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An Analysis of Wage Impacts of Career and Technical Education Certification in Florida (Wage Report) – Final Report

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Executive Summary

The Wage Report details earnings outcomes of the occupations most closely associated with various credentials granted by Florida's public secondary and postsecondary educational institutions. Data from the Florida Department of Education (FLDOE), CareerSource Florida, the National Center for Education Statistics (NCES), the Bureau of Labor Statistics (BLS), and the US Census Bureau are included in this report.

The report aims to examine the wage increment associated with the attainment of different types of career and technical education certificates. The results show that economic outcomes are closely related to the occupations that a given certificate points towards.

The data discussed in this report include almost 6.7 million records of enrollment in secondary and postsecondary certificate programs over a five-year period from academic years 2020–21 to 2024–25. The data also include median wage estimates from the BLS May 2024 Occupational Employment and Wage Statistics (OEWS) Tables.

Throughout this discussion, wages refer to the median wage of the Standard Occupational Classification (SOC) occupations associated with each credential by the BLS and the NCES, at the MSA level where available and State level where not. The report does not include information about the individual earnings, employment, or occupational outcomes of the individuals enrolled in certificate programs.

The report begins with a broad overview of certificate program types at both the secondary and postsecondary levels, followed by a review of statewide enrollment patterns and the wage outcomes associated with each career cluster. The report then narrows its focus to the Triumph region, examining secondary and postsecondary enrollment distributions, five-year compositional trends, and the wage differentials associated with program-aligned occupations. Throughout, statewide findings serve as a reference point for contextualizing regional patterns.

Overview of Certificate and Degree Programs

Secondary Programs

The following secondary programs are discussed in the report:

High School Career Preparatory

High School Career Preparatory (CAR-PREP) programs give students the career skills needed for future occupation through industry-aligned courses and hands-on learning that prepare them for specific career pathways.

Middle School Exploratory

Middle School Exploratory (EXPL) programs are courses that give students early exposure to a wide range of career fields, helping them understand options and plan for future coursework.

Technology Education

Technology Education (TECH-ED) programs introduce students to the tools, processes, and problem-solving methods used in modern technological and engineering fields. These programs emphasize the practical application of technology, helping students build technical skills and prepare for further study or entry-level opportunities in STEM-related career pathways.

Work-Based Learning and Capstone

Work-Based Learning and Capstone (WBL-CAP) programs are programs that connect classroom instruction with real workplace experiences. It includes ongoing interaction with professionals in real or simulated workplace settings. These experiences give students direct exposure to the tasks and expectations of a career field and are aligned with classroom learning to support skill development and career readiness.

Postsecondary programs

The following postsecondary certificates and degrees are discussed in the report:¹

Career Certificates

Career Certificate (CC) programs are a series of vocational courses that prepare students for entry-level employment in specific career fields. The programs vary in length from 40 credit hours to more than 1,500 clock hours. Career certificates can also be referred to as technical certificates.

College Credit Certificates

College Credit Certificate (CCC) programs are a series of postsecondary vocational courses that prepare students for entry-level employment in specific career fields or for career advancement. Generally, these certificates can be completed in one year or less and must be part of an AS or AAS degree program. College credit certificates also may be called postsecondary vocational certificates.

Advanced Technical Certificate

Advanced Technical Certificate (ATC) programs are series of instruction that are less than 45 credit hours of college-level courses. ATCs are awarded to students who have already received an AS or AAS degree and are seeking an advanced specialized planning program of study to supplement their associate degree.

Applied Technology Diploma

The Applied Technology Diploma (ATD) is a course of study that is part of an AS or AAS degree program. The course of study is less than 60 credit hours and is designed to lead to employment in a specific occupation.

Associate in Applied Science

The Associate in Applied Science (AAS) degree is a two-year technical degree designed to train students for direct entry into a specialized occupation in the workplace.

¹ Postsecondary certificate and degree descriptions were obtained from (WSER, 2023).

Associate in Science

The Associate in Science (AS) degree is a two-year technical degree designed to prepare students who are planning to enter a specific occupation; it serves as a basis for admission to a related bachelor's degree program.

Apprenticeship

An apprenticeship is a combination of on-the-job training and related classroom instruction in which students learn the practical and theoretical aspects of a highly skilled occupation. Students are employed as part of their apprenticeship.

Common Terms

Annual Earnings Differential

The Annual Earnings Differential is an estimate of the central tendency of the difference in median earnings between persons employed in occupations associated with all certificates in each career cluster and those persons in the same geographic regions holding only a high school diploma.

Career Cluster

Career clusters are organizational groupings of occupations and industries that share similar characteristics. They help connect academic learning in Career and Technical Education to real-world career pathways.

Cluster Wage Estimate

The Cluster Wage Estimate is an estimate of the central tendency of median annual earnings of all persons employed in occupations associated with all certificates in each career cluster.

High School (HS) Diploma Wage Estimate

The High School (HS) Diploma Wage Estimate is an estimate of the central tendency of median earnings of all persons employed, holding only a high school diploma, in the same geographic regions that form the associated Cluster Wage Estimate.

Program

A course of study leading to a certain credential (e.g., Psychology, Nursing).

Statewide Data

Secondary Programs

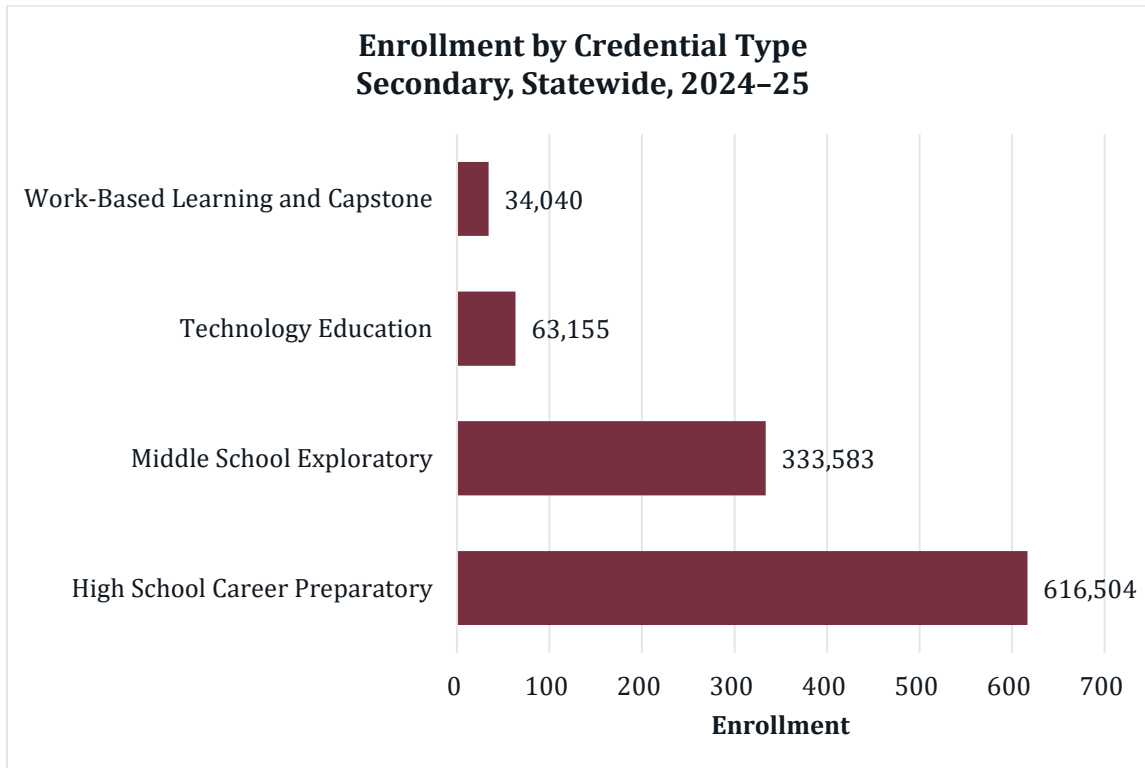


Figure 1. Enrollment by Credential Type, Secondary, Statewide, 2024-25

Source: FLDOE CTE Enrollment Dashboard and authors' calculations.

Total secondary program enrollment stands at approximately 1 million students (1,047,282). Enrollment is heavily concentrated in two program types: High School Career Preparatory (nearly 60%) and Middle School Exploratory (roughly 30%), which together account for almost 90% of all secondary students. The next largest program type, Technology Education, enrolls just over 6%.

**Table 1. Enrollment by Career Cluster and Certificate Type
Secondary, Statewide, 2024–25**

Career Cluster	EXPL		CAR-PREP		TECH-ED		WBL-CAP		Total	
Information Technology	61,605	18.5%	78,008	12.7%	3,620	5.7%	482	1.4%	143,715	13.7%
Arts, A/V Tech & Communication	20,812	6.2%	117,024	19.0%	0	0.0%	206	0.6%	138,042	13.2%
Business Mgmt. & Admin.	65,795	19.7%	47,950	7.8%	0	0.0%	2,312	6.8%	116,057	11.1%
Hospitality & Tourism	31,899	9.6%	80,966	13.1%	0	0.0%	820	2.4%	113,685	10.9%
Agri., Food, & Nat. Resources	36,714	11.0%	60,435	9.8%	0	0.0%	1,413	4.2%	98,562	9.4%
Engineering & Technology Educ.	43,323	13.0%	0	0.0%	44,298	70.1%	1,054	3.1%	88,675	8.5%
Marketing, Sales & Services	5,383	1.6%	71,067	11.5%	0	0.0%	585	1.7%	77,035	7.4%
Health Science	11,611	3.5%	50,760	8.2%	9,867	15.6%	2,408	7.1%	74,646	7.1%
Education & Training	1,197	0.4%	25,281	4.1%	0	0.0%	563	1.7%	27,041	2.6%
Architecture & Construction	2,290	0.7%	22,164	3.6%	0	0.0%	242	0.7%	24,696	2.4%
Other	52,954	15.9%	62,849	10.2%	5,370	8.5%	23,955	70.4%	145,128	13.9%
Total	333,583	100%	616,504	100%	63,155	100%	34,040	100%	1,047,282	100%

Source: FLDOE CTE Enrollment Dashboard, CareerSource Florida, and authors' calculations.

Table 1 presents secondary enrollment by career cluster and certificate type. Secondary enrollment patterns are spread evenly across career clusters. Information Technology and Arts, A/V Technology & Communication lead with over 13% of enrollment each, while Education & Training and Architecture & Construction have notably low representation at roughly 2% each. Neither middle school exploratory nor high school preparatory programs are dominated by any single cluster. Technical education programs, however, are heavily concentrated in Engineering and Technology Education, which accounts for approximately 70% of enrollment, with Health Science contributing an additional 15%. Work-based learning and capstone programs depart from the usual enrollment pattern, with roughly 70% of students falling into the 'Other' category instead of the top ten clusters.

