BACKGROUND

Pennsylvania’s State System for Higher Education recently completed its Workforce Needs Assessment 2016-2026, a component of the State System’s Workforce Intelligence Toolkit. As a comprehensive and detailed evaluation of occupation demand and education supply across the Commonwealth, the Workforce Needs Assessment evaluated five distinct sub-regions, 14 university-specific workforce regions, the Tri-State Energy Region, and two university center regions.

Located in Chester County, Pennsylvania, Cheyney University (Cheyney) supports the southeast region of Pennsylvania’s State System of Higher Education. It provides a breadth of degree programs and serves a student population of about 700 learners, of which about 83% are Pennsylvania residents. A key goal of the Workforce Needs Assessment is to assist university leadership and education planners by providing an infrastructure of resources for internal planning and external engagement with policymakers, businesses, and students. In driving toward this goal, the Workforce Needs Assessment identified:

- Current and emerging workforce needs of Cheyney’s workforce region’s 110,900 employers;
- Supply of skilled talent from the region’s 120 post-secondary education institutions; and
- Supply/demand gaps across Cheyney’s workforce region’s 500 skilled occupations.

Of the 2.2 million jobs Cheyney’s workforce region is projected to have in 2026, 58 percent will require some amount of postsecondary education preparation; these are termed as “skilled occupations.” The skilled jobs demand highlights the increasing importance of postsecondary degree holders in the region’s workforce. According to the 2012-2016 American Community Survey (ACS), 43 percent (1.2 million residents) of Cheyney’s workforce region’s population has a college degree while an additional 17 percent (447,200 residents) has some college, but no degree.

The Workforce Needs Assessment conducted in-depth research on industries, occupations, completions, and crosswalk connections to produce the gap analysis results. The assessment was intended to clarify the role of higher education in Cheyney’s workforce region’s workforce. The following sections highlight the respective findings for each component of the Workforce Needs Assessment in Cheyney’s workforce region.
**GAP ANALYSIS HIGHLIGHTS**

The Workforce Needs Assessment analyzed 500 skilled occupations and highlighted nearly 166 occupations where there is projected to be a talent demand gap across Cheyney’s workforce region—meaning the supply of postsecondary degree graduates in relevant programs do not meet the demands by employers. These figures are presented on an annualized basis for the 10-year period 2016 to 2026, i.e., the average annual supply of graduates, the average annual demand for new and replacement jobs within an occupation, and the average annual gap.

The largest projected annual talent demand gaps in Cheyney’s Workforce Region were found within a variety of occupations:

- The 166 skilled occupation demand gaps combined for an annual average of 6,300;
- High-skill (Job Zones 4 and 5) occupation demand gaps combined for an annual average of 800;
- Middle-skill (Job Zone 3) occupation demand gaps combined for an annual average of 5,500;
- STEM-H occupation demand gaps combined for an annual average of 2,000;
- Business and finance occupation demand gaps combined for an annual average of 170; and
- Pennsylvania’s High Priority Occupations (HPOs) demand gaps combined for an annual average of 5,100.

Moreover, 64 skilled occupations were identified as having a gap at a specific degree level. An additional 192 skilled occupations were in balance, meaning the ratio of program completions per job opening was less than three, but greater than or equal to one. Finally, a total of 73 occupations showed projected supply surpluses—meaning there are projected to be greater than or equal to three program completers per job opening for a matched occupation.

**DEGREE-TO-OCCUPATION CONNECTIONS**

The Workforce Needs Assessment combined various sources to strengthen the educational-occupational crosswalk that is foundational to the Needs Assessment. By reviewing these new sources, new connections were realized. Five crosswalks were combined to provide more connections than any one source alone. In fact, using the five crosswalks together generated over 7,000 connections. Utilizing the new connections, gap analysis results are able to be presented for every skilled occupation at each degree level: associate’s, bachelor’s, and graduate. The crosswalks include three conceptual crosswalks (NCES, CWIA, and Application of Detailed Work Activity) and two real-world outcome crosswalks (ACS and EMSI). Additionally, the Bureau of Labor Statistics (BLS) minimum education requirements were used to account for “upskilling” in occupations.
EDUCATION SUPPLY OF CHEYNEY’S WORKFORCE REGION

Cheyney’s workforce region is home to many postsecondary institutions, offering a range of degree programs. As reported by the National Center for Education Statistics (NCES), there are approximately 120 postsecondary education institutions in the region. From 2014 to 2016, these institutions graduated, on average, 66,300 students with an associate’s degree or higher. The top major fields of study included health professions and related programs; business, management, marketing, and related support services; and education.

