

Coordinating Commission for Postsecondary Education Review of Existing Instructional Programs

Institution: Central Community College **Program:** Drafting and Design Technology

I certify the following:

- the information provided regarding this program is accurate
- the above named institution has in place a procedure for reviewing instructional programs
- such review took place and was presented to the institution's governing board on **May 18, 2023**
- the governing board's action was:

Signed: _____
(Chief Academic Officer or designated representative) (Date)

Evidence of Demand and Efficiency

		17-18	18-19	19-20	20-21	21-22	5 yr avg
Student Credit Hours (SCH)		1094	1077	1248	1182	1290	1178.2
Faculty Full-time Equivalency (FTEF)*		3.67	3.76	3.89	3.32	3.37	3.6
SCH/Faculty FTE		298.09	286.44	320.82	356.02	382.79	327.28
Number of Degrees and Awards <i>(list degrees/awards separately)</i>	AAS	17	17	20	12	25	18.2
	Diploma	18	27	21	25	33	24.8
	Certificate	21	17	21	26	11	19.2
	Total Awards	56	61	62	63	69	62.2
	# of Unduplicated Graduates	33	41	34	36	39	36.6

*By term analysis combined to conduct an annual review. Numbers reported reflect 2 different negotiated contract periods (FA17-SU20 and FA20-SU22)

Evidence of Need (provide a detailed explanation below or attach documentation)

Justification if the program is below either of the CCPE thresholds—complete page 2

For CCPE use: reviewer/date

Justification if the program is below CCPE thresholds—check one or more boxes and provide a detailed explanation or attach a document

☐ Program is critical to the role and mission of the institution (detailed explanation).

☐ Program contains courses supporting general education or other programs (detailed explanation).

☐ Interdisciplinary program (providing the program meets the requirements set in the existing policy for interdisciplinary programs) (explain)

☐ Student or employer demand, or demand for intellectual property is high and external funding would be jeopardized by discontinuing the program (explain).

☐ Program provides unique access to an underserved population or geographical area (explain).

☐ Program meets a unique need in the region, state, or nation (explain).

☐ Program is newly approved within the last five years (no additional justification needed).

☐ Other (detailed explanation).



Drafting and Design Technology

Coordinating Commission Seven-Year Review 2023

Information in this report reviewed and recommended to cabinet:

Central Community College Educational Services, 4/27/2023

Recommended continuation of programs without monitoring:

Central Community College College Cabinet, 05/4/2023

Central Community College Board of Governors, 05/18/2023-pending

Renee DeWyke – Program Faculty

Gene Friesen – Program Faculty

Amy Stuart – Program Faculty

Alison Feeney, M.A.E. – Associate Dean of Instruction, Career & Technical Sciences

Brian Hoffman, M.A. – Associate Dean of Instruction, Career & Technical Sciences

John McKinney, M.Div. – Associate Dean of Instruction, Career & Technical Sciences

Nate Allen, Ed.D. – Dean of Instruction, Career & Technical Sciences

Chris Waddle, J.D. – Division Vice President, Career & Technical Sciences

Drafting and Design Technology

Program Review Summary – Dr. Nate Allen

The Drafting and Design Technology (DSGN) program continues to be a successful program within the Career and Technical Sciences division at Central Community College serving the architectural, manufacturing, and structural steel industries across our twenty-five-county service area with three full-time instructors located on the Hastings and Grand Island campuses.

Students are exposed to several software programs while progressing through the program course sequence, AutoCAD, Computer-Aided Design, SolidWorks, Bill of Materials, Autodesk Revit, Manufacturing Processes, 3D Modeling, AutoCAD Civil 3D, Calipers, and Supply and Demand. Three program specializations in architectural, manufacturing, and structural steel prepare drafting students to be marketable and prepared to work in the variety of drafting and design industries. The number of available jobs in our service area has increased significantly for the Drafting and Design career field over the last two years according to our advisory board members, despite the data showing the need for jobs in this program area has decreased slightly according to ESMI data.