**Table 2. Enrollment and Wages of Program-Aligned Occupations, by Career Cluster
Secondary, Statewide, 2024–25**

Career Cluster	Enrollment	Cluster Wage Estimate	HS Diploma Wage Estimate	Annual Earnings Differential
Information Technology	143,715	\$112,117	\$36,248	\$75,869
Arts, A/V Technology & Communication	138,042	\$73,690	\$36,419	\$37,271
Business Management & Administration	116,057	\$85,128	\$36,410	\$48,718
Hospitality & Tourism	113,685	\$63,660	\$35,060	\$28,599
Agriculture, Food, & Natural Resources	98,562	\$54,761	\$36,166	\$18,595
Engineering & Technology Education	88,675	\$81,071	\$35,919	\$45,152
Marketing, Sales & Services	77,035	\$74,987	\$31,076	\$43,911
Health Science	74,646	\$76,445	\$36,192	\$40,254
Education & Training	27,041	\$31,209	\$35,931	-\$4,722
Architecture & Construction	24,696	\$70,084	\$36,903	\$33,181
Law, Public Safety & Security	23,543	\$85,375	\$36,988	\$48,387
Human Services	16,358	\$38,387	\$35,478	\$2,909
Transportation, Distribution & Logistics	15,314	\$58,470	\$36,825	\$21,645
Finance	13,013	\$98,515	\$36,485	\$62,030
Manufacturing	8,531	\$65,457	\$35,866	\$29,590
Government & Public Administration	5,987	\$100,658	\$37,091	\$63,568
Energy	568	\$68,867	\$34,107	\$34,759
All Clusters	985,468	\$77,183	\$35,851	\$41,332

Notes: Values in 2024 U.S. dollars. Estimates are based on MSA-level median earnings by SOC occupation and county-level median high school diploma holder earnings, using the process detailed in Appendix C.

Source: Center for Economic Forecasting and Analysis (CEFA) calculations based on data from Florida Department of Education, Bureau of Labor Statistics, CareerSource Florida, U.S. Census Bureau, National Center for Education Statistics.

Secondary certificate annual wage estimates reveal considerable variation in earnings differentials across career clusters. Information Technology leads with the highest differential at approximately \$76,000 above the high school diploma baseline, which is particularly notable given that it also ranks among the highest clusters by secondary enrollment. Government & Public Administration and Finance follow closely, each exceeding \$60,000. At the other end of the spectrum, Education & Training is the only cluster with a

negative differential, with earnings roughly \$5,000 below the baseline. This may reflect a high concentration of employees in lower-wage occupations such as childcare positions. Human Services posts the next lowest differential at \$3,000 above the baseline. All remaining clusters fall between \$18,000 and \$76,000, suggesting that most secondary career pathways offer meaningful earnings advantages over a high school diploma alone.

**Table 3. Career Cluster Composition of Enrollment
Secondary, Statewide, 2020-21 to 2024-25**

Career Cluster	2020-21	2021-22	2022-23	2023-24	2024-25	Five-Year Change (%-pt)
Marketing, Sales & Services	2.7%	3.4%	5.0%	6.4%	7.5%	4.7%
Hospitality & Tourism	10.2%	10.7%	11.2%	11.3%	11.3%	1.1%
Agriculture, Food, & Natural Resources	8.1%	8.4%	8.7%	8.7%	8.8%	0.7%
Government & Public Administration	0.1%	0.1%	0.1%	0.4%	0.6%	0.4%
Architecture & Construction	2.0%	2.1%	2.3%	2.2%	2.2%	0.2%
Transportation, Distribution & Logistics	1.2%	1.3%	1.4%	1.3%	1.4%	0.2%
Manufacturing	0.6%	0.7%	0.8%	0.7%	0.8%	0.2%
Law, Public Safety & Security	2.1%	2.0%	2.0%	2.1%	2.1%	0.0%
Energy	0.1%	0.1%	0.1%	0.1%	0.1%	-0.1%
Education & Training	2.6%	2.4%	2.5%	2.5%	2.5%	-0.1%
Health Science	7.6%	7.5%	7.6%	7.6%	7.5%	-0.1%
Human Services	2.3%	2.2%	2.3%	2.1%	2.1%	-0.3%
Finance	1.8%	1.5%	1.6%	1.6%	1.6%	-0.3%
Information Technology	13.2%	13.9%	13.6%	13.0%	12.8%	-0.4%
Engineering & Technology Education	9.6%	9.5%	8.6%	8.0%	7.9%	-1.7%
Arts, A/V Technology & Communication	14.9%	15.4%	14.2%	13.2%	12.3%	-2.6%
Business Management & Administration	14.4%	11.8%	11.3%	11.2%	11.0%	-3.5%
Other	6.3%	7.0%	6.8%	7.5%	7.8%	1.5%

Source: FLDOE CTE Enrollment Dashboard, CareerSource Florida, and authors' calculations.

The trend in secondary CTE enrollment from 2020–21 to 2024–25 shows sharp growth in Marketing, Sales and Services, which more than doubles its share and posts the largest five-

year gain of any career cluster. Hospitality and Tourism, Agriculture, and Government and Public Administration also show steady increases, though at a smaller scale. Meanwhile, clusters like Engineering and Technology Education, Arts and AV Technology, and Business Management and Administration experience notable declines, with Business dropping by more than three percentage points. Health Science remains stable across all five years, while Information Technology and Human Services show slight declines. Overall, the data reflect a shift in student interest toward service and consumer facing fields, with reduced participation in traditional business, engineering, and creative pathways.

Postsecondary Programs

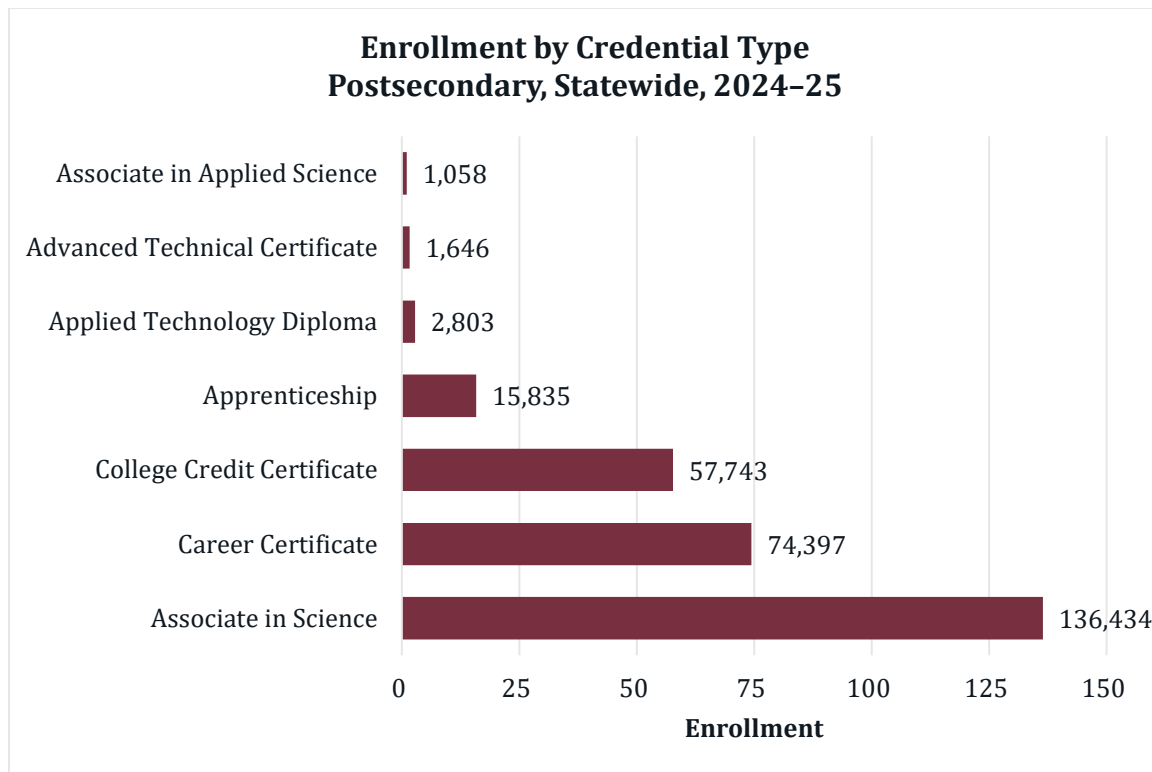


Figure 2. Enrollment by Credential Type, Postsecondary, Statewide, 2024-25

Source: FLDOE CTE Enrollment Dashboard and authors' calculations.

Total postsecondary enrollment was just under 300,000 students (289,916). Enrollment is dominated by three program types: Associate in Science Degrees (47%), Career Certificates (26%), and College Credit Certificates (20%), which together account for roughly 93% of all postsecondary students. Apprenticeships represent the next largest program type at just over 5%.

**Table 4. Enrollment by Career Cluster and Certificate Type
Postsecondary, Statewide, 2024–25**

Career Cluster	CC		CCC		AS		Other		Total	
Health Science	16,008	21.5%	10,224	17.7%	54,024	39.6%	3,526	16.5%	83,782	28.9%
Business Mgmt. & Admin.	1,532	2.1%	16,904	29.3%	17,928	13.1%	340	1.6%	36,704	12.7%
Information Technology	4,484	6.0%	8,393	14.5%	18,779	13.8%	448	2.1%	32,104	11.1%
Architecture & Construction	8,421	11.3%	1,209	2.1%	2,915	2.1%	12,719	59.6%	25,264	8.7%
Law, Public Safety & Security	10,793	14.5%	1,194	2.1%	10,267	7.5%	455	2.1%	22,709	7.8%
Manufacturing	5,192	7.0%	7,939	13.7%	6,627	4.9%	487	2.3%	20,245	7.0%
Transportation, Distr. & Logistics	10,668	14.3%	1,458	2.5%	2,973	2.2%	1,485	7.0%	16,584	5.7%
Arts, A/V Tech & Communication	2,721	3.7%	3,857	6.7%	9,149	6.7%	15	0.1%	15,742	5.4%
Human Services	6,892	9.3%	1,017	1.8%	2,651	1.9%	32	0.1%	10,592	3.7%
Hospitality & Tourism	4,245	5.7%	2,635	4.6%	3,259	2.4%	66	0.3%	10,205	3.5%
Other	3,441	4.6%	2,913	5.0%	7,862	5.8%	1,769	8.3%	15,985	5.5%
Total	74,397	100%	57,743	100%	136,434	100%	21,342	100%	289,916	100%

Source: FLDOE CTE Enrollment Dashboard, CareerSource Florida, and authors' calculations.

Table 4 shows postsecondary enrollment by career cluster and certificate type. Health Science is the largest career cluster by total enrollment at roughly 30%, with Business Management and Administration and Information Technology being the only other clusters to exceed 10% of total enrollment. This dominance is most pronounced in Associate in Science Degrees, where Health Science accounts for roughly 40% of all AS enrollment. Business Management and Administration, by contrast, leads College Credit Certificate enrollment with nearly 30% of all CCC students. Architecture and Construction stands out among non-CC, CCC, and AS certificates, accounting for over half of all enrollments in that category.

