

The Economic Development Alliance for Brazoria County

Program Demand Gap Analysis: Economic Overview and Review of Academic Programs

Executive Summary: Northern Brazoria County

July 2023

Executive Summary

The Economic Development Alliance for Brazoria County (The Alliance) is a membership-based organization created as a resource and advocate for the economic development and diversification of Brazoria County. To further its goal of providing the county with well-trained and well-educated residents, The Alliance continually pursues improvement in various forms. An up-to-date understanding of the regional economy and the demand for skilled labor is vital to the planning efforts of the colleges of Brazoria County as they seek to adapt their program offerings to the requirements of an ever-changing workforce. The Alliance partnered with Lightcast, a leading provider of labor market data, to complete a program demand gap analysis, which assesses regional job openings against educational program completions.

RECOMMENDATIONS

<p>HIGH DEMAND, LOW SUPPLY</p> <p><i>How can we expand these program opportunities?</i></p> <p>General Office Occupations & Clerical Services (CERT) Business Administration & Management (CERT, ASSOC, & BACH) Culinary Arts/Chef Training (CERT & ASSOC) Administrative Assistant & Secretarial Science (CERT & ASSOC) Elementary Education & Teaching (T-T)</p>	<p>HIGH DEMAND, HIGH SUPPLY*</p> <p><i>Can we maintain focus on program quality & student success?</i></p> <p>Nursing Assistant/Aide & Patient Care Assistant/Aide (CERT) Welding Technology/Welder (CERT) Business/Commerce (ASSOC)</p>
<p>LOW DEMAND, LOW SUPPLY</p> <p><i>Should we reevaluate these programs?</i></p> <p>Prepress/Desktop Publishing & Digital Imaging Design (CERT) Electroneurodiagnostic/Electroencephalographic Technology/Technologist (CERT) Criminalistics & Criminal Science (CERT) Music (ASSOC) Child Care & Support Services Management (ASSOC)</p>	<p>LOW DEMAND, HIGH SUPPLY</p> <p><i>Are we connecting these programs to opportunities outside the region?</i></p> <p>Chemical Technology/Technician (CERT & ASSOC) Registered Nursing/Registered Nurse (ASSOC)</p>

Source: Lightcast program demand gap model.

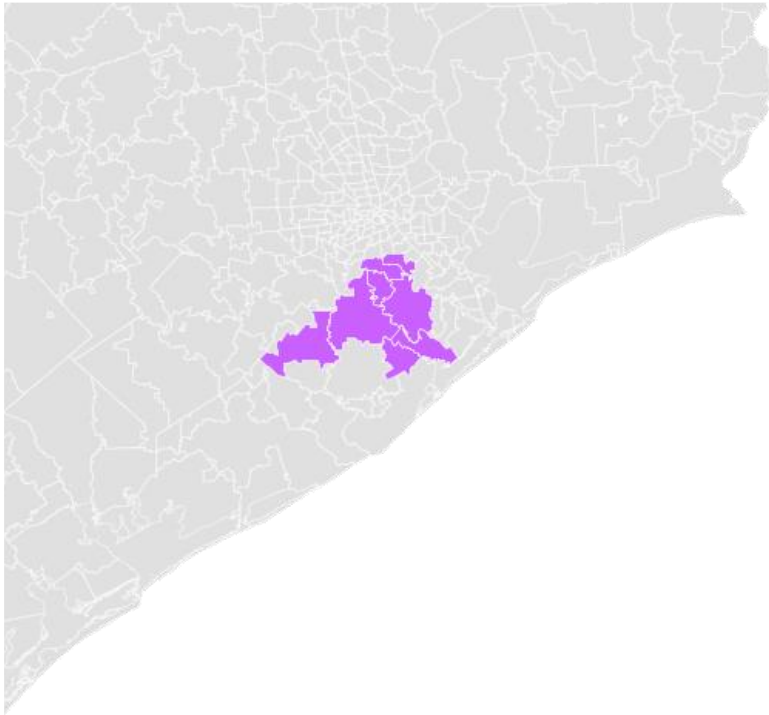
*The supply of the 'High Demand, High Supply' programs is not meeting demand. Refer to Chapter 3 of the Main Report.