The awards within the DSGN program at CCC have had a steady increase with a five-year average of 62 total awards received by our graduates. The program continues to provide a ladder structure of program awards with the addition of two certificates in 2023 totaling three certificates, one diploma, and an AAS degree. Over the past five years, the number of degrees awarded annually have ranged from 12-25 with a five-year average of 18.2.

The faculty are working with local industry to reach a more comparable pay wage compared to the state and national averages. Discussions about pay increases have helped increase part-time students, apprenticeship opportunities and dual degrees within our DSGN and Advanced Manufacturing Design Technology (AMDT) programs. Our DSGN Manufacturing faculty and AMDT programs are working on more efficient paths of crossover training to allow our students to have an enhanced resume upon graduation with dual AAS degrees. Also, on the Hastings campus the DSGN program has purchased a handheld 3D scanner along with the metal 3D printer. These processes are being incorporated into the DSGN program.

The Drafting and Design Technology program meets the minimum thresholds for student credit hours, student credit hours to full-time equivalent faculty (FTEF) ratio, and number of graduates. Career and Technical Sciences leadership recommends continuation of the program.

I. Program: Drafting & Design Technology (DSGN)

II. College Mission: Central Community College maximizes student and community success.

III. College Vision: The Best Choice –

for students to achieve their educational goals.

- quality education
- personal service and individualized attention
- exceptional and passionate faculty and staff
- extraordinary value

for developing a skilled workforce.

- employability and/or successful credit transfers
- graduates who advocate for CCC
- business and industry partnerships
- state-of-the-art facilities and technologies

for advancing communities.

- educational partnerships
- strong alumni support
- foster economic development
- sustainability leaders

IV. Program Mission Statement: The Drafting & Design Technology program will provide highly skilled technicians to the local and area workforce.

V. Program Vision Statement: The Drafting & Design Technology program will have a clearly defined program of study with specializations in Architectural Design and Documentation, Structural Steel Detailing, Manufacturing Drafting & Design Technology, and academic transfer. The curriculum will be designed to produce associate degree graduates that are ready to enter employment or transfer to 4-year engineering, architectural, or educational programs.

The Drafting & Design Technology program will use state-of-the-art hardware and software in attractive lab environments that are well maintained and reflect a professional working environment.

The Drafting & Design Technology program will be a regional leader in the delivery of graphical communications curriculum.

The Drafting & Design Technology program will implement and integrate new areas of study in parametric design, scanning and reverse engineering, 3-dimensional drawing, computer aided design and manufacturing, structural steel detailing, and online learning.

The Drafting & Design Technology program will be a significant contributor for the economic development of Central Nebraska by providing highly skilled technicians who can bring new technologies to the region.

EMSI Q4 2022 Data Set

EMSI data is a hybrid dataset derived from official government sources such as the US Census Bureau, Bureau of Economic Analysis, and Bureau of Labor Statistics.

Leveraging the unique strengths of each source, our data modeling team creates an authoritative dataset that captures more than 99% of all workers in the United States.

This core offering is then enriched with data from online social profiles, resumes, and job postings to give you a complete view of the workforce.

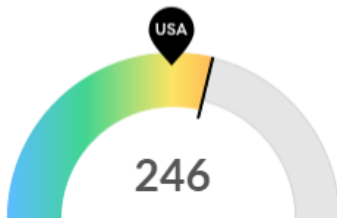
Report Parameters

1 Occupation

Drafters (17-3010)

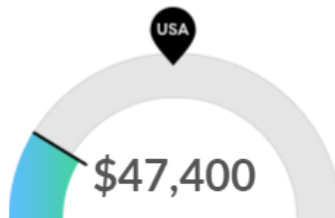
Executive Summary

Light Job Posting Demand Over a Deep Supply of Regional Jobs



Jobs (2022)

Your area is a hotspot for this kind of job. The national average for an area this size is 199* employees, while there are 246 here.



Compensation

Earnings are low in your area. The national median salary for Drafters is \$59,546, compared to \$47,400 here.