**Table 5. Enrollment and Wages of Program-Aligned Occupations, by Career Cluster
Postsecondary, Statewide, 2024–25**

Career Cluster	Enrollment	Cluster Wage Estimate	HS Diploma Wage Estimate	Annual Earnings Differential
Health Science	83,782	\$68,792	\$36,583	\$32,209
Business Management & Administration	36,704	\$92,499	\$36,593	\$55,906
Information Technology	32,104	\$117,678	\$36,572	\$81,106
Architecture & Construction	25,264	\$69,443	\$36,587	\$32,857
Law, Public Safety & Security	22,709	\$73,798	\$36,580	\$37,218
Manufacturing	20,245	\$67,253	\$36,599	\$30,654
Transportation, Distribution & Logistics	16,584	\$60,906	\$36,581	\$24,325
Arts, A/V Technology & Communication	15,742	\$70,545	\$36,597	\$33,948
Human Services	10,592	\$38,575	\$36,349	\$2,226
Hospitality & Tourism	10,205	\$50,080	\$36,596	\$13,484
Education & Training	8,021	\$48,329	\$36,589	\$11,739
Agriculture, Food, and Natural Resources	3,139	\$42,947	\$36,615	\$6,332
Marketing, Sales & Services	2,002	\$86,246	\$36,593	\$49,653
Energy	676	\$71,672	\$36,629	\$35,042
Finance	473	\$91,570	\$36,593	\$54,977
Government & Public Administration	287	\$102,537	\$36,593	\$65,944
All Clusters	288,529	\$74,810	\$36,577	\$38,233

Notes: Values in 2024 U.S. dollars. Estimates are based on MSA-level median earnings by SOC occupation and county-level median high school diploma holder earnings, using the process detailed in Appendix C.

Source: Center for Economic Forecasting and Analysis (CEFA) calculations based on data from Florida Department of Education, Bureau of Labor Statistics, CareerSource Florida, U.S. Census Bureau, National Center for Education Statistics.

Table 5 shows postsecondary earnings differentials largely mirror the secondary rankings, with most career clusters maintaining similar positions and only modest shifts in order. Information Technology again leads with a differential of approximately \$81,000. The most notable change from the secondary estimates is Education & Training, which shifts from a negative differential of roughly \$5,000 to a positive differential of nearly \$12,000, suggesting that postsecondary certification in this cluster targets occupations with meaningfully higher

wages than secondary certification alone. Human Services posts the lowest differential at approximately \$2,000, though unlike in the secondary estimates, no cluster falls below the baseline. Overall, the postsecondary differentials reinforce the patterns observed at the secondary level, with Education & Training standing out as the most significant mover between the two.

**Table 6. Career Cluster Composition of Enrollment
Postsecondary, Statewide, 2020-21 to 2024-25**

Career Cluster	2020-21	2021-22	2022-23	2023-24	2024-25	Five-Year Change (%-pt)
Health Science	24.5%	26.2%	27.3%	28.0%	28.9%	4.4%
Manufacturing	5.7%	5.4%	5.4%	7.3%	7.0%	1.3%
Human Services	2.7%	4.0%	4.0%	3.9%	3.7%	0.9%
Information Technology	10.3%	10.2%	10.9%	11.2%	11.1%	0.8%
Hospitality & Tourism	3.3%	3.2%	3.4%	3.4%	3.5%	0.2%
Transportation, Distribution & Logistics	5.6%	5.7%	6.0%	5.5%	5.7%	0.1%
Government & Public Administration	0.1%	0.1%	0.1%	0.1%	0.1%	0.0%
Architecture & Construction	8.7%	8.3%	8.1%	8.3%	8.7%	0.0%
Energy	0.3%	0.4%	0.3%	0.3%	0.2%	-0.1%
Marketing, Sales & Services	0.8%	0.7%	0.7%	0.7%	0.7%	-0.1%
Finance	0.4%	0.5%	0.3%	0.1%	0.2%	-0.2%
Agriculture, Food, & Natural Resources	1.4%	1.4%	1.4%	1.2%	1.1%	-0.3%
Education & Training	3.4%	3.1%	3.1%	3.0%	2.8%	-0.6%
Arts, A/V Technology & Communication	6.3%	6.1%	6.4%	5.7%	5.4%	-0.9%
Law, Public Safety & Security	8.9%	8.6%	8.3%	8.1%	7.8%	-1.0%
Business Management & Administration	17.3%	15.7%	14.0%	12.9%	12.7%	-4.6%
Other	0.4%	0.4%	0.4%	0.4%	0.5%	0.1%

Source: FLDOE CTE Enrollment Dashboard, CareerSource Florida, and authors' calculations.

The distribution of postsecondary CTE enrollment in Florida has shifted over the five-year period from 2020-21 to 2024-25. Health Science shows the strongest and most consistent growth, rising more than four percentage points and strengthening its position as the largest

career cluster. Manufacturing, Human Services, and Information Technology also see modest gains, suggesting growing student interest in technical and service-oriented fields. In contrast, several clusters decline, with Business Management & Administration showing the largest drop of more than four and a half percentage points. Other clusters such as Law & Public Safety and Arts & A/V Technology show smaller but steady declines. Most remaining clusters stay relatively stable with limited movement from year to year. Overall, the pattern shows a gradual shift in enrollment toward health-related and technical programs and away from traditional business and public service pathways. The shift away from Business Management & Administration is worth noting, as it is among the clusters with the highest wage differentials, placing it in tension with the enrollment trend. Similarly, Health Science, the cluster with the strongest growth over the period, carries an average to low wage differential, suggesting that enrollment shifts in the Florida postsecondary CTE system do not closely follow earning potential by cluster.

Table 7 (below) contains an excerpt from the Florida Department of Commerce (FloridaCommerce) Florida Demand Occupations List: a list of occupations considered by FloridaCommerce to be “in-demand” in the state of Florida. For this labor demand analysis, Standard Occupational Classifications (SOCs), as defined by the Bureau of Labor Statistics, are used similarly to career clusters and are organized in a comparable manner.

Among the in-demand SOCs, Healthcare Support Occupations (SOC 31) has the highest demand at over 18,000 annual openings, followed by Installation, Maintenance, and Repair Occupations (SOC 49), Healthcare Practitioners and Technical Occupations (SOC 29), Construction and Extraction Occupations (SOC 47), Transportation and Material Moving Occupations (SOC 53), and Sales and Related Occupations (SOC 41). Each of these SOCs exceeds 13,000 annual openings, with a steep drop-off before Computer and Mathematical Occupations (SOC 15) at roughly 5,800 openings.

Despite leading in annual openings, Healthcare Support Occupations (SOC 31) carries one of the lower average mean wages at \$25.65 per hour. The lowest overall is Office and Administrative Support Occupations (SOC 43) at \$23.38 per hour. Healthcare Support Occupations (SOC 31) also shows the smallest difference between average mean and average entry wages, though this is partly attributable to the SOC already having relatively high entry-level wages. By contrast, Sales and Related Occupations (SOC 41) shows the largest difference between mean and entry wages at roughly \$20, suggesting considerable room for wage growth and progression within the field.

All SOCs show a positive annual growth rate, led by Computer and Mathematical Occupations (SOC 15) at just over 1%, while Protective Service Occupations (SOC 33) post the lowest growth rate at 0.3%. Taken together, the data reflects a labor market with broad demand across occupational fields, meaningful variation in wage levels and growth potential, and particularly strong demand in health-related and trades occupations.

Table 7. Florida Demand Occupations List
Postsecondary Non-Degree Award or Associate Degree, Statewide, 2025-26

Occupation Title	SOC Group	Annual % Growth	Annual Openings	2024 Hourly Wage	
				Mean	Entry
Architectural and Civil Drafters	17	1.15	904	30.12	20.33
Automotive Service Technicians and Mechanics	49	0.63	5,620	25.53	16.25
Bus and Truck Mechanics and Diesel Engine Specialists	49	0.59	1,272	30.01	21.21
Carpenters	47	0.76	6,387	24.13	18.09
Chefs and Head Cooks	35	0.73	2,101	30.07	16.58
Clinical Laboratory Technologists and Technicians	29	0.38	1,978	29.29	18.07
Computer Network Support Specialists	15	1.11	1,037	36.99	24.37
Computer User Support Specialists	15	1.28	4,078	30.00	19.66
Computer, Automated Teller, and Office Machine Repairers	49	0.83	654	22.69	17.38
Construction and Building Inspectors	47	0.89	1,931	33.80	23.00
Dental Assistants	31	1.00	3,747	22.44	18.18
Dental Hygienists	29	1.00	1,101	40.03	34.09
Electricians	47	0.57	4,701	26.68	20.02
Emergency Medical Technicians	29	0.95	540	20.86	16.43
Firefighters	33	0.32	1,810	30.58	19.77
Health Technologists and Technicians, All Other	29	0.87	1,117	23.82	17.82
Heating, Air Con., and Refrigeration Mechanics & Installers	49	0.50	3,559	26.49	19.64
Heavy and Tractor-Trailer Truck Drivers	53	1.06	13,527	26.13	19.15
Human Resources Assistants, Except Payroll & Timekeeping	43	0.83	683	23.38	17.88
Industrial Machinery Mechanics	49	0.27	1,380	30.19	21.69
Inspectors, Testers, Sorters, Samplers, and Weighers	51	0.55	2,410	24.00	16.65
Insurance Sales Agents	41	0.83	5,254	38.60	19.70
Licensed Practical and Licensed Vocational Nurses	29	0.68	3,440	29.00	24.00
Massage Therapists	31	1.02	1,938	24.33	15.64
Medical Assistants	31	1.14	9,234	20.66	17.01
Medical Records Specialists	29	0.77	1,261	24.19	16.71
Motorboat Mechanics and Service Technicians	49	0.96	567	27.05	19.09
Occupational Therapy Assistants	31	1.42	614	34.07	28.48
Ophthalmic Medical Technicians	29	1.43	644	21.49	17.09
Paralegals and Legal Assistants	23	0.73	4,242	29.40	19.73
Pharmacy Technicians	29	0.38	3,890	20.58	16.95
Phlebotomists	31	1.11	1,341	19.50	16.80
Physical Therapist Assistants	31	1.45	1,293	32.92	26.38
Plumbers, Pipefitters, and Steamfitters	47	0.55	3,007	25.79	19.31
Police and Sheriff's Patrol Officers	33	0.28	4,001	40.31	26.70
Psychiatric Technicians	29	1.22	1,151	21.08	16.65
Real Estate Brokers	41	0.76	708	41.45	17.45
Real Estate Sales Agents	41	0.76	7,129	35.25	16.84
Security and Fire Alarm Systems Installers	49	0.79	926	27.49	20.81
Surveying and Mapping Technicians	17	0.94	740	24.53	18.00
Telecomm. Equip. Install. & Repair., Except Line Installers	49	1.13	1,612	31.50	22.84
Telecommunications Line Installers and Repairers	49	1.03	822	27.48	18.96
Veterinary Technologists and Technicians	29	2.05	1,285	20.79	16.58
Welders, Cutters, Solderers, and Brazers	51	0.47	1,655	25.27	19.55