INTRODUCTION

For the purposes of this study, a region called Northern Brazoria County¹ is analyzed. This report outlines the region's economy and uses the region's average annual projected job openings between 2022 and 2032 as a measurement of labor market demand. When job openings are compared to the region's supply of educational program completions, the analysis determines how well the colleges' program offerings satisfy regional workforce demand. In addition, this report offers recommendations for new program development. In its entirety, the analysis is a starting point for the colleges as they continue to develop programs using data-based decision-making strategies. The following figures and table display key findings of the analyses.

Figure 1: Map of Northern Brazoria County



Source: Lightcast Analyst. Region provided by BC.

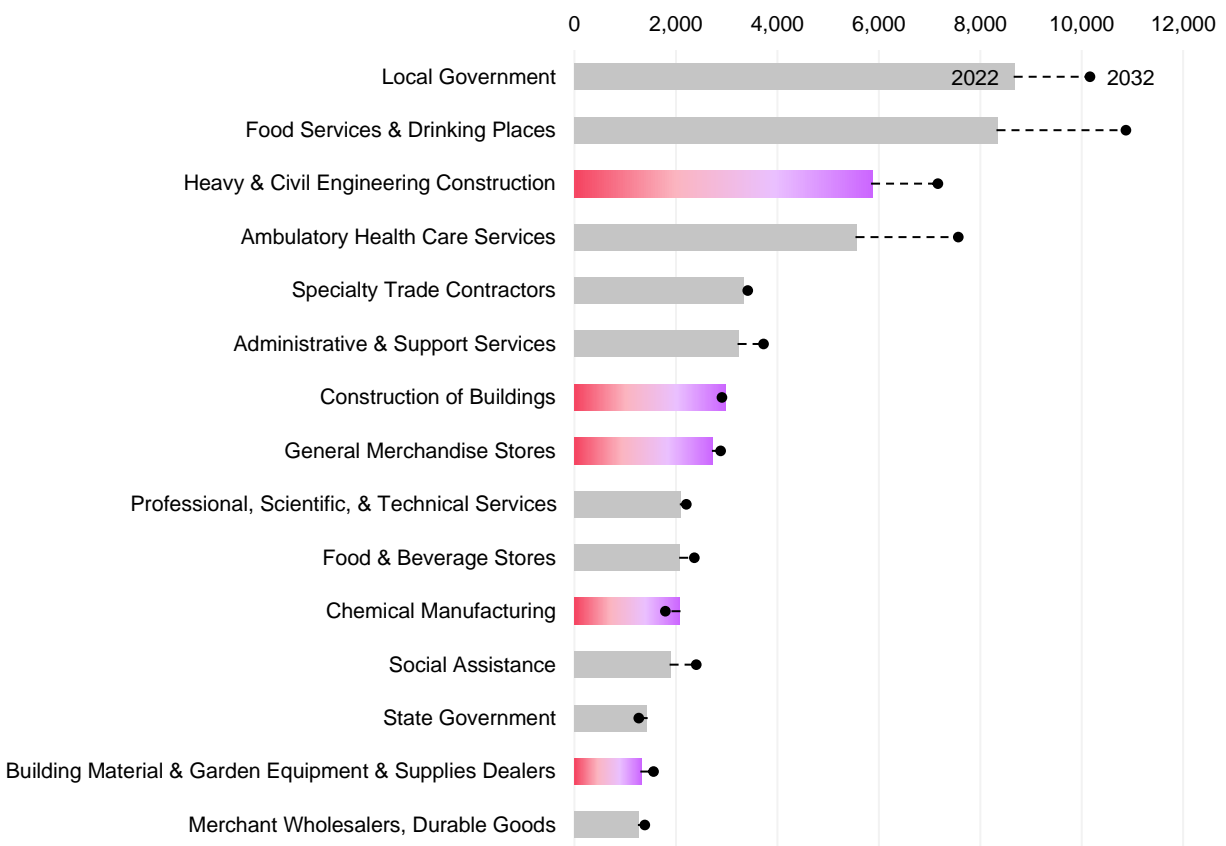
¹ Northern Brazoria County consists of the following 10 ZIP codes in Brazoria County: 77431, 77512, 77534, 77577, 77578, 77581, 77584, 77588, 77511, and 77583.



