

# Strengthening Career & Technical Education

in Alexandria city, VA



ALEXANDRIA | ARLINGTON REGION

Phone: 703.228.1412
Web: vcwalexandriaarlington.com
Twitter: @workcouncil

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### About this Report

The education industry supplies human capital to all industries. This report takes a macroeconomic view of the industries and the occupations that currently underpin the Alexandria city, VA economy. Knowing what skills and occupations local employers need now and in the future will help the education community better anticipate curriculum that prepares students for those job openings.

This report is designed to help educators who want to move beyond compliance and use Perkins V to make a real difference in their students' education. It provides actionable labor market intelligence—one of the Comprehensive Local Needs Assessment's (CLNA's) six requirements to bridge secondary education students to skilled jobs that employers need in the Alexandria city, VA.

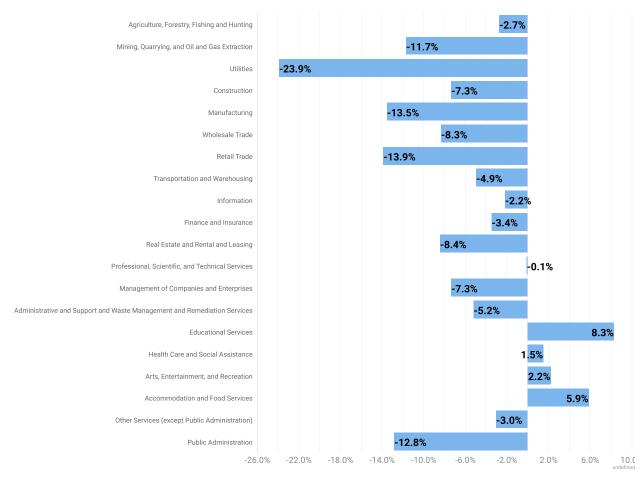
#### **Industry Growth Forecasts**

To help high school students select careers, educators can show them the earnings potential and the job opportunities across all industries today and in the future.

Employers can be categorized into one of 20 major industry sectors. The chart below shows the net job growth forecast for these sectors in the Alexandria city, VA.

As of the fourth quarter of 2022, the Alexandria city, VA had 4 sectors forecast to have positive employment growth over the next ten years and 16 sectors projected to contract. Those growing include "Educational Services," "Accommodation and Food Services" and "Arts, Entertainment, and Recreation."

#### 10 Year Forecast Growth Rate



## Industry Forecasts Including Retirement Demand

For an accurate assessment of future demand, the number of people retiring from an industry need to be taken into account. From that perspective, the "Accommodation and Food Services," "Professional, Scientific, and Technical Services" and "Public Administration" sectors are expected to have the highest annual job demand in the Alexandria city, VA.

| Sector   | Employment | Avg Ann<br>Wages | Ann Empl<br>Growth | Ann Total<br>Demand |
|--|------------|------------------|--------------------|---------------------|
| Accommodation and Food Services  | 7,982      | \$31,774         | 46                 | 1,441               |
| Professional, Scientific, and Technical Services                         | 15,738     | \$126,123        | -1                 | 1,412               |
| Public Administration  | 13,793     | \$118,736        | -188               | 1,177               |
| Other Services (except Public Administration)                            | 9,730      | \$86,141         | -30                | 1,144               |
| Health Care and Social Assistance  | 8,438      | \$69,032         | 13                 | 881                 |
| Retail Trade   | 6,942      | \$45,509         | -103               | 874                 |
| Educational Services   | 5,345      | \$71,087         | 43                 | 571                 |
| Administrative and Support and Waste Management and Remediation Services | 4,858      | \$68,481         | -26                | 562                 |
| Transportation and Warehousing   | 3,809      | \$66,083         | -19                | 437                 |
| Construction   | 2,832      | \$77,997         | -21                | 255                 |
| Finance and Insurance  | 2,756      | \$138,826        | -10                | 249                 |
| Arts, Entertainment, and Recreation                                      | 1,433      | \$32,816         | 3                  | 216                 |
| Real Estate and Rental and Leasing                                       | 2,100      | \$82,441         | -18                | 199                 |
| Manufacturing  | 1,516      | \$45,949         | -22                | 142                 |
| Information  | 1,264      | \$124,766        | -3                 | 121                 |
| Wholesale Trade  | 1,166      | \$91,433         | -10                | 119                 |
| Management of Companies and Enterprises                                  | 730        | \$113,814        | -6                 | 63                  |
| Utilities  | 304        | \$117,300        | -8                 | 21                  |
| Agriculture, Forestry, Fishing and Hunting                               | 23         | \$89,213         | 0                  | 3                   |
| Total - All Industries   | 91,156     | \$86,609         | -340               | 10,154              |

## **Detailed Industry Projections**

Total employment in the Alexandria city, VA is forecast to decline 3.7% over the next ten years, compared with an expected growth rate of 5.5% in the nation over the same period.

