the distribution of CTE enrollment by career clusters.

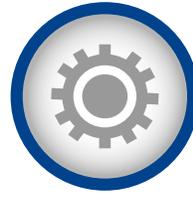
Historically, cluster categories with the

largest enrollments have been health science; manufacturing; and business, management and administration; and this fall was no exception: 8,529 students enrolled in health science (a 1.3 percent decrease from last fall), 2,215 students enrolled in manufacturing (a 7.7 percent decrease), and 1,947 students enrolled in business, management and administration (a 2.2 percent decrease).

THREE LARGEST CAREER CLUSTERS



8,529
students in
health science

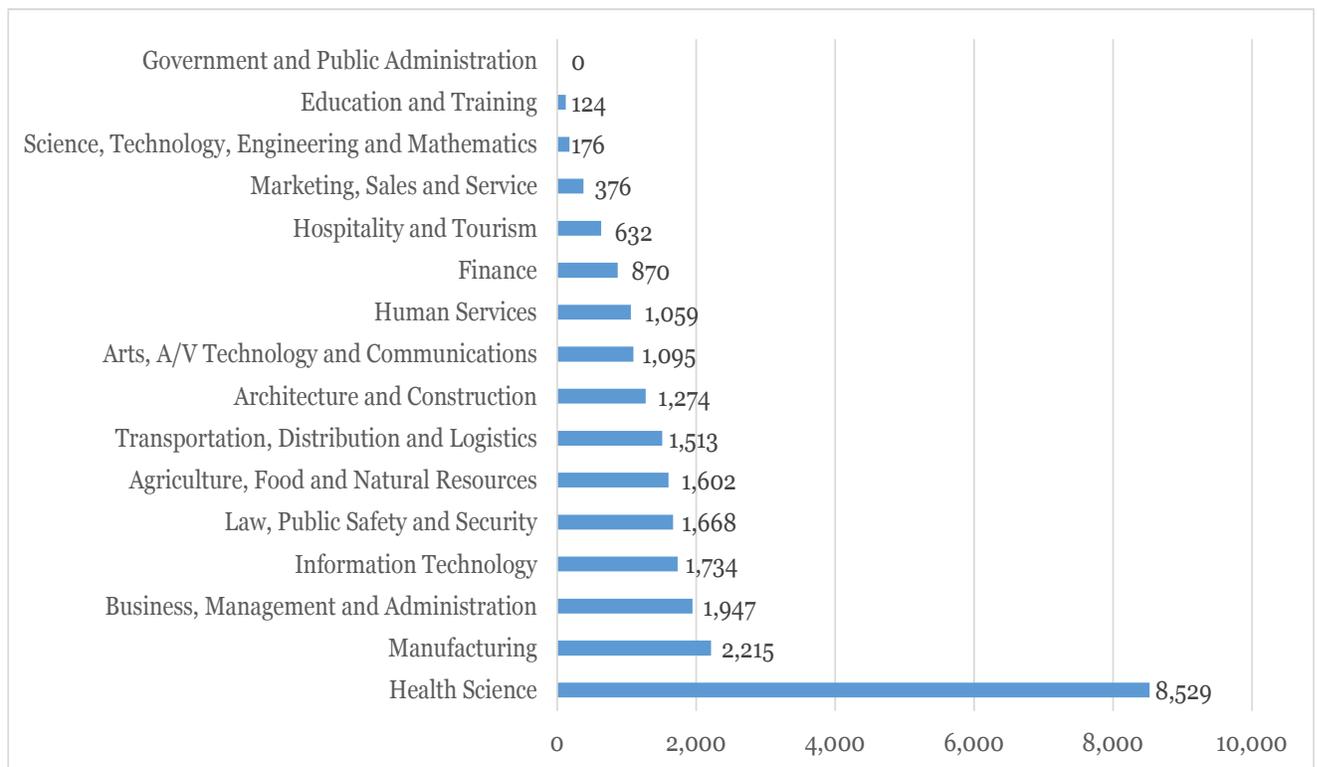


2,215
students in
manufacturing



1,947
students in
business

FIGURE 10: FALL 2018 CTE ENROLLMENT BY CAREER CLUSTER



Online Enrollment

Online enrollment at Iowa’s community colleges is broken down into two categories: online classes and blended classes. An online class is defined as instruction delivered completely on the internet. In a blended class, at least half of the instruction is delivered via the internet and the remainder is delivered in a face-to-face context.