ECONOMIC OVERVIEW

Figure 2 displays the top industry subsectors in terms of employment in Northern Brazoria County, and Figure 3 shows the top industry subsectors in terms of employment concentrations, referred to as location quotients (LQs). High LQs (usually anything greater than 1.2) are an indication that the region has a comparative advantage or specialization in certain industry subsectors relative to the rest of the nation or potentially to other regions.

Figure 2: Top Industry Subsectors in Northern Brazoria County by Jobs



Source: Employees & Self-Employed 2023.1.

Figure 3: Top Industry Subsectors in Northern Brazoria County by Employment Concentration (LQ)



Source: Employees & Self-Employed 2023.1.

Note the highlighted bars in the figures. Across all of Northern Brazoria County’s industry subsectors, five are within the top 15 in terms of jobs with relatively high LQs. The appearance of these industry subsectors provides an indication of their strength in the region’s economy and offers colleges insight into potential employment opportunities for its students. These industry subsectors, ranked by 2022 jobs, are:

- Heavy & Civil Engineering Construction;
- Construction of Buildings;
- General Merchandise Stores;
- Chemical Manufacturing; and
- Building Material & Garden Equipment & Supplies Dealers.



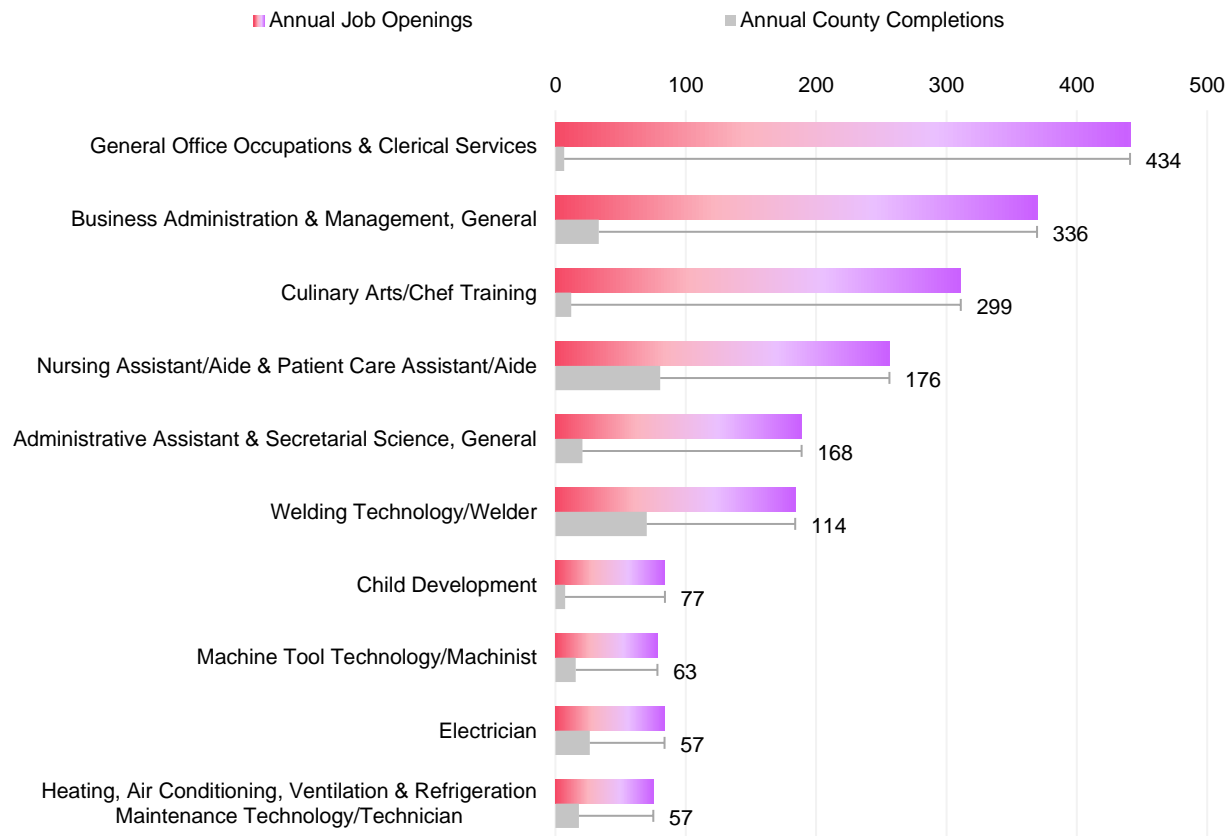
PROGRAM DEMAND GAP ANALYSIS

The program demand gap analysis provides results across all of the certificate, and degree level programs offered in the region, which have been classified by their formal CIP code.² The analysis connects the colleges' program completers with the availability of regional job openings. Furthermore, the analysis focuses on the gaps and surpluses in the programs by award level. A gap or surplus larger than 50 is considered beyond normal labor market fluctuations and therefore an area of consideration for program development.