At the detailed industry level, "Elementary and Secondary Schools" and "Restaurants and Other Eating Places" are expected to experience the most job gains over this period.

| Industry  | Employment | Avg Ann<br>Wages | Hist 10yr<br>Change | Proj 10yr<br>Growth |
|---|------------|------------------|---------------------|---------------------|
| Elementary and Secondary Schools  | 4,021      | \$77,441         | 26                  | 430                 |
| Restaurants and Other Eating Places   | 6,698      | \$30,674         | 626                 | 375                 |
| Computer Systems Design and Related Services  | 3,461      | \$138,092        | -1,009              | 312                 |
| Individual and Family Services  | 615        | \$60,185         | -200                | 127                 |
| Traveler Accommodation  | 799        | \$39,155         | -870                | 101                 |
| Management, Scientific, and Technical Consulting Services                             | 3,653      | \$133,463        | -952                | 92                  |
| Other Personal Services   | 685        | \$40,442         | -43                 | 91                  |
| Civic and Social Organizations  | 393        | \$67,199         | -77                 | 85                  |
| Continuing Care Retirement Communities and Assisted Living Facilities for the Elderly | 1,009      | \$48,959         | 288                 | 60                  |
| Personal Care Services  | 827        | \$45,900         | 23                  | 58                  |

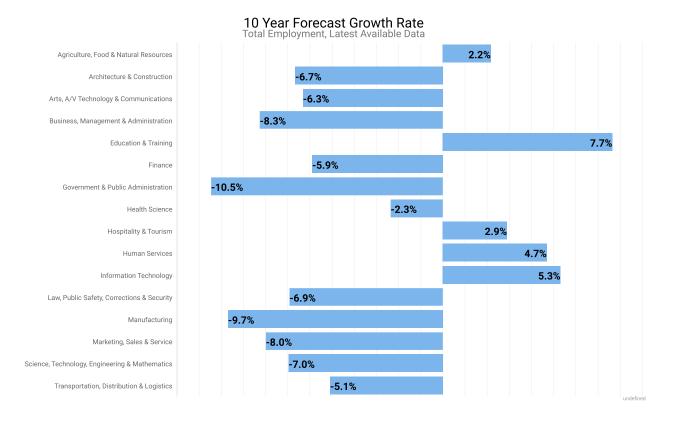
<sup>&</sup>quot;Administration of Economic Programs" and "National Security and International Affairs" are projected to have the largest job declines in the region over the next ten years.

| Industry   | Employment | Avg Ann<br>Wages | Hist 10yr<br>Change | Proj 10yr<br>Growth |
|--|------------|------------------|---------------------|---------------------|
| Administration of Economic Programs                                    | 6,739      | \$134,659        | -2,043              | -898                |
| National Security and International Affairs                            | 3,812      | \$101,712        | 396                 | -508                |
| Business, Professional, Labor, Political, and Similar<br>Organizations | 4,244      | \$120,882        | -837                | -419                |
| Grocery and Convenience Retailers                                      | 1,958      | \$36,878         | 441                 | -319                |
| Architectural, Engineering, and Related Services                       | 2,724      | \$128,394        | -925                | -237                |
| Justice, Public Order, and Safety Activities                           | 1,649      | \$100,658        | -131                | -175                |
| Services to Buildings and Dwellings                                    | 1,442      | \$35,744         | -1,080              | -127                |
| Accounting, Tax Preparation, Bookkeeping, and Payroll Services         | 1,172      | \$102,265        | -206                | -109                |
| Administration of Human Resource Programs                              | 787        | \$113,615        | 21                  | -108                |
| Newspaper, Periodical, Book, and Directory Publishers                  | 382        | \$174,482        | -17                 | -104                |

#### Career Cluster Growth Forecasts

With hundreds of occupations, it can be difficult for educators to pinpoint the most promising high-demand and high-wage occupations in their region that provide rewarding careers for their students. Analysis of the sixteen CTE Clusters provides an entryway into career pathways.

Of the sixteen career clusters, five are expected to expand employment in the Alexandria city, VA over the next ten years. Of those five, "Information Technology" pay more than the average occupation wage in the region (\$79,200).