Source: FloridaCommerce Florida Demand Occupations List

Triumph Region

Secondary Programs

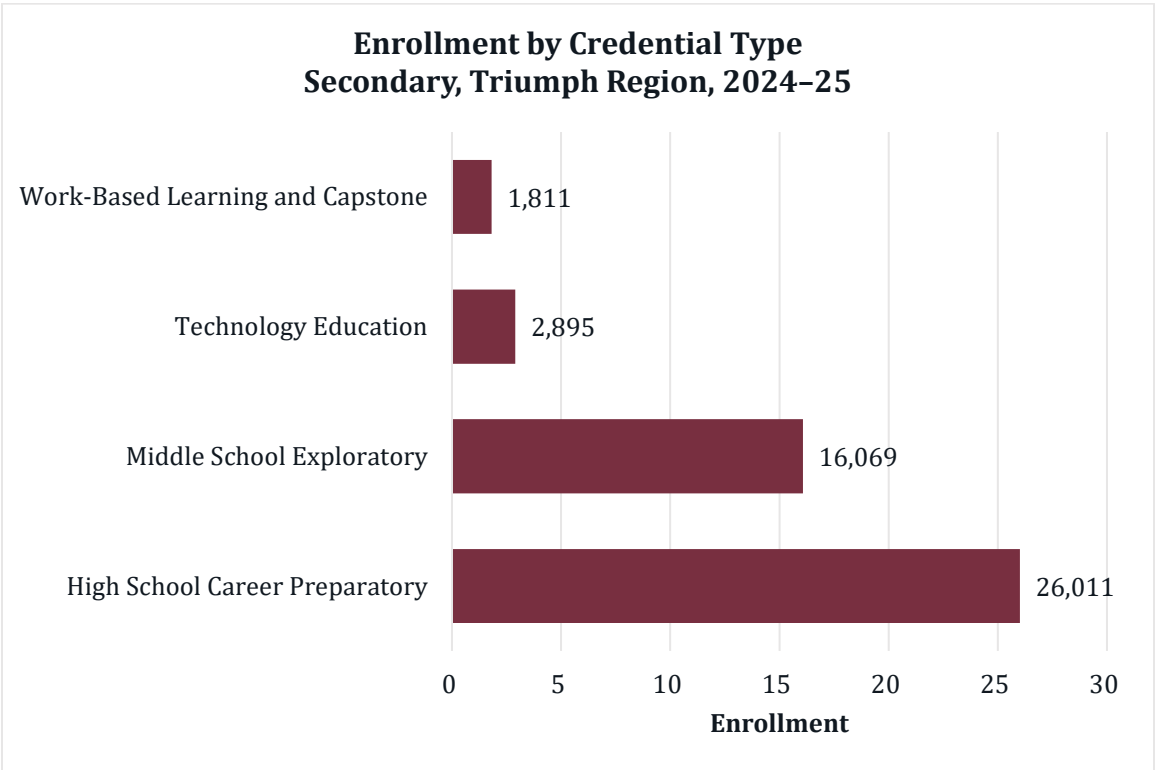


Figure 3. Enrollment by Credential Type, Secondary, Triumph Region, 2024-25

Source: FLDOE CTE Enrollment Dashboard and authors' calculations.

Total enrollment in secondary programs in the Triumph region is just over 46,000 students in 2024-25, and most of these students are concentrated in two program types. High School Career Preparatory programs account for the largest share with more than 26,000 students, followed by Middle School Exploratory programs with over 16,000 students. Technology Education programs form a much smaller segment with fewer than 3,000 students, while Work-Based Learning and Capstone experiences represent the smallest category at roughly 1,800 students. This distribution shows that students primarily engage with CTE through broad exploratory and career preparatory pathways, with more specialized or applied options serving a comparatively limited portion of the secondary population.

**Table 8. Enrollment by Career Cluster and Certificate Type
Secondary, Triumph Region, 2024–25**

Career Cluster	EXPL		CAR-PREP		TECH-ED		WBL-CAP		Total	
Information Technology	3,933	24.5%	4,770	18.3%	586	20.2%	0	0.0%	9,289	19.9%
Arts, A/V Tech & Communication	3,334	20.7%	1,878	7.2%	0	0.0%	92	5.1%	5,304	11.3%
Business Mgmt. & Admin.	1,115	6.9%	3,856	14.8%	0	0.0%	0	0.0%	4,971	10.6%
Hospitality & Tourism	504	3.1%	3,971	15.3%	0	0.0%	36	2.0%	4,511	9.6%
Agri., Food, & Nat. Resources	1,375	8.6%	3,059	11.8%	0	0.0%	12	0.7%	4,446	9.5%
Engineering & Technology Educ.	1,830	11.4%	0	0.0%	1,579	54.5%	17	0.9%	3,426	7.3%
Marketing, Sales & Services	857	5.3%	1,684	6.5%	0	0.0%	1	0.1%	2,542	5.4%
Health Science	356	2.2%	1,493	5.7%	470	16.2%	139	7.7%	2,458	5.3%
Education & Training	1,969	12.3%	363	1.4%	0	0.0%	5	0.3%	2,337	5.0%
Architecture & Construction	32	0.2%	1,180	4.5%	0	0.0%	4	0.2%	1,216	2.6%
Other	764	4.8%	3,757	14.4%	260	9.0%	1,505	83.1%	6,286	13.4%
Total	16,069	100%	26,011	100%	2,895	100%	1,811	100%	46,786	100%

Source: FLDOE CTE Enrollment Dashboard, CareerSource Florida, and authors' calculations.

In the Triumph region, Information Technology leads secondary enrollment with roughly 20% of the total. The distribution across career clusters is relatively even, with several clusters hovering near the 10% mark. The exception is Architecture & Construction, which accounts for only about 2.5% of secondary enrollment and is found almost entirely within High School Career Preparatory programs. Information Technology also leads enrollment in both Middle School Exploratory and High School Career Preparatory programs. Technology Education programs, by contrast, show a much more uneven distribution, with Engineering & Technology Education accounting for over 50% of enrollment within that program type. Work-Based Learning and Capstone programs in the Triumph region closely mirror the statewide distribution, with 83% of enrollment falling outside the top ten career clusters by total enrollment.

**Table 9. Enrollment and Wages of Program-Aligned Occupations, by Career Cluster
Secondary, Triumph Region, 2024–25**

Career Cluster	Enrollment	Cluster Wage Estimate	HS Diploma Wage Estimate	Annual Earnings Differential
Information Technology	9,289	\$89,611	\$35,538	\$54,073
Business Management & Administration	5,304	\$75,981	\$36,100	\$39,881
Hospitality & Tourism	4,971	\$60,406	\$27,813	\$32,593
Arts, A/V Technology & Communication	4,511	\$60,268	\$34,594	\$25,674
Agriculture, Food, & Natural Resources	4,446	\$74,724	\$34,305	\$40,419
Engineering & Technology Education	3,426	\$77,859	\$35,987	\$41,871
Architecture & Construction	2,542	\$64,669	\$32,637	\$32,033
Health Science	2,458	\$91,079	\$33,900	\$57,180
Human Services	2,337	\$36,498	\$36,259	\$240
Law, Public Safety & Security	1,216	\$61,762	\$35,821	\$25,942
Marketing, Sales & Services	962	\$81,654	\$36,722	\$44,932
Manufacturing	940	\$61,737	\$33,355	\$28,382
Transportation, Distribution & Logistics	763	\$70,244	\$32,638	\$37,605
Education & Training	752	\$28,734	\$36,593	-\$7,859
Finance	705	\$82,986	\$29,728	\$53,258
Government & Public Administration	260	\$93,867	\$36,111	\$57,756
Energy	96	\$66,210	\$32,415	\$33,795
All Clusters	44,978	\$72,396	\$34,213	\$38,183

Notes: Values in 2024 U.S. dollars. Estimates are based on MSA-level median earnings by SOC occupation and county-level median high school diploma holder earnings, using the process detailed in Appendix C.

Source: Center for Economic Forecasting and Analysis (CEFA) calculations based on data from Florida Department of Education, Bureau of Labor Statistics, CareerSource Florida, U.S. Census Bureau, National Center for Education Statistics.

In the Triumph region, Government & Public Administration and Health Science lead all career clusters with wage differentials of approximately \$57,000 each, a notable departure from the statewide picture where Information Technology ranked first. Differentials also span a narrower range, with the maximum falling well below statewide levels. Education & Training in secondary programs again posts a negative differential of roughly \$5,000, and Human Services remains near the bottom as well. While the overall ranking of clusters largely

mirrors statewide trends, the shift away from Information Technology at the top and the considerably lower maximum differentials set the Triumph region apart.

**Table 10. Career Cluster Composition of Enrollment
Secondary, Triumph Region, 2020-21 to 2024-25**

Career Cluster	2020-21	2021-22	2022-23	2023-24	2024-25	Five-Year Change (%-pt)
Agriculture, Food, and Natural Resources	6.3%	7.1%	7.8%	8.7%	8.9%	2.6%
Architecture & Construction	3.0%	3.4%	4.3%	4.8%	5.1%	2.1%
Hospitality & Tourism	10.4%	10.5%	12.0%	12.0%	11.7%	1.4%
Transportation, Distribution & Logistics	0.8%	0.8%	1.4%	1.2%	1.5%	0.8%
Law, Public Safety & Security	1.7%	2.1%	2.0%	2.3%	2.4%	0.7%
Manufacturing	1.3%	2.1%	1.8%	1.5%	1.9%	0.6%
Government & Public Administration	0.0%	0.0%	0.0%	0.2%	0.5%	0.5%
Finance	1.6%	1.2%	0.8%	1.2%	2.0%	0.3%
Energy	0.2%	0.2%	0.2%	0.2%	0.2%	0.0%
Business Management and Administration	10.9%	8.6%	9.1%	11.0%	10.9%	0.0%
Marketing, Sales & Services	2.0%	1.7%	1.9%	2.0%	1.9%	-0.1%
Information Technology	18.9%	19.6%	20.6%	19.2%	18.6%	-0.3%
Education & Training	2.1%	2.4%	2.6%	1.7%	1.8%	-0.3%
Health Science	6.7%	6.0%	5.4%	5.8%	6.0%	-0.8%
Engineering and Technology Education	7.8%	8.0%	6.5%	7.3%	6.8%	-0.9%
Human Services	6.9%	6.7%	6.6%	6.3%	5.7%	-1.2%
Arts, A/V Technology & Communication	12.9%	12.3%	11.1%	9.6%	9.0%	-3.8%
Other	6.5%	7.4%	6.0%	5.0%	5.0%	-1.5%

Source: FLDOE CTE Enrollment Dashboard, CareerSource Florida, and authors' calculations.

Agriculture, Food & Natural Resources saw the greatest growth in secondary enrollment share over the five-year period, with Architecture & Construction not far behind. Hospitality & Tourism was the only other cluster to gain more than 1% in enrollment composition. On the other end, Arts, A/V Technology & Communication experienced the largest decline, losing 3.8% of total enrollment share. Overall, shifts in composition were modest, with most clusters remaining close to their 2020-2021 levels in the Triumph region.