The colleges of Northern Brazoria County offer 33 certificate level programs, 11 of which have a significant gap above the 50-openings level of significance as shown in Figure 4. One program at this level has a significant surplus of completers. With regards to specific programmatic results, the following certificate level programs should be considered for expansion due to their gap and median hourly wage: Business Administration & Management, General; Welding Technology/Welder; Machine Tool Technology/Machinist; Electrician; Heating, Air Conditioning, Ventilation & Refrigeration Maintenance Technology/Technician; and Construction Engineering Technology/Technician. The three largest certificate level programs in terms of average annual completions are Chemical Technology/Technician, Nursing Assistant/Aide & Patient Care Assistant/Aide, and Welding Technology/Welder. Despite Chemical Manufacturing being a key industry subsector in the region, Chemical Technology/Technician has a significant surplus of 179 completers. This surplus coupled with the slight decline in employment projected over the next ten years for the industry suggest that colleges maintain communication with major regional employers to ensure students are finding employment and employers are well-staffed. The Nursing Assistant/Aide & Patient Care Assistant/Aide program has a significant gap, but the median hourly wage is below the living wage for two adults (both working) and two children in Brazoria County. Colleges should consider how this program and subsequent work experience can be used as a stepping stone by graduates to higher wage occupations along their career path.

² CIP refers to the Classification of Instructional Program and was originally developed by the U.S. Department of Education's National Center for Education Statistics (NCES).