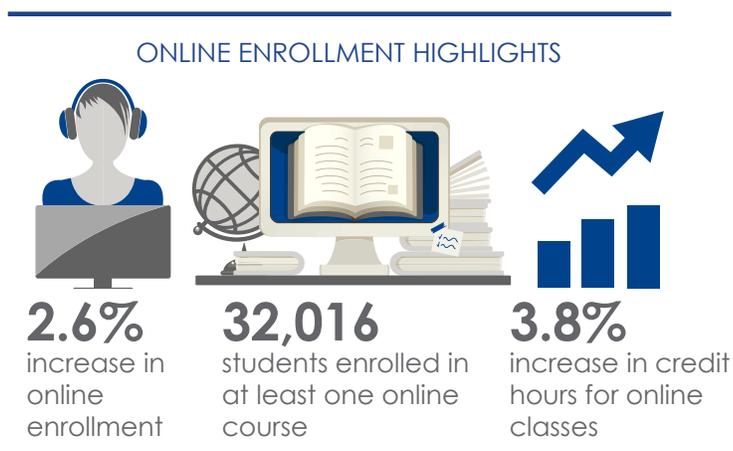


Table 3 summarizes the number of students enrolled in online and blended classes, and credit hours attributed to online and blended classes. In fall 2018, 32,061 students enrolled in at least one online course (a 2.6 percent increase from last fall) and 5,593 students enrolled in at least one blended course (a 13.4 percent decrease from last fall). Online course students registered for 160,848 credit hours. Compared to 154,925 credit hours last fall, this volume represents a 3.8 percent increase. This fall, students registered for 20,888 credit hours in blended classes, compared to 23,658 credit hours last fall, representing a decrease of 11.7 percent.

TABLE 3: FALL 2018 ONLINE AND BLENDED COURSE ENROLLMENT BY COLLEGE

College	Online Course Enrollment			Blended Course Enrollment		
	Hours	Headcount	% Change Credit Hours	Hours	Headcount	% Change Credit Hours
Northeast Iowa	6,568	1,257	14.6	2,332	600	0.0
North Iowa Area	6,669	1,715	9.0	850	202	0.0
Iowa Lakes	5,390	1,019	1.4	-	-	-
Northwest Iowa	5,456	1,078	10.1	339	51	-10.3
Iowa Central	5,635	1,173	-27.5	-	-	-
Iowa Valley	6,103	1,290	7.9	1,154	356	-33.5
Hawkeye	8,278	1,783	4.6	4,143	1,065	-1.5
Eastern Iowa	16,235	2,704	1.2	937	216	4.9
Kirkwood	21,436	4,284	0.7	3,824	1,028	60.5
Des Moines Area	33,861	7,141	6.6	-	-	-
Western Iowa Tech	13,673	2,529	4.4	2,706	986	68.8
Iowa Western	14,700	2,656	6.1	2,630	536	-16.0
Southwestern	4,483	939	18.4	469	132	-4.9
Indian Hills	5,920	1,362	6.3	648	207	-77.9
Southeastern	6,441	1,131	6.5	857	214	53.3
TOTAL	160,848	32,061	3.8	20,888	5,593	-11.7

Joint Enrollment

Iowa community colleges offer joint enrollment opportunities to high school students. Such students may earn high school credit simultaneously with college credit, which is applicable toward a one- or two-year award or to transfer to a four-year institution. There are three ways in which joint enrollment is provided to Iowa students: postsecondary enrollment options (PSEO), contractual agreements between high schools and community colleges, and direct payment of tuition. Students may choose to participate in more than one joint enrollment option during an academic year.

This fall, 35,943 high school students participated in at least one joint enrollment, compared to 34,928 participants last fall, which represents a 2.9 percent increase. Students participating in joint enrollment option accounted for 40.0 percent of total enrollment.

High school students participating in joint enrollment this fall registered for 184,928 credit hours of classes, compared to 178,171 credit hours last fall, which represents a 3.8 percent increase. The number of credit hours attributed to joint enrollment this fall accounted for 23.9 percent of total registered credit hours, compared to 22.8 percent last fall. On average, these students enrolled in 5.1 credit hours, which is consistent with last fall.