Job Posting Demand

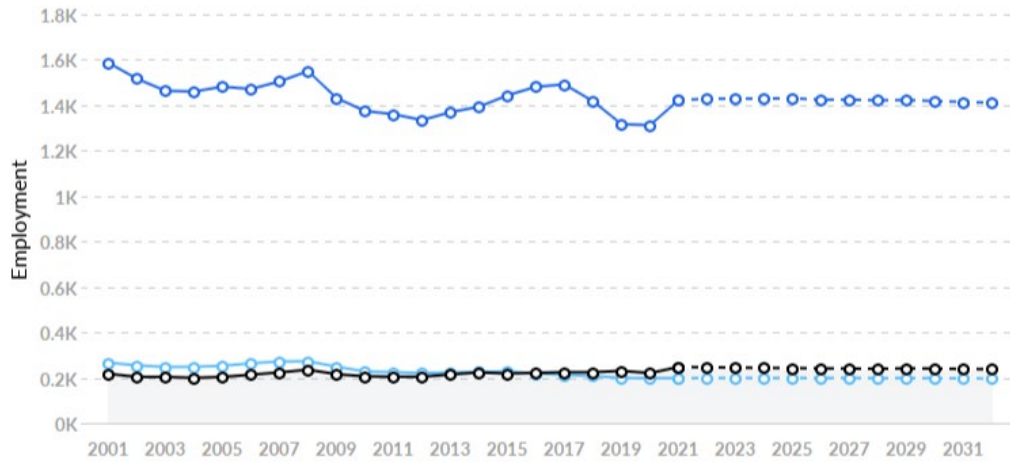
Job posting activity is low in your area. The national average for an area this size is 7* job postings/mo, while there are 3 here.

*National average values are derived by taking the national value for Drafters and scaling it down to account for the difference in overall workforce size between the nation and your area. In other words, the values represent the national average adjusted for region size.

Jobs

Regional Employment Is Higher Than the National Average

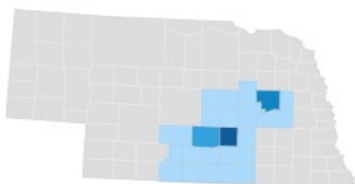
An average area of this size typically has 199* jobs, while there are 246 here. This higher than average supply of jobs may make it easier for workers in this field to find employment in your area.



Region	2022 Jobs	2027 Jobs	Change	% Change
● CCC Service Area	246	240	-6	-2.3%
● National Average	199	199	0	0.0%
● Nebraska	1,428	1,424	-4	-0.3%

*National average values are derived by taking the national value for Drafters and scaling it down to account for the difference in overall workforce size between the nation and your area. In other words, the values represent the national average adjusted for region size.

Regional Breakdown



County	2022 Jobs
Hall County, NE	100
Platte County, NE	78
Buffalo County, NE	33
Adams County, NE	<10
Hamilton County, NE	<10

Most Jobs are Found in the Architectural, Engineering, and Related Services Industry Sector