Figure 4: Top 10 Certificate Level Gaps

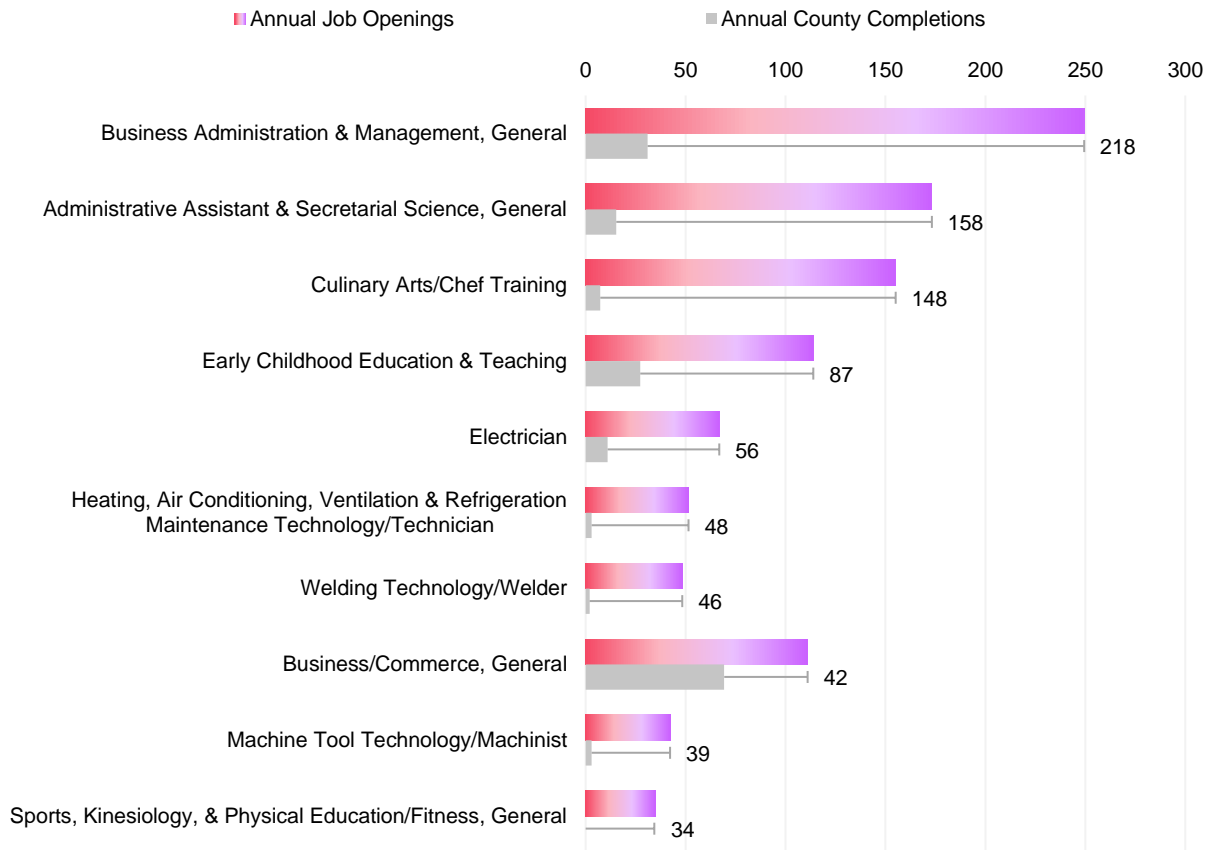


Source: Lightcast program demand gap model.

The colleges of Northern Brazoria County offer 49 associate degree level programs, five of which have a significant gap above the 50-openings level of significance (Figure 5). Two programs at this award level have a significant surplus of completions. With regards to specific programmatic results, the following associate degree programs should be considered for expansion due to their gap and median hourly wage: Business Administration & Management, General and Electrician. The three largest associate degree programs in terms of average annual completions are Registered Nursing/Registered Nurse, Chemical Technology/Technician, and Business/Commerce, General. Both the Registered Nursing/Registered Nurse and Chemical Technology/Technician programs have a significant surplus of completions. Chemical Technology/Technician was discussed in the certificate level analysis. There are more job openings for the Registered Nursing/Registered Nurse program at the bachelor's degree level and these program completers are likely finding employment outside Northern Brazoria County. While not a significant gap, the Business/Commerce, General program has a median hourly wage of \$40.76, the second highest of all the associate degree programs offered in the region. Business and administration/management programs can lead to leadership positions in a variety of industries; colleges are advised to consider the

industry mix of their service region to align curriculum to meet the needs of the region and train students most effectively to be competitive in the local labor market.