In terms of joint enrollment type, 98.2 percent of high school students participated in joint enrollment through contractual agreements (Figure 11), 1.2 percent through PSEO, and 0.6 percent through direct payment of tuition. Last year, contractual agreement, PSEO, and direct payment of tuition comprised 91.0 percent, 7.8 percent, and 1.2 percent of total joint enrollment, respectively. The decline in PSEO enrollments is expected, as the rules for types of joint enrollment changed as of academic year 2017-2018 [3].

JOINT ENROLLMENT HIGHLIGHTS

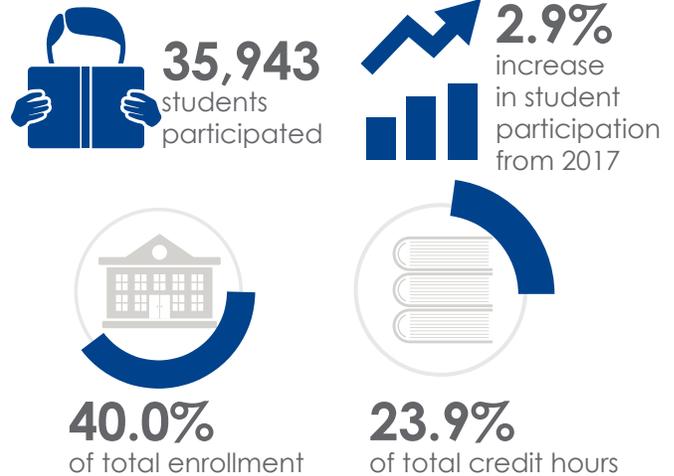
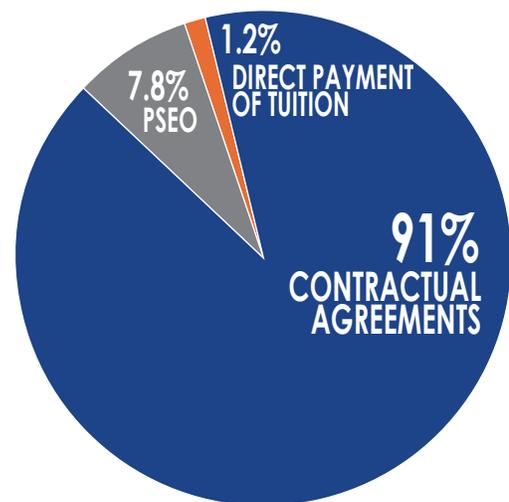


FIGURE 11: FALL 2017 JOINT ENROLLMENT BY OPTIONS



Immediate Enrollment

Every fall, Iowa community colleges enroll a large number of new students. Typically, they comprise a quarter of a total fall enrollment. This fall, they comprised 22.8 percent of the total enrollments.

A sizable portion of the first time in a community college population belongs to the group of students directly out of Iowa high schools, typically leaving a high school after the spring term of the same year.

According to annually stable patterns, such cohort of “immediate enrollees” comprises one quarter to one third of the total Iowa high school graduating class, and close to one tenth of Iowa community colleges total fall enrollment.

This fall, the state identification number has been used to match Iowa high school students to direct community college enrollees. The matching procedure identified 7,140 students who made up 7.9 percent of the total community colleges fall enrollment. Distributed by community colleges, they present a range from 5.3 percent to 11.7 percent of the total fall enrollment (Figure 12).