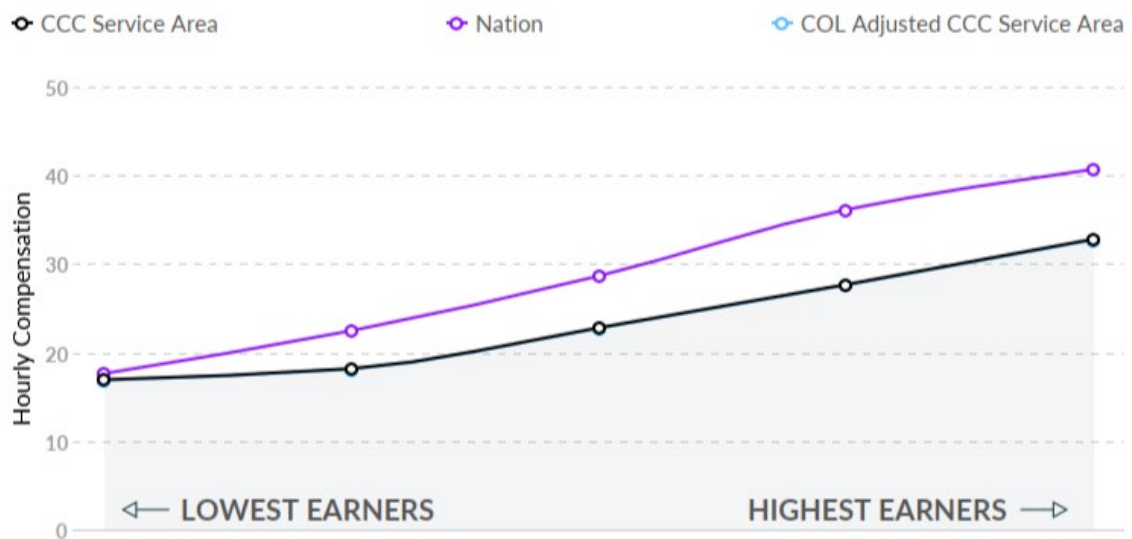


Industry	% of Occupation in Industry (2022)
Architectural, Engineering, and Related Services	26.9%
Architectural and Structural Metals Manufacturing	18.0%
Agriculture, Construction, and Mining Machinery Manufacturing	14.0%
Building Equipment Contractors	5.6%
Veneer, Plywood, and Engineered Wood Product Manufacturing	4.4%
Other Fabricated Metal Product Manufacturing	3.9%
Other	27.1%

Compensation

Regional Compensation Is 20% Lower Than National Compensation

For Drafters, the 2021 median wage in your area is \$22.79/hr, while the national median wage is \$28.63/hr.



Job Posting Activity



31 Unique Job Postings

The number of unique postings for this job from Jan 2022 to Dec 2022.



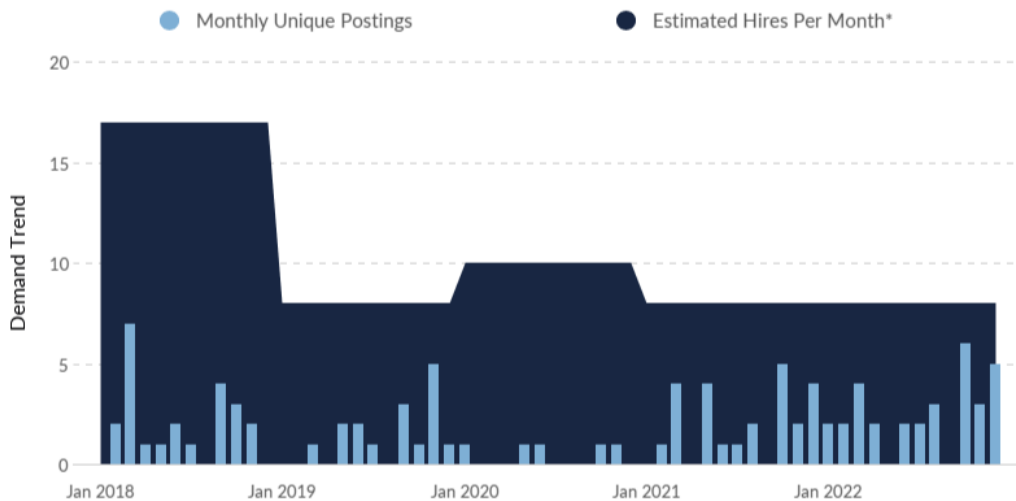
15 Employers Competing

All employers in the region who posted for this job from Jan 2022 to Dec 2022.



22 Day Median Duration

Posting duration is 5 days shorter than what's typical in the region.