Postsecondary Programs

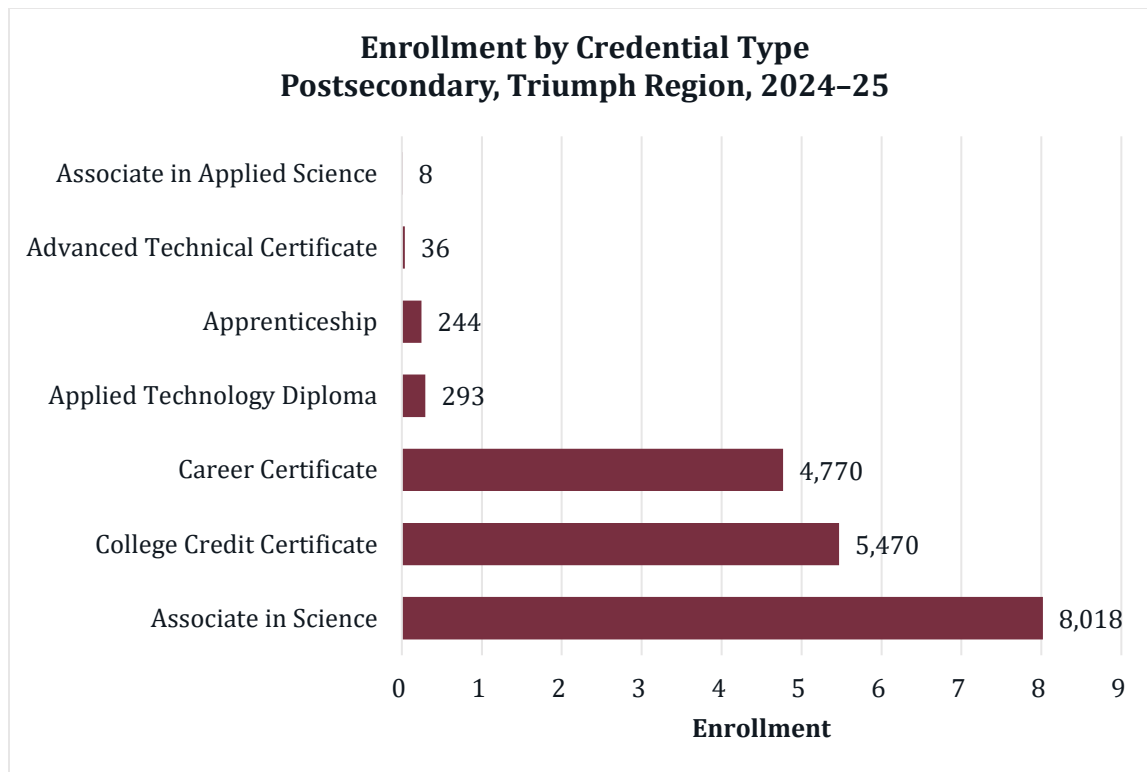


Figure 4. Enrollment by Credential Type, Postsecondary, Triumph Region, 2024-25

Source: FLDOE CTE Enrollment Dashboard and authors' calculations.

In the Triumph region, Associate in Science Degrees account for the largest share of postsecondary enrollment at nearly 43%, followed by College Credit Certificates at 29% and Career Certificates at 25%. Together, these three certificate types represent virtually all postsecondary enrollment in the region, with all other program types making up a negligible share.

**Table 11. Enrollment by Career Cluster and Certificate Type
Postsecondary, Triumph Region, 2024–25**

Career Cluster	CC		CCC		AS		Other		Total	
Health Science	730	15.3%	402	7.3%	2,602	32.5%	297	51.1%	4,031	21.4%
Business Mgmt. & Admin.	58	1.2%	1,817	33.2%	1,389	17.3%	17	2.9%	3,281	17.4%
Information Technology	329	6.9%	194	3.5%	1,542	19.2%	20	3.4%	2,085	11.1%
Law, Public Safety & Security	1,131	23.7%	215	3.9%	591	7.4%	0	0.0%	1,937	10.3%
Manufacturing	478	10.0%	660	12.1%	325	4.1%	0	0.0%	1,463	7.8%
Education & Training	0	0.0%	752	13.7%	590	7.4%	0	0.0%	1,342	7.1%
Architecture & Construction	631	13.2%	118	2.2%	209	2.6%	204	35.1%	1,162	6.2%
Arts, A/V Tech & Communication	0	0.0%	702	12.8%	422	5.3%	0	0.0%	1,124	6.0%
Hospitality & Tourism	67	1.4%	608	11.1%	252	3.1%	11	1.9%	938	5.0%
Transportation, Distr. & Logistics	728	15.3%	2	0.0%	56	0.7%	0	0.0%	786	4.2%
Other	618	13.0%	0	0.0%	40	0.5%	32	5.5%	690	3.7%
Total	4,770	100%	5,470	100%	8,018	100%	581	100%	18,839	100%

Source: FLDOE CTE Enrollment Dashboard, CareerSource Florida, and authors' calculations.

Among postsecondary career clusters in the Triumph region, Health Science holds the largest enrollment share at roughly 21%, with Business Management & Administration following at 17%. Only two other clusters reach or exceed 10% of enrollment, and together these four clusters account for roughly 60% of all postsecondary students. The top ten clusters capture the vast majority of enrollment overall, though no single cluster commands more than 21%.

**Table 12. Enrollment and Wages of Program-Aligned Occupations, by Career Cluster
Postsecondary, Triumph Region, 2024-25**

Career Cluster	Enrollment	Cluster Wage Estimate	HS Diploma Wage Estimate	Annual Earnings Differential
Health Science	4031	\$68,602	\$36,595	\$32,007
Business Management and Administration	3281	\$90,442	\$36,591	\$53,851
Information Technology	2085	\$117,386	\$36,593	\$80,793
Law, Public Safety & Security	1937	\$72,854	\$36,561	\$36,293
Manufacturing	1463	\$63,573	\$36,589	\$26,984
Education & Training	1342	\$48,012	\$36,593	\$11,419
Architecture & Construction	1162	\$71,268	\$36,591	\$34,677
Arts, A/V Technology & Communication	1124	\$63,207	\$36,593	\$26,614
Hospitality & Tourism	938	\$47,254	\$36,581	\$10,673
Transportation, Distribution & Logistics	786	\$58,616	\$36,577	\$22,038
Human Services	607	\$32,589	\$36,328	-\$3,740
Agriculture, Food, and Natural Resources	40	\$40,380	\$36,593	\$3,787
Energy	2	\$46,130	\$35,892	\$10,238
All Clusters	18,798	\$73,536	\$36,579	\$36,956

Notes: Values in 2024 U.S. dollars. Estimates are based on MSA-level median earnings by SOC occupation and county-level median high school diploma holder earnings, using the process detailed in Appendix C.

Source: Center for Economic Forecasting and Analysis (CEFA) calculations based on data from Florida Department of Education, Bureau of Labor Statistics, CareerSource Florida, U.S. Census Bureau, National Center for Education Statistics.

Postsecondary CTE programs in the Triumph region show wide differences in wage outcomes across career clusters. Information Technology has the highest median wage at \$117,386, followed by Business Management and Administration at \$90,442 and Law and Public Safety at \$72,854. Architecture and Construction and Health Science also offer strong wage levels, both above \$68,000. Most clusters provide clear wage gains over the typical worker with a high school diploma, with premiums ranging from about \$10,000 in Hospitality and Tourism to more than \$50,000 in Business. Human Services is the only cluster where program aligned occupations earn less than the high school benchmark.

**Table 13. Career Cluster Composition of Enrollment
Postsecondary, Triumph Region, 2020-21 to 2024-25**

Career Cluster	2020-21	2021-22	2022-23	2023-24	2024-25	Five-Year Change (%-pt)
Business Management and Administration	10.4%	10.1%	13.5%	15.2%	17.4%	7.0%
Hospitality & Tourism	2.4%	2.1%	4.1%	4.5%	5.0%	2.6%
Arts, A/V Technology & Communication	3.6%	3.7%	6.3%	5.8%	6.0%	2.3%
Manufacturing	5.5%	6.0%	6.5%	7.4%	7.8%	2.3%
Education & Training	5.0%	4.6%	5.9%	7.2%	7.1%	2.1%
Information Technology	10.2%	9.9%	10.0%	11.2%	11.1%	0.9%
Human Services	2.6%	3.8%	3.6%	3.5%	3.2%	0.6%
Law, Public Safety & Security	9.7%	10.7%	11.3%	10.9%	10.3%	0.6%
Government & Public Administration	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Agriculture, Food, and Natural Resources	0.3%	0.3%	0.3%	0.2%	0.2%	-0.1%
Energy	0.1%	0.1%	0.0%	0.0%	0.0%	-0.1%
Architecture & Construction	6.3%	7.3%	5.9%	6.0%	6.2%	-0.1%
Transportation, Distribution & Logistics	4.5%	4.6%	4.5%	4.3%	4.2%	-0.3%
Health Science	39.4%	36.8%	27.9%	23.6%	21.4%	-18.0%
Other	0.0%	0.0%	0.1%	0.3%	0.2%	0.2%

Source: FLDOE CTE Enrollment Dashboard, CareerSource Florida, and authors' calculations.

Postsecondary CTE enrollment in the Triumph region shows clear shifts across career clusters over the five-year period, with the clusters posting the largest gain and largest loss being the direct inverse of their statewide counterparts. Business Management & Administration grows the most, rising seven percentage points to reach 17.4% of all enrollment. Hospitality & Tourism, Arts & A/V Technology, Manufacturing, and Education & Training also increase steadily, each gaining more than two percentage points. Information Technology and Law & Public Safety remain stable. Several clusters show slight declines, including Agriculture, Energy, Architecture & Construction, and Transportation. The most significant change is the sharp drop in Health Science, which falls from 39.4% to 21.4%, an 18-point decline that signals a major shift away from health-related programs and represents a considerably wider swing than anything observed at the statewide level. The overall

pattern reflects a broadening of enrollment across more fields, with growing interest in business, hospitality, and technical programs. The growth in Business Management & Administration is worth noting in this context, as it is among the clusters with the highest wage differentials, suggesting that the enrollment shift may partly reflect student responsiveness to earning potential. However, this cannot be concluded with certainty, and the sharp decline in Health Science enrollment is difficult to reconcile with this explanation given that Health Science does not carry a notably low wage differential.

Table 14 (below) contains an aggregate of excerpts from the Florida Department of Commerce (FloridaCommerce) Regional Demand Occupations Lists: lists of occupations considered by FloridaCommerce to be “in-demand” in individual regions of Florida. For this labor demand analysis, Standard Occupational Classifications (SOCs), as defined by the Bureau of Labor Statistics, are used similarly to career clusters and are organized in a comparable manner.

Among the in-demand SOCs, Healthcare Support Occupations (SOC 31) has the highest demand at over 1,200 annual openings, followed by Installation, Maintenance, and Repair Occupations (SOC 49), Healthcare Practitioners and Technical Occupations (SOC 29), Construction and Extraction Occupations (SOC 47), Sales and Related Occupations (SOC 41), and Transportation and Material Moving Occupations (SOC 53). Each of these SOCs exceeds 500 annual openings, with a slight drop-off into the next-highest openings, Computer and Mathematical Occupations (SOC 15), at roughly 400 openings.

Despite leading in annual openings, Healthcare Support Occupations (SOC 31) carries one of the lower average mean wages at \$23.62 per hour. The lowest overall is Educational Instruction and Library Occupations (SOC 25) at \$19.58 per hour. This SOC group also shows the smallest difference between average mean and average entry wages. By contrast, Sales and Related Occupations (SOC 41) shows the largest difference between mean and entry wages at roughly \$21, suggesting considerable room for wage growth and progression within the field.

All SOCs show a positive annual growth rate, led by Computer and Mathematical Occupations (SOC 15) at 1.75%, while Protective Service Occupations (SOC 33) post the lowest growth rate at 0.25%. Taken together, the data reflects a labor market with broad demand across occupational fields, meaningful variation in wage levels and growth potential, and particularly strong demand in health-related and trades occupations.

The data underlying Table 14 can be found in Tables 15-18, which break things down further into four multicounty regions.