Figure 5: Top 10 Associate Degree Level Gaps



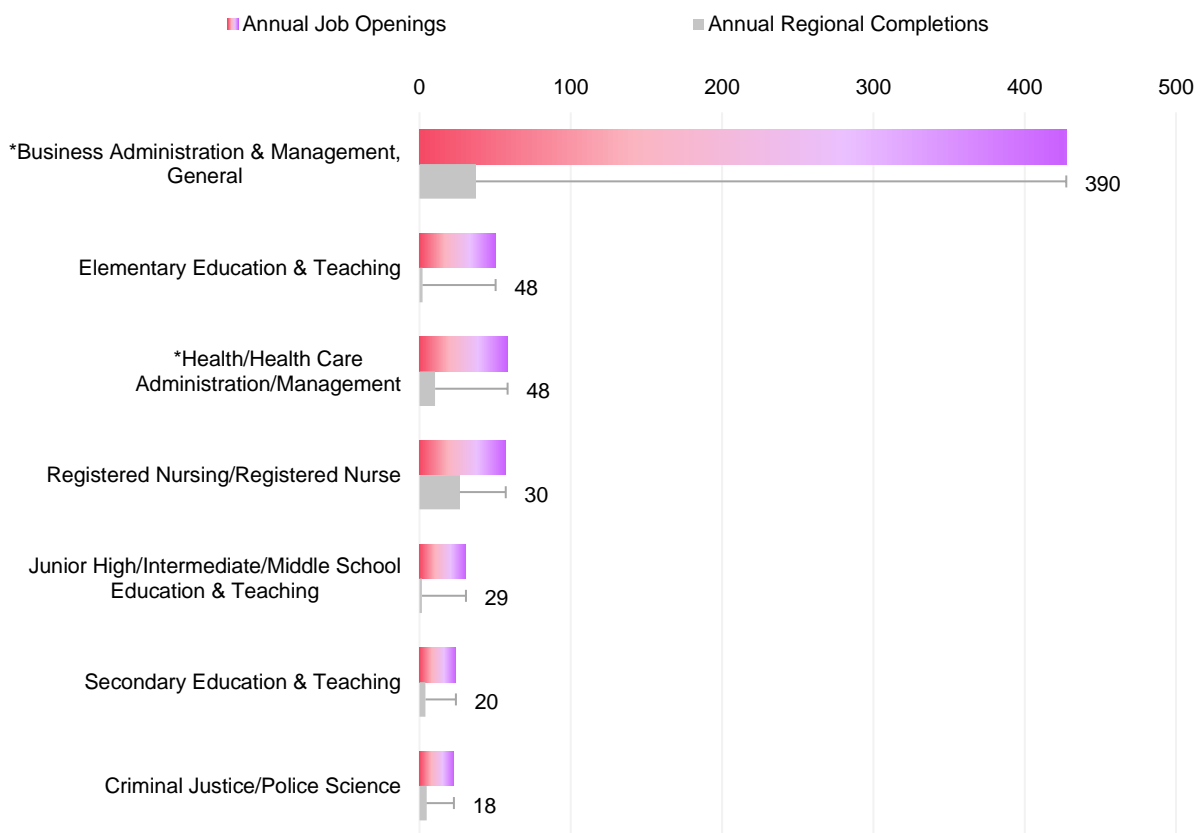
Source: Lightcast program demand gap model.

Brazosport College offers five transfer-track degree programs.³ In other words, a program completer could readily transfer into a similar bachelor's degree level program at another postsecondary educational institution in the state. Brazosport College's two bachelor's degree programs are also analyzed in this section. Of these programs, one has a significant gap above the 50-openings level of significance, as shown in Figure 6. With regards to specific programmatic results, the following transfer-track degree programs should be considered for expansion due to their gap and median hourly wage: Business Administration & Management, General; Elementary Education & Teaching; and Health/Health Care Administration/Management. At Brazosport College the three education/teaching transfer-track

³ Brazosport College selected five associate degree programs from the college's offerings to be analyzed as transfer-track programs in the sister study to this report concerning Southern Brazoria County. None of Alvin Community College's associate degree offerings were assumed to be transfer-track programs in this report.

programs are offered as one degree. Considering the job openings and completions together, the combined education/teaching program has a significant gap, which further highlights this program as an opportunity for expansion. The three largest transfer-track degree programs in terms of average annual completions are Business Administration & Management, General; Registered Nursing/Registered Nurse; and Health/Health Care Administration/Management. All three programs have a gap at this level and a median hourly wage of over \$26.00. The Business Administration & Management, General and Health/Health Care Administration/Management programs are recommended for expansion given their large gaps and high median hourly wages. A transfer-track program expansion requires a close examination of the process by which a student transfers to a four-year institution. For these programs to be successful these students must be able to transfer their credits with ease.