Occupation	Avg Monthly Postings (Jan 2022 - Dec 2022)	Avg Monthly Hires (Jan 2022 - Dec 2022)
Drafters	3	8

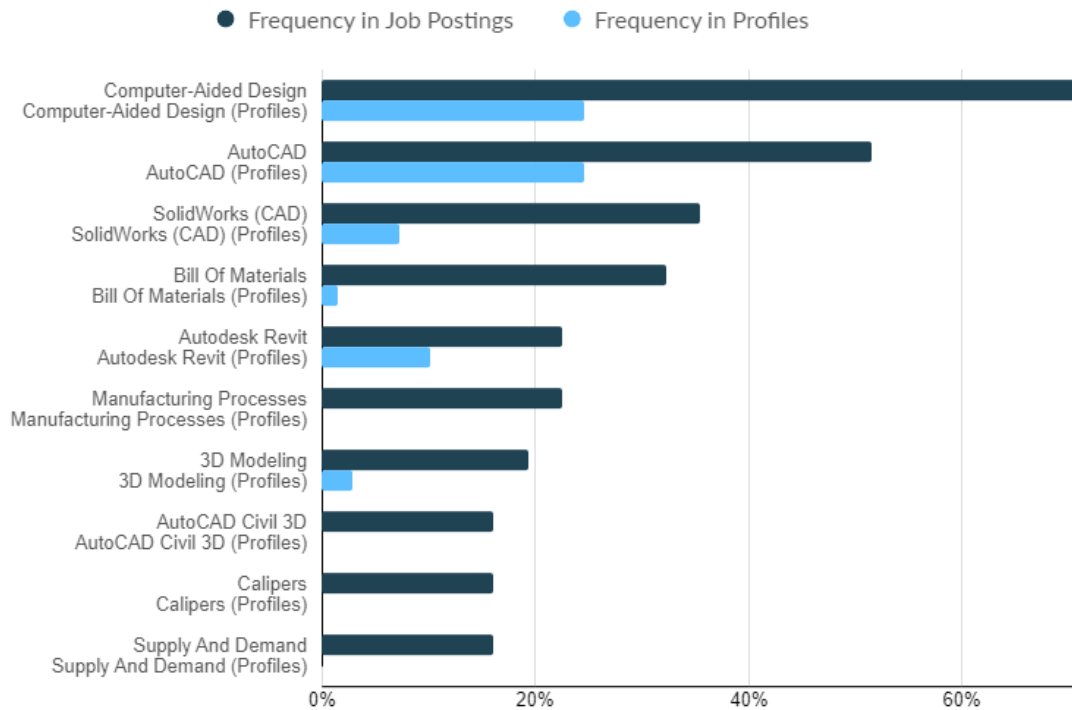
*A hire is reported by the Quarterly Workforce Indicators when an individual's Social Security Number appears on a company's payroll and was not there the quarter before. Lightcast hires are calculated using a combination of Lightcast jobs data, information on separation rates from the Bureau of Labor Statistics (BLS), and industry-based hires data from the Census Bureau.

Top Companies	Unique Postings
Chief Industries	5
Olsson	3
Actalent	2
Nebraska Public Power Dis'	2
Olsson Associates	2
Timpte	2
Associated Staffing	1
BD	1
Columbus Hydraulics Comp	1
Essential Personnel	1

Top Job Titles	Unique Postings
Drafters	12
Development Technicians	3
Structural Drafters	3
BIM Detailers	2
Mechanical Designers	2
Survey CAD Technicians	2
Additive Manufacturing En	1
Architectural CAD Technici	1
CAD Drafters	1
Controls Designers	1

Top Specialized Skills

Top Specialized Skills



Skills	Postings	% of Total Postings	Profiles	% of Total Profiles
Computer-Aided Design	22	71%	17	25%
AutoCAD	16	52%	17	25%
SolidWorks (CAD)	11	35%	5	7%
Bill Of Materials	10	32%	1	1%
Autodesk Revit	7	23%	7	10%
Manufacturing Processes	7	23%	0	0%
3D Modeling	6	19%	2	3%
AutoCAD Civil 3D	5	16%	0	0%
Calipers	5	16%	0	0%
Supply And Demand	5	16%	0	0%

Demographics

Retirement Risk Is About Average, While Overall Diversity Is Low

68

Retiring Soon

Retirement risk is about average in your area. The national average for an area this size is 62* employees 55 or older, while there are 68 here.