**Table 14. Regional Demand Occupations List; Triumph Region
Postsecondary Non-Degree Award or Associate Degree, 2025-26**

Occupation Title	SOC Group	Avg Annual % Growth	Avg Annual Openings	2024 Hourly Wage	
				Avg Mean	Avg Entry
Aircraft Mechanics and Service Technicians	49	0.99	42	30.91	23.82
Architectural and Civil Drafters	17	0.97	50	27.40	18.58
Automotive Service Technicians and Mechanics	49	0.43	352	24.35	15.59
Bus and Truck Mechanics and Diesel Engine Specialists	49	0.06	56	26.70	19.21
Carpenters	47	1.03	381	23.24	17.44
Chefs and Head Cooks	35	1.01	122	28.05	16.59
Clinical Laboratory Technologists and Technicians	29	0.67	86	27.95	17.17
Computer Network Support Specialists	15	1.54	70	35.86	24.46
Computer User Support Specialists	15	1.21	263	27.55	18.79
Computer, Automated Teller, and Office Machine Repairers	49	0.39	35	22.39	17.50
Construction and Building Inspectors	47	0.47	116	32.37	22.57
Dental Assistants	31	0.78	204	21.34	17.03
Dental Hygienists	29	0.84	57	38.79	31.36
Electrical and Electronic Eng. Technologists & Technicians	17	1.22	46	41.06	32.72
Electricians	47	1.23	302	25.46	19.03
Emergency Medical Technicians	29	0.50	23	19.88	15.16
Firefighters	33	0.28	98	24.74	17.75
Health Technologists and Technicians, All Other	29	1.69	57	23.29	16.93
Heating, Air Con., and Refrigeration Mechanics & Installers	49	1.26	290	24.69	18.76
Heavy and Tractor-Trailer Truck Drivers	53	0.76	571	23.52	17.65
Human Resources Assistants, Except Payroll & Timekeeping	43	0.38	45	21.61	17.13
Industrial Machinery Mechanics	49	0.44	69	30.95	22.57
Inspectors, Testers, Sorters, Samplers, and Weighers	51	0.02	94	25.13	17.06
Insurance Sales Agents	41	0.37	228	40.29	18.92
Library Technicians	25	0.65	52	19.58	16.39
Licensed Practical and Licensed Vocational Nurses	29	0.32	234	27.16	22.57
Machinists	51	0.15	46	24.62	18.61
Massage Therapists	31	2.33	83	23.84	15.55
Medical Assistants	31	1.57	551	19.67	15.98
Medical Equipment Repairers	49	0.90	23	27.58	19.84
Medical Records Specialists	29	0.93	82	22.08	15.86
Motorboat Mechanics and Service Technicians	49	1.24	37	25.76	18.35
Nursing Assistants	31	0.35	121	18.38	16.31
Occupational Therapy Assistants	31	1.99	29	31.38	25.46
Ophthalmic Medical Technicians	29	2.16	57	20.05	16.20
Paralegals and Legal Assistants	23	0.63	262	26.57	19.08
Pharmacy Technicians	29	0.78	204	19.11	16.36
Phlebotomists	31	1.18	109	19.06	16.67
Physical Therapist Assistants	31	2.79	108	31.70	25.66
Plumbers, Pipefitters, and Steamfitters	47	0.97	206	24.34	18.39
Police and Sheriff's Patrol Officers	33	0.24	237	30.00	24.21
Psychiatric Technicians	29	1.64	91	19.95	15.80
Real Estate Brokers	41	0.49	54	54.45	22.04
Real Estate Sales Agents	41	0.64	321	31.13	16.26
Respiratory Therapists	29	0.69	30	37.12	30.29
Security and Fire Alarm Systems Installers	49	1.26	59	25.75	19.08
Surveying and Mapping Technicians	17	0.77	51	24.23	17.74
Telecomm. Equip. Install. & Repair, Except Line Installers	49	2.61	133	30.40	22.19
Telecommunications Line Installers and Repairers	49	2.00	48	26.27	19.01
Veterinary Technologists and Technicians	29	1.85	137	19.84	15.97
Web and Digital Interface Designers	15	2.30	41	35.40	18.39
Web Developers	15	2.01	22	37.19	22.23
Welders, Cutters, Solderers, and Brazers	51	0.75	70	24.29	18.69

Source: FloridaCommerce Regional Demand Occupations Lists

**Table 15. Regional Demand Occupations List; Escambia and Santa Rosa Counties
Postsecondary Non-Degree Award or Associate Degree, 2025-26**

Occupation Title	SOC Group	Annual % Growth	Annual Openings	2024 Hourly Wage	
				Mean	Entry
Aircraft Mechanics and Service Technicians	49	0.99	42	30.91	23.82
Architectural and Civil Drafters	17	0.76	15	27.93	19.01
Automotive Service Technicians and Mechanics	49	0.20	117	23.79	15.36
Bus and Truck Mechanics and Diesel Engine Specialists	49	-0.10	21	27.68	19.93
Carpenters	47	1.15	125	22.83	16.96
Chefs and Head Cooks	35	1.17	34	27.19	16.48
Clinical Laboratory Technologists and Technicians	29	0.78	39	28.72	17.95
Computer Network Support Specialists	15	1.84	21	33.70	23.66
Computer User Support Specialists	15	1.18	87	27.95	19.14
Computer, Automated Teller, and Office Machine Repairers	49	-0.65	11	23.56	18.06
Construction and Building Inspectors	47	0.34	34	31.96	21.17
Dental Assistants	31	1.05	76	21.27	16.83
Dental Hygienists	29	1.12	24	38.88	31.01
Electricians	47	1.35	103	25.64	19.16
Emergency Medical Technicians	29	0.59	17	18.98	16.21
Firefighters	33	N/A	N/A	N/A	N/A
Health Technologists and Technicians, All Other	29	1.87	26	23.95	16.98
Heating, Air Con., and Refrigeration Mechanics & Installers	49	1.42	101	25.46	19.16
Heavy and Tractor-Trailer Truck Drivers	53	0.81	213	23.43	17.66
Human Resources Assistants, Except Payroll & Timekeeping	43	-0.07	21	19.39	15.31
Industrial Machinery Mechanics	49	0.80	31	29.87	22.38
Inspectors, Testers, Sorters, Samplers, and Weighers	51	-0.68	35	25.81	16.64
Insurance Sales Agents	41	0.40	63	37.20	17.50
Licensed Practical and Licensed Vocational Nurses	29	0.53	80	27.80	23.20
Machinists	51	0.39	16	22.54	17.40
Massage Therapists	31	2.61	34	24.57	16.88
Medical Assistants	31	1.84	197	18.29	15.20
Medical Equipment Repairers	49	1.05	8	26.57	18.59
Medical Records Specialists	29	1.00	32	22.88	16.43
Motorboat Mechanics and Service Technicians	49	2.19	7	26.51	18.83
Occupational Therapy Assistants	31	3.51	21	30.96	24.51
Ophthalmic Medical Technicians	29	2.16	19	21.15	16.36
Paralegals and Legal Assistants	23	0.43	91	25.75	17.66
Pharmacy Technicians	29	0.97	79	19.81	16.69
Phlebotomists	31	1.34	52	18.94	16.16
Physical Therapist Assistants	31	3.28	45	31.65	25.90
Plumbers, Pipefitters, and Steamfitters	47	0.91	77	24.95	19.05
Police and Sheriff's Patrol Officers	33	0.40	87	28.74	23.92
Psychiatric Technicians	29	1.40	30	19.90	15.41
Real Estate Brokers	41	N/A	N/A	N/A	N/A
Real Estate Sales Agents	41	0.68	94	29.69	15.48
Respiratory Therapists	29	0.99	12	39.77	31.55
Security and Fire Alarm Systems Installers	49	1.19	14	26.03	19.53
Surveying and Mapping Technicians	17	1.02	15	23.14	17.21
Telecomm. Equip. Install. & Repair., Except Line Installers	49	3.56	67	30.53	23.72
Telecommunications Line Installers and Repairers	49	N/A	N/A	N/A	N/A
Veterinary Technologists and Technicians	29	2.35	44	20.14	16.08
Web Developers	15	N/A	N/A	N/A	N/A
Web and Digital Interface Designers	15	2.90	15	31.88	15.48
Welders, Cutters, Solderers, and Brazers	51	0.91	28	24.86	19.38

Source: FloridaCommerce Regional Demand Occupations Lists

**Table 16. Regional Demand Occupations List; Okaloosa and Walton Counties
Postsecondary Non-Degree Award or Associate Degree, 2025-26**

Occupation Title	SOC Group	Annual % Growth	Annual Openings	2024 Hourly Wage	
				Mean	Entry
Architectural and Civil Drafters	17	1.14	12	27.93	18.24
Automotive Service Technicians and Mechanics	49	0.83	77	25.52	16.00
Bus and Truck Mechanics and Diesel Engine Specialists	49	0.59	10	26.32	18.75
Carpenters	47	1.35	104	23.50	17.81
Chefs and Head Cooks	35	1.62	31	31.10	18.60
Clinical Laboratory Technologists and Technicians	29	0.54	13	28.37	17.23
Computer Network Support Specialists	15	1.76	12	42.95	30.48
Computer User Support Specialists	15	1.73	53	29.42	19.41
Computer, Automated Teller, and Office Machine Repairers	49	0.14	9	22.45	17.53
Construction and Building Inspectors	47	0.52	40	33.56	23.46
Dental Assistants	31	1.15	49	22.05	17.32
Dental Hygienists	29	1.23	14	40.18	32.05
Electrical and Electronic Eng. Technologists & Technicians	17	1.22	46	41.06	32.72
Electricians	47	1.80	72	26.56	19.32
Emergency Medical Technicians	29	0.64	3	23.20	17.22
Firefighters	33	0.42	47	26.82	18.63
Health Technologists and Technicians, All Other	29	1.39	11	23.63	17.27
Heating, Air Con., and Refrigeration Mechanics & Installers	49	1.82	58	25.02	18.87
Heavy and Tractor-Trailer Truck Drivers	53	1.17	110	22.58	17.00
Human Resources Assistants, Except Payroll & Timekeeping	43	0.28	5	24.08	18.54
Industrial Machinery Mechanics	49	1.18	13	33.28	25.71
Inspectors, Testers, Sorters, Samplers, and Weighers	51	-0.18	24	26.47	19.12
Insurance Sales Agents	41	0.99	45	39.29	19.80
Licensed Practical and Licensed Vocational Nurses	29	-0.16	47	27.61	22.95
Machinists	51	0.75	9	27.14	21.02
Massage Therapists	31	3.04	38	22.08	13.84
Medical Assistants	31	2.10	93	19.28	16.75
Medical Equipment Repairers	49	0.64	5	29.32	20.52
Medical Records Specialists	29	1.30	11	24.51	17.20
Motorboat Mechanics and Service Technicians	49	2.27	14	25.24	17.77
Occupational Therapy Assistants	31	N/A	N/A	N/A	N/A
Ophthalmic Medical Technicians	29	2.76	11	20.49	17.59
Paralegals and Legal Assistants	23	1.39	27	28.74	22.48
Pharmacy Technicians	29	1.20	41	19.59	17.03
Phlebotomists	31	1.29	18	19.81	17.56
Physical Therapist Assistants	31	4.47	28	32.55	27.09
Plumbers, Pipefitters, and Steamfitters	47	1.20	41	25.03	19.28
Police and Sheriff's Patrol Officers	33	0.41	49	28.52	24.43
Psychiatric Technicians	29	2.67	22	20.01	16.07
Real Estate Brokers	41	0.85	40	36.72	22.61
Real Estate Sales Agents	41	1.11	112	32.67	17.56
Respiratory Therapists	29	1.32	6	36.83	30.58
Security and Fire Alarm Systems Installers	49	1.31	21	26.29	20.40
Surveying and Mapping Technicians	17	1.27	11	25.46	18.14
Telecomm. Equip. Install. & Repair., Except Line Installers	49	1.68	20	31.80	21.55
Telecommunications Line Installers and Repairers	49	1.99	18	27.90	20.05
Veterinary Technologists and Technicians	29	2.16	49	21.27	16.75
Web Developers	15	3.65	13	35.68	21.85
Web and Digital Interface Designers	15	3.93	9	40.31	19.43
Welders, Cutters, Solderers, and Brazers	51	1.48	10	25.22	20.54