## Career Cluster Forecasts Including Retirement Demand

Similar to the analysis of industry employment growth, an accurate assessment of future occupation demand requires that the number of people retiring be taken into account as shown in the table below. In the Alexandria city, VA, "Hospitality & Tourism," "Business, Management & Administration" and "Marketing, Sales & Service" clusters are expected to have the highest annual job demand.

"Science, Technology, Engineering & Mathematics" has the highest wages of the CTE Clusters followed by the "Information Technology" and "Finance" clusters.

| Career Cluster                                 | Employment | Avg Ann<br>Wages | Job Ads | Ann Empl<br>Growth | Ann Total<br>Demand |
|--|------------|------------------|---------|--------------------|---------------------|
| Science, Technology, Engineering & Mathematics | 2,591      | \$130,100        | 0       | -19                | 166                 |
| Information Technology                         | 4,813      | \$122,800        | 0       | 25                 | 365                 |
| Finance  | 4,240      | \$104,800        | 0       | -26                | 326                 |
| Law, Public Safety, Corrections & Security     | 4,974      | \$96,600         | 0       | -36                | 458                 |
| Health Science                                 | 6,402      | \$92,300         | 0       | -15                | 508                 |
| Business, Management & Administration          | 20,078     | \$91,200         | 0       | -172               | 1,905               |
| Government & Public Administration             | 1,370      | \$86,900         | 0       | -15                | 107                 |
| Arts, A/V Technology & Communications          | 1,549      | \$83,900         | 0       | -10                | 144                 |
| Education & Training                           | 4,772      | \$78,800         | 0       | 35                 | 487                 |
| Architecture & Construction                    | 4,466      | \$70,900         | 0       | -31                | 386                 |
| Marketing, Sales & Service                     | 8,528      | \$69,900         | 0       | -71                | 960                 |
| Manufacturing                                  | 4,250      | \$64,900         | 0       | -43                | 389                 |
| Agriculture, Food & Natural Resources          | 951        | \$64,800         | 0       | 2                  | 134                 |
| Transportation, Distribution & Logistics       | 6,255      | \$60,200         | 0       | -33                | 708                 |
| Human Services                                 | 4,475      | \$53,800         | 0       | 21                 | 599                 |
| Hospitality & Tourism                          | 11,442     | \$39,600         | 0       | 33                 | 2,031               |
| Total - All Occupations                        | 91,156     | \$79,200         | 0       | -340               | 9,686               |

## **Detailed Occupation Projections**

There are over 800 defined occupations at the detailed level. Among those occupations that support a living wage, "Software Developers" and "Information Security Analysts" are expected to add the most jobs over the next ten years in the Alexandria city, VA.

| Occupation   | Employment | Avg Ann<br>Wages | Job Ads | Hist 10yr<br>Change | Proj 10yr<br>Growth |
|--|------------|------------------|---------|---------------------|---------------------|
| Software Developers  | 1,626      | \$140,500        | 0       | 1,556               | 196                 |
| Information Security Analysts  | 303        | \$135,400        | 0       | 27                  | 72                  |
| Elementary School Teachers, Except Special Education                     | 633        | \$94,200         | 0       | -24                 | 67                  |
| Secondary School Teachers, Except Special and Career/Technical Education | 494        | \$94,100         | 0       | 27                  | 61                  |
| Market Research Analysts and Marketing Specialists                       | 740        | \$89,300         | 0       | 152                 | 59                  |
| Substance Abuse, Behavioral Disorder, and Mental<br>Health Counselors    | 321        | \$67,100         | 0       | 125                 | 43                  |
| Management Analysts  | 2,125      | \$116,400        | 0       | -689                | 39                  |
| Nurse Practitioners  | 92         | \$131,400        | 0       | 37                  | 33                  |
| Middle School Teachers, Except Special and Career/Technical Education    | 296        | \$95,200         | 0       | -15                 | 31                  |
| Medical and Health Services Managers                                     | 226        | \$148,400        | 0       | 22                  | 29                  |

Of occupations supporting a living wage, "Business Operations Specialists, All Other" and "Bookkeeping, Accounting, and Auditing Clerks" are projected to have the largest decline in employment over the next ten years.