28

Racial Diversity

Racial diversity is low in your area. The national average for an area this size is 62* racially diverse employees, while there are 28 here.

50

Gender Diversity

Gender diversity is about average in your area. The national average for an area this size is 52* female employees, while there are 50 here.

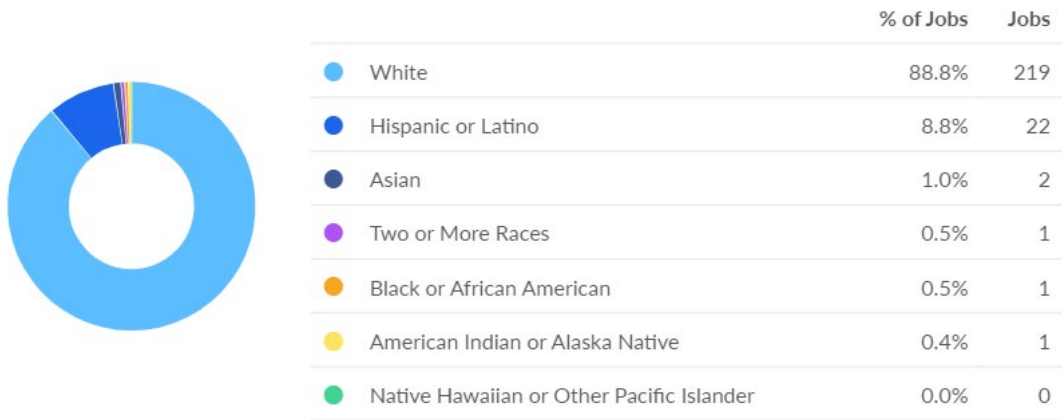
*National average values are derived by taking the national value for Drafters and scaling it down to account for the difference in overall workforce size between the nation and your area. In other words, the values represent the national average adjusted for region size.

Occupation Age Breakdown

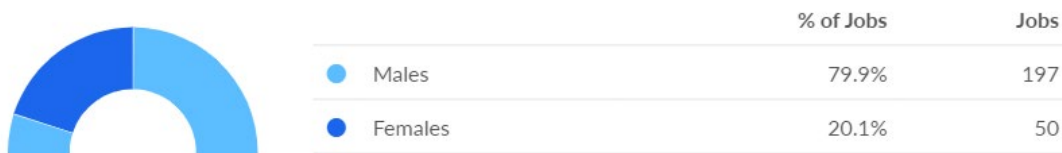


	% of Jobs	Jobs
14-18	0.5%	1
19-24	7.7%	19
25-34	24.0%	59
35-44	22.0%	54
45-54	18.3%	45
55-64	21.0%	52
65+	6.4%	16

Occupation Race/Ethnicity Breakdown



Occupation Gender Breakdown



Graduate Pipeline



2 Programs

Of the programs that can train for this job, 2 have produced completions in the last 5 years.



63 Completions (2021)

The completions from all regional institutions for all degree types.



26 Openings (2021)

The average number of openings for an occupation in the region is 27.

CIP Code	Top Programs	Completions (2021)
15.1301	Drafting and Design Technology/Technician, General	63 <div></div>