Source: FloridaCommerce Regional Demand Occupations Lists

**Table 17. Regional Demand Occupations List; Bay, Franklin, and Gulf Counties
Postsecondary Non-Degree Award or Associate Degree, 2025-26**

Occupation Title	SOC Group	Annual % Growth	Annual Openings	2024 Hourly Wage	
				Mean	Entry
Architectural and Civil Drafters	17	1.11	8	27.33	18.21
Automotive Service Technicians and Mechanics	49	0.17	56	24.65	16.08
Bus and Truck Mechanics and Diesel Engine Specialists	49	-0.13	7	27.15	20.57
Carpenters	47	0.85	65	24.25	17.91
Chefs and Head Cooks	35	1.28	21	25.40	14.60
Clinical Laboratory Technologists and Technicians	29	0.98	10	27.33	17.24
Computer Network Support Specialists	15	1.67	6	37.18	22.57
Computer User Support Specialists	15	1.21	25	27.35	19.37
Computer, Automated Teller, and Office Machine Repairers	49	0.99	3	21.62	16.74
Construction and Building Inspectors	47	0.27	16	32.98	23.12
Dental Assistants	31	0.71	28	22.17	18.38
Dental Hygienists	29	0.71	7	38.78	32.25
Electricians	47	0.81	54	24.50	18.74
Emergency Medical Technicians	29	0.27	3	17.47	12.06
Firefighters	33	0.22	27	22.58	15.55
Health Technologists and Technicians, All Other	29	2.75	6	22.10	16.67
Heating, Air Con., and Refrigeration Mechanics & Installers	49	0.95	67	24.40	18.84
Heavy and Tractor-Trailer Truck Drivers	53	0.32	111	24.43	18.52
Human Resources Assistants, Except Payroll & Timekeeping	43	0.66	5	21.60	18.01
Industrial Machinery Mechanics	49	-0.78	15	28.67	20.20
Inspectors, Testers, Sorters, Samplers, and Weighers	51	0.79	16	24.14	16.45
Insurance Sales Agents	41	0.27	34	47.94	19.75
Licensed Practical and Licensed Vocational Nurses	29	0.67	30	26.62	21.67
Machinists	51	-0.11	12	25.53	19.83
Massage Therapists	31	1.35	11	24.88	15.94
Medical Assistants	31	1.60	64	19.13	15.95
Medical Equipment Repairers	49	0.83	2	N/A	N/A
Medical Records Specialists	29	0.81	8	19.53	14.65
Motorboat Mechanics and Service Technicians	49	0.48	14	26.23	18.49
Nursing Assistants	31	0.35	121	18.38	16.31
Occupational Therapy Assistants	31	N/A	N/A	N/A	N/A
Ophthalmic Medical Technicians	29	2.50	7	N/A	N/A
Paralegals and Legal Assistants	23	0.20	25	25.72	17.56
Pharmacy Technicians	29	0.46	26	18.96	16.15
Phlebotomists	31	1.64	17	19.03	16.84
Physical Therapist Assistants	31	1.96	17	31.39	24.24
Plumbers, Pipefitters, and Steamfitters	47	0.71	43	23.39	16.60
Police and Sheriff's Patrol Officers	33	0.18	43	30.11	23.87
Psychiatric Technicians	29	1.53	9	21.30	17.03
Real Estate Brokers	41	0.36	6	72.17	21.47
Real Estate Sales Agents	41	0.40	74	35.78	16.52
Respiratory Therapists	29	0.63	6	36.37	30.20
Security and Fire Alarm Systems Installers	49	1.00	5	25.40	18.08
Surveying and Mapping Technicians	17	0.51	9	24.75	17.90
Telecomm. Equip. Install. & Repair., Except Line Installers	49	3.50	21	31.60	23.06
Telecommunications Line Installers and Repairers	49	2.99	6	26.53	18.85
Veterinary Technologists and Technicians	29	1.76	10	18.65	15.53
Web Developers	15	1.89	4	41.51	21.22
Web and Digital Interface Designers	15	1.14	2	N/A	N/A
Welders, Cutters, Solderers, and Brazers	51	0.49	19	23.82	16.74

Source: FloridaCommerce Regional Demand Occupations Lists

**Table 18. Regional Demand Occupations List; Gadsden, Jefferson, Leon, and Wakulla Counties
Postsecondary Non-Degree Award or Associate Degree, 2025-26**

Occupation Title	SOC Group	Annual % Growth	Annual Openings	2024 Hourly Wage	
				Mean	Entry
Architectural and Civil Drafters	17	0.87	15	26.39	18.87
Automotive Service Technicians and Mechanics	49	0.52	102	23.45	14.93
Bus and Truck Mechanics and Diesel Engine Specialists	49	-0.12	18	25.63	17.60
Carpenters	47	0.77	87	22.36	17.07
Chefs and Head Cooks	35	-0.04	36	28.52	16.67
Clinical Laboratory Technologists and Technicians	29	0.39	24	27.38	16.27
Computer Network Support Specialists	15	0.90	31	29.61	21.13
Computer User Support Specialists	15	0.70	98	25.47	17.24
Computer, Automated Teller, and Office Machine Repairers	49	1.07	12	21.94	17.67
Construction and Building Inspectors	47	0.73	26	30.98	22.53
Dental Assistants	31	0.21	51	19.86	15.57
Dental Hygienists	29	0.29	12	37.33	30.11
Electricians	47	0.95	73	25.15	18.88
Emergency Medical Technicians	29	N/A	N/A	N/A	N/A
Firefighters	33	0.20	24	24.82	19.08
Health Technologists and Technicians, All Other	29	0.73	14	23.46	16.78
Heating, Air Con., and Refrigeration Mechanics & Installers	49	0.86	64	23.87	18.17
Heavy and Tractor-Trailer Truck Drivers	53	0.73	137	23.65	17.42
Human Resources Assistants, Except Payroll & Timekeeping	43	0.64	14	21.37	16.64
Industrial Machinery Mechanics	49	0.55	10	31.96	22.00
Inspectors, Testers, Sorters, Samplers, and Weighers	51	0.15	19	24.10	16.02
Insurance Sales Agents	41	-0.18	86	36.72	18.64
Library Technicians	25	0.65	52	19.58	16.39
Licensed Practical and Licensed Vocational Nurses	29	0.24	77	26.62	22.47
Machinists	51	-0.42	9	23.27	16.18
Massage Therapists	31	N/A	N/A	N/A	N/A
Medical Assistants	31	0.72	197	21.98	16.02
Medical Equipment Repairers	49	1.07	8	26.85	20.40
Medical Records Specialists	29	0.61	31	21.39	15.15
Motorboat Mechanics and Service Technicians	49	0.00	2	25.04	18.29
Occupational Therapy Assistants	31	0.46	8	31.80	26.40
Ophthalmic Medical Technicians	29	1.23	20	18.51	14.66
Paralegals and Legal Assistants	23	0.50	119	26.05	18.62
Pharmacy Technicians	29	0.48	58	18.07	15.57
Phlebotomists	31	0.44	22	18.46	16.11
Physical Therapist Assistants	31	1.43	18	31.19	25.42
Plumbers, Pipefitters, and Steamfitters	47	1.04	45	23.98	18.62
Police and Sheriff's Patrol Officers	33	-0.05	58	32.64	24.63
Psychiatric Technicians	29	0.96	30	18.58	14.69
Real Estate Brokers	41	0.26	8	N/A	N/A
Real Estate Sales Agents	41	0.38	41	26.39	15.48
Respiratory Therapists	29	-0.19	6	35.49	28.81
Security and Fire Alarm Systems Installers	49	1.52	19	25.27	18.31
Surveying and Mapping Technicians	17	0.29	16	23.57	17.70
Telecomm. Equip. Install. & Repair, Except Line Installers	49	1.68	25	27.68	20.41
Telecommunications Line Installers and Repairers	49	1.01	24	24.37	18.14
Veterinary Technologists and Technicians	29	1.14	34	19.30	15.50
Web Developers	15	0.49	5	34.37	23.62
Web and Digital Interface Designers	15	1.24	15	34.00	20.26
Welders, Cutters, Solderers, and Brazers	51	0.10	13	23.24	18.08

Source: FloridaCommerce Regional Demand Occupations Lists

Data Availability Concerns and a Potential Solution

Limitations of Intended Data Sources

We at the FSU Center for Economic Forecasting and Analysis (CEFA) made every effort to produce this Wage Report using data and methods similar to those used in the annual Economic Security Report (ESR), produced most recently by FloridaCommerce. However, several levels of data availability restrictions forced us to fall back on sources of data from state and federal agencies not directly cited in the ESR, detailed further in Appendix A.

The ESR relies heavily on aggregate longitudinal data produced by the Florida Department of Education's Florida Education and Training Placement Information Program (FETPIP) reporting system. Unfortunately, FETPIP's production of CTE-related reports – District Secondary Workforce Data and District Postsecondary Workforce Data – ceased after the 2022-23 reporting year. Even in prior years' reports, data suppression in district-level reports rendered the reports unusable, especially in Triumph's counties of interest. This absence of data presented significant challenges when attempting to produce certificate-level statistics, resulting in the data aggregation procedure described in Appendices B and C.

Although the Florida Department of Education provides researchers access to a longitudinal Education Data Warehouse (EDW), access is extremely restricted and requires a months-long process before outside researchers are approved (or denied) access. CEFA sought to identify a path forward for the Wage Report that would present fewer data access restrictions, require a less complex linkage structure than underlies this report, and provide Triumph Gulf Coast, Inc., with the empirical data necessary to make well-informed CTE funding decisions. The CareerSource Framework of Quality represents one such path.

The CareerSource Framework of Quality²

The Florida legislature tasked the Florida Credentials Review Committee (FCRC) at CareerSource Florida with identifying in-demand credentials that lead to meaningful employment opportunities for program graduates. The Committee has developed a "Framework of Quality" used to evaluate the wage and employment characteristics of various credentials, ranging from middle school technology training through graduate degrees. This

² (FCRC, 2025).

Framework and the sources it relies on could provide CEFA with the tools to produce a more holistic overview of the labor market across the state of Florida and within Triumph's primary region of interest.

The Framework evaluates whether a credential is tied to an occupation that shows real labor demand. It examines whether the linked SOC code appears on the statewide demand list produced by the Labor Market Estimating Conference (LMEC) or on the Florida Department of Commerce Regional Demand Occupation Lists.