IMMEDIATE ENROLLMENT HIGHLIGHTS



7.9%
of all students
are immediate
enrollees

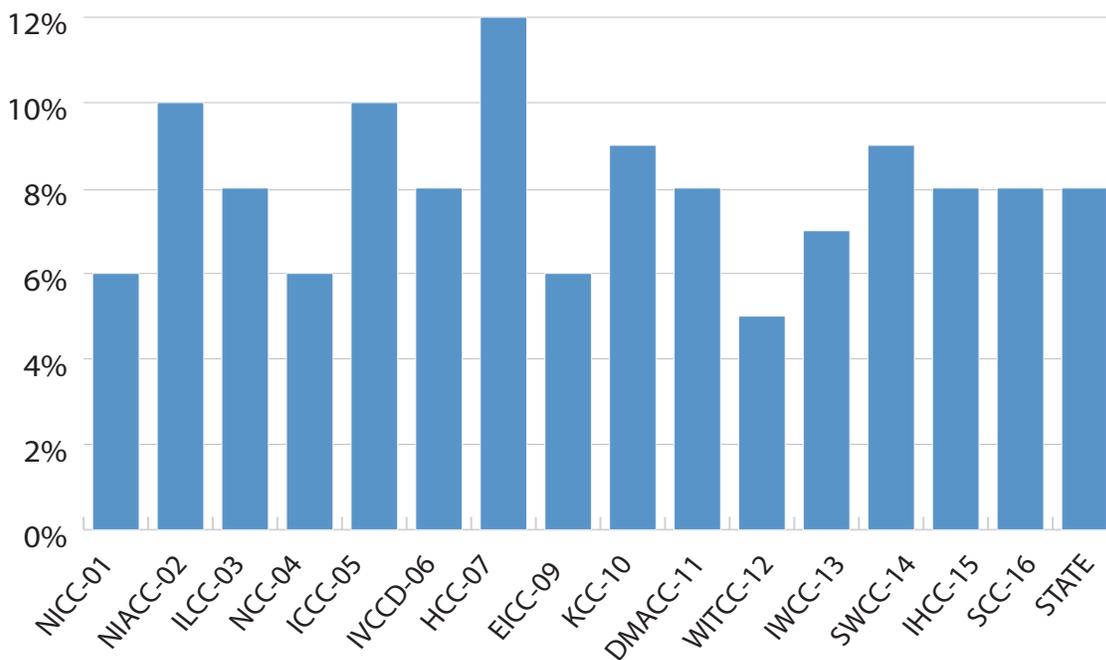


22.8% of
fall enrollment is
from immediate
enrollees



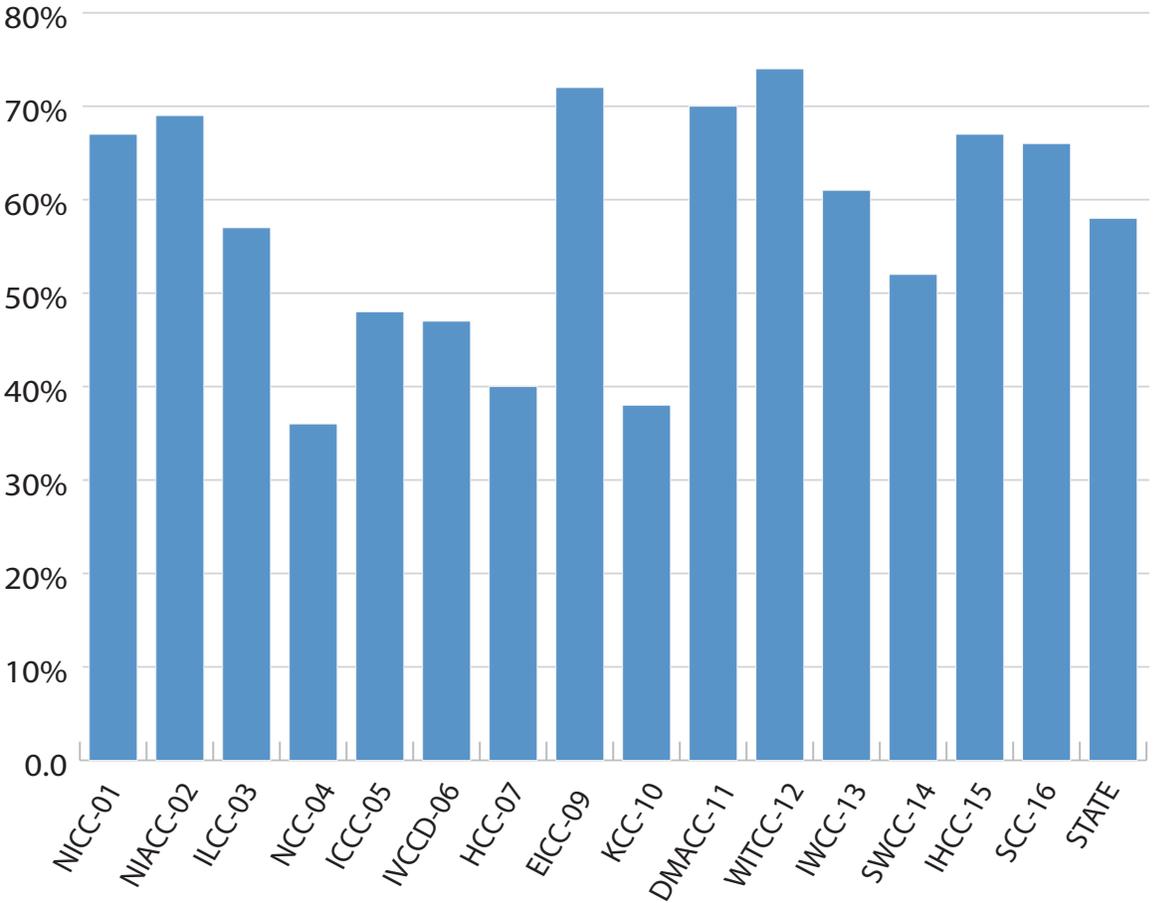
57.7%
participated in
joint enrollment
in high school