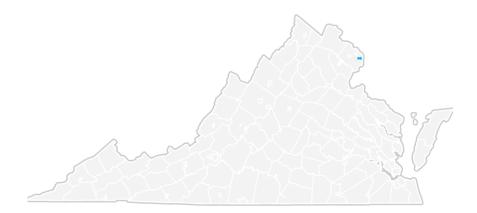
| Occupation  | Employment | Avg Ann<br>Wages | Job Ads | Hist 10yr<br>Change | Proj 10yr<br>Growth |
|---|------------|------------------|---------|---------------------|---------------------|
| Business Operations Specialists, All Other                                      | 1,965      | \$103,200        | 0       | 696                 | -183                |
| Bookkeeping, Accounting, and Auditing Clerks                                    | 1,112      | \$57,600         | 0       | -408                | -153                |
| Secretaries and Administrative Assistants, Except Legal, Medical, and Executive | 872        | \$52,100         | 0       | -289                | -151                |
| Registered Nurses   | 1,373      | \$94,100         | 0       | -75                 | -95                 |
| First-Line Supervisors of Office and Administrative Support Workers             | 803        | \$79,500         | 0       | -220                | -90                 |
| First-Line Supervisors of Retail Sales Workers                                  | 596        | \$61,000         | 0       | -158                | -87                 |
| Executive Secretaries and Executive Administrative Assistants                   | 304        | \$82,200         | 0       | -841                | -81                 |
| General and Operations Managers   | 2,265      | \$154,100        | 0       | 283                 | -72                 |
| Managers, All Other   | 796        | \$150,900        | 0       | 307                 | -71                 |
| Accountants and Auditors  | 1,298      | \$103,600        | 0       | -274                | -70                 |

# Regional Colleges and Universities

For students interested in advanced degrees, the list below provides the largest postsecondary schools within the Alexandria city, VA. The schools are sorted by enrollment size.

|                      | <b>Certificates and</b> |            | <b>Total School</b> |                      |
|----------------------|-------------------------|------------|---------------------|----------------------|
| School               | 2yr Awards              | 4yr Awards | Enrollment          | <b>Avg Net Price</b> |
| Stratford University | 140                     | 312        | 1,947               | \$23,243             |
| Total                | 140                     | 312        | 1,947               | n/a                  |

# Alexandria city, VA Regional Map



#### **Data Notes**

- Industry employment and wages (including total regional employment and wages) are as of 2022Q4 and are based upon Bureau of Labor Statistics (BLS) QCEW data, imputed by Chmura where necessary, and supplemented by additional sources including non-covered employment such as self-employed. Employment forecasts are modeled by Chmura and are consistent with BLS national-level 10-year forecasts.
- Occupation employment is as of 2022Q4 and is based on industry employment and local staffing patterns calculated by Chmura and utilizing BLS Occupation Employment and Wage Statistics (OEWS) data. Wages by occupation are as of 2022Q4, utilizing BLS OEWS data, imputed and brought forward by Chmura. Occupation employment forecasts are modeled by Chmura and are consistent with BLS national-level 10-year forecasts.
- Job ads data are online job posts from the Real-Time Intelligence (RTI) data set, produced wholly by Chmura and gleaned from over 40,000 websites. Data reflect ads active during the last twelve month period ending 04/26/2023 and advertised for any Zip Code Tabulation Area in or intersecting with the region for which this report was produced.
- For skill and certification gaps, openings and candidates are based upon regional occupation demand (growth plus separations) and the percent of skill demand and supply. Skill demand mix data are per a one-year sample of RTI data; skill supply data are estimated using a five-year sample of resumes data; both data sets compiled as of August 2021.
   Data may be based, at least in part, on data from broader geographies; see the Skill Gaps analytic export for more details.
- Postsecondary are per the National Center for Education Statistics. Awards and enrollment are for the 2020-2021 academic year and average net price data are for the 2020-2021 academic year.
- Figures may not sum due to rounding.

#### **FAQs**

#### How are industries and occupations defined?

Industries are defined via the North American Industry Classification System (NAICS). "Sectors" in this report represent 2-digit NAICS codes and industries in the "Industry Analysis" section of this report represent 4-digit NAICS codes. Occupations are defined via the Standard Occupational Classification System (SOC). Occupations in the "Occupation Analysis" section of this report represent 6-digit SOC codes. "CTE Clusters" are collections of 6-digit SOC occupations as defined through the National Career Clusters® Framework.

#### How is "Ann Total Demand" defined?

Annual total employment demand is forecast job demand that includes job needs due to growth, exits (such as retirements), and transfers (individuals moving from one career into another).

#### What is the Living Wage used in this report?

The living wage in the United States is \$24.16 per hour in 2021, before taxes for a family of four (two working adults, two children) - MIT Living Wage Calculator.