Figure 6: Transfer-Track and Bachelor’s Degree Level Gaps



*These programs award completers with a bachelor’s degree. All other programs in this section of the analysis award completers with an associate degree, but the demand for jobs considers a bachelor’s degree level of education.
Source: Lightcast program demand gap model.

A liberal arts program expansion is not recommended at this time, but college administrators should be aware that students can find success in a variety of business-related occupations. Using Lightcast’s Profile Analytics database, many liberal arts program completers are

currently employed as retail salespersons, administrative assistants, and customer service representatives, as well as a variety of managers and supervisors. These occupations have a considerable number of job openings in Northern Brazoria County. The colleges' liberal arts programs, therefore, serve as a starting point to students' career goals beyond an associate degree level of education.



PROGRAM ADDITIONS

Twenty-three certificate level programmatic areas of opportunity have been identified in the program demand gap analysis, many of which are related to installation, maintenance, & repair occupations. At the associate degree level, there are fewer opportunities for new programs, considering the colleges' current offerings. Nonetheless, the colleges should consider new programs related to healthcare practitioners & technical occupations, whether the focus is on job openings in Northern Brazoria County or Texas. Another 10 transfer-track degree level programmatic areas of opportunity were identified in the program demand gap analysis, many of which are related to sales & related occupations. Some program additions may be related to the colleges' current program offerings, which indicates an opportunity for a curriculum adjustment to better align with the region's current and projected labor market demand. A selection of these occupations, which have the most regional job openings by award level, appear in Table 1.

Table 1: Program Additions by Education Level

SOC TITLE	2022 JOBS	ANNUAL JOB OPENINGS	ANNUAL COMPL.	GAP	MEDIAN HOURLY WAGE	ED. LEVEL
Construction Laborers	2,145	145	0	145	\$16.09	CERT
Medical Assistants	512	65	0	65	\$15.93	CERT
Operating Engineers & Other Construction Equipment Operators	622	58	0	58	\$20.83	CERT
Carpenters	798	46	0	46	\$19.42	CERT
Dental Assistants	299	33	0	33	\$17.24	CERT
First-Line Supervisors of Production & Operating Workers	380	26	0	26	\$34.19	CERT
First-Line Supervisors of Transportation & Material Moving Workers, Except Aircraft Cargo Handling Supervisors	264	24	0	24	\$24.41	CERT
Inspectors, Testers, Sorters, Samplers, & Weighers	301	24	0	24	\$17.71	CERT
Mobile Heavy Equipment Mechanics, Except Engines	195	17	0	17	\$24.96	CERT
Electrical Power-Line Installers & Repairers	134	14	0	14	\$33.84	CERT
Physical Therapist Assistants	61	9	0	9	\$38.67	ASSOC
Occupational Therapy Assistants	35	6	0	6	\$40.45	ASSOC

SOC TITLE	2022 JOBS	ANNUAL JOB OPENINGS	ANNUAL COMPL.	GAP	MEDIAN HOURLY WAGE	ED. LEVEL
Dental Hygienists	92	5	0	5	\$35.13	ASSOC
Civil Engineers	208	10	0	10	\$44.90	T-T
Buyers & Purchasing Agents	167	8	0	8	\$27.78	T-T
Insurance Sales Agents	131	7	0	7	\$21.75	T-T
Training & Development Specialists	141	7	0	7	\$27.38	T-T
Real Estate Sales Agents	109	6	0	6	\$16.84	T-T

SOC refers to the Standard Occupational Classification system used to classify occupations. Average annual job openings represent regional data from 2022 to 2032. Numbers may not sum due to rounding.

Source: Lightcast program demand gap model.



Lightcast provides colleges, universities, and other entities with labor market data that helps create better outcomes for students, businesses, and communities. Our data, which cover more than 99% of the U.S. workforce, are compiled from a wide variety of government sources, job postings, and online profiles and résumés. Hundreds of institutions use Lightcast to align programs with regional needs, drive enrollment, connect students with in-demand careers, track their alumni's employment outcomes, and demonstrate their institution's economic impact on their region. Visit lightcast.io/solutions/education to learn more or connect with us.