Top Schools	Completions (2021)
Central Community College	63 <div></div>

2023 Summary of EMSI Q4 2022 Data Set:

Our service area is a unique area in that it is a hotspot for drafting careers, yet it falls well below the national average for salary. Approximately, around 2019 there was a dip in employment for the drafting career field, creating a well-known shortage of drafters to fill a multitude of spots left open by early retirements, illness and other reasons. The EMSI data provided above proves that not only were many drafting jobs created in the region and unfulfilled, but it also displayed that the drafting careers in our service area pay approximately \$12,000 less a year than the national average. With 178 jobs in Hall and Platte Counties alone, this represents the need for drafting programs in our mid-Nebraska service area to support these career vacancies. Currently we provide these programs in Hall and Adams County only. In the data provided it shows advertisements of job openings for DSGN/Drafting has only one related activity so all 38 unique job postings under 24 employers represents the total jobs available in the service area. Even though there is only one main related activity, there is a list of desired specialized skills which consist of; Computer-Aided Design, AutoCAD, SolidWorks (CAD), Bill of Materials, Autodesk Revit, Manufacturing Processes, 3D Modeling, AutoCAD Civil 3D, Calipers, and Supply and Demand. No matter the specialty requested, there is still evidence indicating a huge disparity in racial diversity of only 11% versus national average of 25%, as well as a lack of gender diversity. The 69 Graduates of CCC represent all graduates in the Service Area. DSGN/Drafting degree graduates in our service area represent 2.2% (69/1640) of all programs.

B. Supporting Data

a. Awards

Degree/ Credential Awarded	17-18	18-19	19-20	20-21	21-22	5-yr avg
AAS	17	17	20	12	25	18.2
Diploma	18	27	21	25	33	24.8
Certificate	21	17	21	26	11	19.2
Total Awards	56	61	62	63	69	62.2
# Of Graduates	33	41	34	36	39	36.6

Awards

2023 Summary of Awards (2021-22 data):

The number of available jobs in our service area has increased significantly for the Drafting and Design career field over the last two years. The awards within the DSGN program at CCC have had a steady increase, unfortunately not enough to cover the immediate high demand from our local employers. Evidence provided by the EMSI Q4 2022 indicates the hourly income for drafters in our service area are not increasing as fast as the national level. This slow increase in hourly wages is creating a situation for our students to seek additional degrees along with the DSGN awards to increase their job prospects. Over the past six months local employers have reached out to the faculty at CCC on how they can increase their incentives for new employees. Many of these

employers are following through with different incentive programs such as the CCC apprenticeship program that allows for students to work while going to school and receive full benefits. Another incentive that multiple local employers are taking initiative in is raising their starting wage by an average of \$5.00 an hour. The faculty at CCC along with the local employers hope these incentives will increase the rate of availability to fill the high demand of open drafting positions. In retrospect the increase of the drafting shortage was enhanced by the onset of COVID-19. During the pandemic, many employers lost employees due to illness, early retirement or simply wanting a more positive work environment. The faculty of the DSGN program at CCC hope that the increase in wages will continue to rise and close the gap with the national standards so the needs of our local employers can be met with our graduating students.

b. Student Credit Hours Produced per Faculty FTE

	2017-18	2018-19	2019-20	2020-21	2021-22	5-year average
Student Credit Hours (SCH)	1094	1077	1248	1182	1290	1178.2
Faculty Full-time Equivalency (FTE)	3.67	3.76	3.89	3.32	3.37	3.6
SCH/Faculty FTE	298.09	286.44	320.82	356.02	382.79	327.28

Source: Program Stats by Alpha and Instructor-Student FTE reports.

**By term analysis combined to conduct an annual review. Numbers reported reflect 2 different negotiated contract periods (FA17-SU20 and FA20-SU22)*

Student Credit Hours per Faculty FTE

2023 Summary of the Student Credit Hours per Faculty FTE (2021-22 data):

The student credit hours continued to increase for the 2021-2022 academic year in conjunction with a steady increase of awards being completed within the DSGN program. Faculty is encouraged to see the number of students enrolling and completing the program. This will help support the industry need and reward the local industry for their increase in hourly wages for the incoming drafters.

2023 Summary Statement:

The DSGN faculty continue to grow the dialogue with students on how to enhance their resume by obtaining dual degrees or taking additional elective alpha's. As we witnessed with COVID, any student or employee that can demonstrate multiple skillsets will have a stronger rate of retention with an employer. Taking these multitude of vast skills with them could allow for a higher pay that could assist in bridging the gap from our service area into the national average. The faculty will also continue to have an open discussion with employers in our service area on how to increase that hourly wage, so students and prospective employees see a desire to enter the workforce with a degree in the DSGN area.