If a credential's SOC code is not on LMEC or Commerce demand lists, the Framework gives local partners the opportunity to justify demand. A local workforce development board can submit evidence that employers in the region hire for the occupation, that it fits a local industry focus, and that there are enough job openings to support it.

The Framework evaluates wages using two data sources. First, credentials are reviewed using longitudinal earnings data from program completers, reported by FETPIP. If FETPIP data is suppressed due to sample size limitations, credentials are instead evaluated using occupational wage data from OEWS, using the SOC code linked to the credential to determine whether the occupation pays middle to high wages, an approach consistent with the methodology used in this report.

If a non-degree credential does not meet wage criteria on its own, the Framework checks whether it is part of a documented sequence of credentials that leads to a higher wage occupation. The credential must be linked to at least one SOC code with wages above a basic threshold, must be recognized by industry, and must be part of a pathway that eventually leads to an occupation that meets wage criteria through FETPIP or OEWS. This allows lower-level credentials to qualify when they are stepping-stones to higher-value jobs.

The current CEFA Wage Report already converged on several sources common to the CareerSource Framework – namely, OEWS and the Commerce regional demand list. The Framework of Quality offers Triumph a practical, evidence-based starting point for selecting metrics that are both accessible and analytically meaningful for future editions of this report.

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Appendix A. Data Sources

This report draws on several major administrative and statistical data sources to describe Florida’s Career and Technical Education (CTE) landscape and the earnings associated with the occupations linked to each credential.

Florida Department of Education

The Florida CTE Enrollment Dashboard provides annual enrollment counts and program names for all secondary and postsecondary CTE programs statewide. These data cover academic years 2020–21 through 2024–25 and are aggregated at the district (county) level.

The Florida Department of Education (FLDOE) Program and Course Inventory serves as the state’s official catalog of approved CTE programs and related Classification of Instructional Programs (CIP) codes.

CareerSource Florida

The CareerSource Florida Master Credentials Lists (MCLs) provide historical CIP codes for retired programs.

National Center for Education Statistics

The National Center for Education Statistics (NCES) CIP–SOC crosswalk links educational programs to Standard Occupational Classification (SOC) codes used in federal labor statistics.

Bureau of Labor Statistics

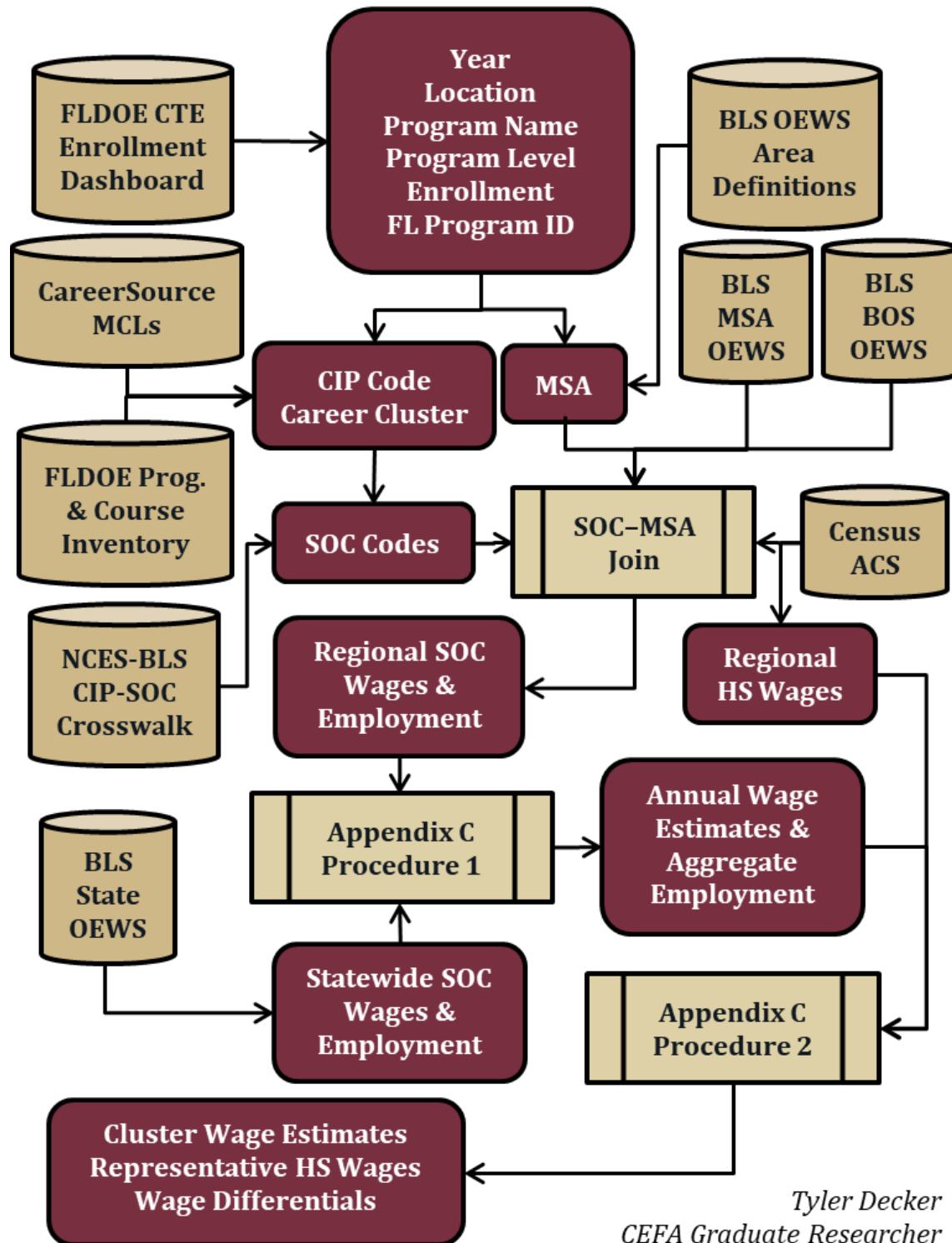
The Bureau of Labor Statistics (BLS) May 2024 Occupational Employment and Wage Statistics (OEWS) provide median wage and employment estimates for all SOC occupations at both the metropolitan statistical area (MSA) and state levels.

U.S. Census Bureau

The U.S. Census Bureau’s American Community Survey (ACS) 2020–2024 five-year estimates provide county-level earnings benchmarks for high school diploma holders. These figures allow for geographically-controlled wage comparisons between workers in program-aligned occupations and workers who have attained no further than a high school diploma.

Appendix B. Data Linkage Diagram

CEFA Certification Enrollment and Related-Occupation Wage & Employment Data



Tyler Decker
CEFA Graduate Researcher

Appendix C. Wage Estimation Procedures

Procedure 1: Annual Wage Estimates

Each certificate is associated (many-to-many) with a set of SOC codes, which in turn are associated (one-to-many) with OEWS records of median wage and employment at both the MSA and State level. State-level data is used to fill in the gaps where MSA-level data availability is limited.

We utilize a weighted-median-of-medians approach to estimate median annual wages of employees in the SOC occupations associated with each certificate. Compared to a weighted average approach, a weighted median approach decreases the upward bias inherent in aggregating right-skewed wage data. This comes at the expense of being more computationally intensive.

Certificate-MSA level annual wages and employment are calculated as follows:

Suppose each certificate is associated with n SOC codes, indexed $i = 1, \dots, n$, that map to unsuppressed OEWS data at the MSA or State level. Let w_i be the annual median wage and ℓ_i be the employment (in the region) for SOC code i .

Let $L = \ell_1 + \ell_2 + \dots + \ell_n$ be the total employment.

Sort SOC codes by w_i ascending to get $w_{(1)} \leq w_{(2)} \leq \dots \leq w_{(n)}$ with weights $\ell_{(1)}, \ell_{(2)}, \dots, \ell_{(n)}$.

Let $C_k = \ell_{(1)} + \ell_{(2)} + \dots + \ell_{(k)}$ be the cumulative employment through rank k .

Let $k^* = \min\{k: C_k \geq L/2\}$ be the first rank where C_k reaches the midpoint $L/2$.

Then we estimate $W = w_{(k^*)}$ as that certificate's annual wage and L as that certificate's aggregate employment. We also obtain county-level median high school wage H from Census data.

Procedure 2: Cluster-Level Wages, High School Wage, and Differentials

Each career cluster is associated (many-to-many) with a set of certificates, which in turn are associated (one-to-one) with CEFA wage and employment estimates (as detailed above).

We utilize a weighted-average-of-medians approach to estimate median annual wages of employees in the SOC occupations associated with each certificate. Compared to a weighted median approach, a weighted average approach is exposed to upward bias inherent in aggregating right-skewed wage data. However, the fact that we are aggregating across certificates from similar career clusters – and aggregating medians-of-medians that already reduce overall upward bias – lessen the concern at this stage, allowing us to use the less computationally intensive weighted average approach.

Cluster-region level annual wages are calculated as follows:

Suppose each cluster is associated with m certificates in the region, indexed $j = 1, \dots, m$, that map to CEFA certificate-MSA-level estimates W_j and L_j and county-level median high school wage H_j .

Then we estimate the annual wage $W_{cluster}$ as the average of W_j weighted by L_j :

$$W_{cluster} = \frac{W_1 \cdot L_1 + W_2 \cdot L_2 + \dots + W_m \cdot L_m}{L_1 + L_2 + \dots + L_m}$$

Then we estimate the median high school wage $H_{cluster}$ as the average of H_j weighted by L_j :

$$H_{cluster} = \frac{H_1 \cdot L_1 + H_2 \cdot L_2 + \dots + H_m \cdot L_m}{L_1 + L_2 + \dots + L_m}$$

And we calculate the wage differential $D_{cluster} = W_{cluster} - H_{cluster}$.

To combat geographical bias, high school wages mirror the geography of $W_{cluster}$. Wherever State data were used in place of MSA data, state median high school wages used in place of county median high school wages.

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Appendix D. Potential Impacts of Artificial Intelligence³

Artificial intelligence is evolving quickly and is likely to affect industries in different ways, creating both opportunities and challenges across the labor market. Within the career clusters covered in this report, Information Technology appears particularly exposed to these changes.

Many IT roles align closely with current and expected AI capabilities, which could lead to some workforce displacement. However, the extent of this impact remains uncertain. Projections from the Bureau of Labor Statistics, which already account for AI-related trends, still anticipate strong growth in this field. For example, employment of software developers is projected to grow by 17.9 percent between 2023 and 2033, with similar trends expected in related occupations such as database administration.

Artificial intelligence is also expected to influence careers in Law, Public Safety, and Security, though in different ways. Employment in legal services is projected to grow more slowly than the overall economy. The need for accuracy, oversight, and accountability in these roles may limit the extent to which AI can replace human workers. While AI tools may improve efficiency, human judgment is likely to remain essential in many of these occupations. A similar pattern is expected in Business Management and Administration, where AI may support decision making and streamline processes but not fully substitute for human roles.

Overall, while AI has the potential to reshape work across all career clusters included in this report, current expectations suggest it will more often enhance productivity rather than fully replace workers. Estimating the precise impact on the labor market remains difficult, as technological change typically unfolds over long periods. Although AI is advancing rapidly, its effects appear broadly consistent with past technological developments, such as the rise of computers and the internet, which gradually transformed industries without eliminating the need for human labor.

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³ Sources: (Gimbel et al., 2025) and (Machovec et al., 2025).