FIGURE 12: FALL 2018 SHARE OF IMMEDIATE ENROLLEES IN IOWA COMMUNITY COLLEGES



The majority of the immediate enrollees are not new to Iowa community college education. As joint enrollment students, 57.5 percent of them (4,107) took some college-level courses while they were still enrolled in Iowa high schools. Distributed by college, those percentages range from 36.2 to 74.2 (Figure 13).

FIGURE 13: PERCENT OF IMMEDIATE ENROLLEES WITH PRIOR JOINT ENROLLMENT EXPERIENCE BY COMMUNITY COLLEGE



Enrollment Projections

There are two quantitative forecasting methods that are often used for enrollment projections: causal forecasting methods and time series methods. Causal forecasting methods are based on the assumption that the variable being forecasted is under the influence of one or more other variables [1]. Time series models assume that all information needed for forecasting is contained in data observed over successive periods in time, and that the past data patterns (i.e., trend, seasonal, cyclical) have an effect on future data [1].

In terms of community college enrollment, causal forecasting methods assume that enrollment in any given year is under the influence of other relevant factors. Such factors may include, but are not limited to, the distribution of demographics and economy in that year. Therefore, in order to estimate fall 2019 community college enrollment with causal forecasting methods, obtaining information regarding the distribution of demographics and economy in 2019 is a prerequisite. However, such information is unknown for 2019.

Given that Iowa's community college enrollment data is available back to the 1960s, and that information on other relevant factors are unknown for 2019, time series methods are more appropriate for fall 2019 enrollment forecasting.

The Department used a single exponential smoothing equation $\hat{y}_{t+1} = \partial y_t + (1-\partial)\hat{y}_t$ in time series methods to estimate fall 2019 enrollment. According to this equation, the value of y at time $t+1$ (i.e., \hat{y}_{t+1}) is a weighted combination of the observed value at time t (i.e., y_t) and the forecasted value at time t (i.e., \hat{y}_t), and the value of ∂ is the smoothing constant, which ranges from 0 to 1 [2]. In this case, the fall 2019 enrollment is forecasted to be a weighted combination of the actual fall 2018 enrollment and the forecasted fall 2018 enrollment.

Based on single exponential smoothing equation with $\partial=0.1$ and $\partial=0.3$, the Department estimate that the total enrollment for fall 2019 will fall between 86,222 and 92,089 students.





References

- [1] P. J. Brockwell and R. A. Davis. Introduction to Time Series and Forecasting. Springer, New York, 1996.
- [2] P. S. Kalekar, “Time series forecasting using Holt-Winters exponential smoothing,” Kanwal Rekhi School of Information Technology, 2004.
- [3] See revision to Iowa Code Chapter 261E (Senior Year Plus), section 6, subsection 3.

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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 lead to 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 the 15 Iowa public community colleges on state accreditation, program approval, 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 program, Senior Year PLUS, the National Crosswalk Service Center, and the Statewide Intermediary Network for Academic Career and Employment (PACE) program.