HOW DOES THE STATE SYSTEM CONTRIBUTE IN THE REGION?

Cheyney University is a significant contributor to the total number of degree completions in the region, supplying an average of 200 program completers with an associate’s degree or higher from 2014 to 2016. In fact, Cheyney University produced approximately 150 bachelor’s degrees and 10 graduate degrees on average, during this period.

PROGRAM COMPLETIONS IN CHEYNEY’S WORKFORCE REGION, 2014-2016 ANNUAL AVERAGE

Source: NCES Integrated Postsecondary Education Data System
INDUSTRY PROJECTIONS TO 2026 FOR CHEYNEY’S WORKFORCE REGION

Cheyney’s workforce region is projected to add nearly 119,000 new jobs to its economy over the next 10 years, and employment is projected to grow 5.8 percent between 2016 and 2026. Service-providing sectors will drive the employment increase, accounting for a majority of the projected growth in the region, while some sectors, such as manufacturing, are projected to decline partially due to shifts toward automation.

WHAT THIS MEANS FOR THE REGION’S HIGHER EDUCATION SECTOR

Service-providing industries require many skilled workers with postsecondary degrees in industries such as education, health services, financial and real estate activities, professional and business services, and leisure and hospitality. Some details about the projected growth in Cheyney’s workforce region are as follows:

- The largest growth sectors include health services (48,800 new jobs), professional and business services (30,300 new jobs), and leisure and hospitality (18,800 new jobs).

- The region’s growth is being bolstered by fast-growing industries, projected to grow by more than 20 percent over the next 10 years. These industries include other transportation equipment manufacturing (79 percent), facilities support services (43 percent), specialty hospitals (41 percent), animal production and aquaculture (34 percent), and railroad rolling stock manufacturing (32 percent).

INDUSTRY PROJECTIONS FOR CHEYNEY’S WORKFORCE REGION, 2016-2026

- Health Services
- Professional and Business Services
- Leisure and Hospitality
- Financial Activities and Real Estate
- Construction
- Self-Employed
- Education
- Other Services
- Transportation and Warehousing
- Wholesale Trade
- Agriculture
- Utilities
- Mining
- Retail Trade
- Information
- Manufacturing
- Public Administration

2016-2026 Industry Projection Highlights

- 119,000 New jobs by 2026
- 48,800 New jobs in health services
- 79% Growth in transportation equipment manufacturing
- 30,300 New jobs in professional and business services
- 41% Growth in specialty hospitals
- 18,800 New jobs in leisure and hospitality
OCCUPATION PROJECTIONS TO 2026 FOR CHEYNEY'S WORKFORCE REGION

The projected industry growth translates into new demand for the occupations employed within each respective sector. When combined with the demand to replace those who exit the labor force, total jobs openings to 2026 are expected to be 1.1 million.

WHAT THIS MEANS FOR THE REGION’S HIGHER EDUCATION SECTOR

Cheyney’s workforce region will see strong demand for skilled workers, amounting to 512,000 between 2016 and 2026. Skilled jobs are projected to grow at a faster rate of 7 percent compared to low-skilled jobs, which are projected to grow by 5 percent.

- STEM jobs show growth of 11 percent and health practitioner & technical and health support occupations are projected add nearly 27,200 new jobs for 13 percent growth. Self-employed occupations are projected to grow by 8 percent.
- The largest growth occupations include registered nurses (9,100 new jobs), personal care aides (7,800 new jobs), combined food preparation and serving workers, including fast food (7,600 new jobs), and home health aides (4,300 new jobs).
- Occupations projected to see rapid growth include wind turbine service technicians (81 percent), mathematicians (33 percent), health specialties teachers, postsecondary (32 percent), statisticians (31 percent), and respiratory therapists (30 percent).

<table>
<thead>
<tr>
<th>Occupation</th>
<th>New jobs in thousands</th>
</tr>
</thead>
<tbody>
<tr>
<td>Healthcare Practitioners and Technical</td>
<td>10</td>
</tr>
<tr>
<td>Food Preparation and Serving Related</td>
<td>-5</td>
</tr>
<tr>
<td>Personal Care and Service</td>
<td>0</td>
</tr>
<tr>
<td>Business and Financial Operations</td>
<td>5</td>
</tr>
<tr>
<td>Healthcare Support</td>
<td>10</td>
</tr>
<tr>
<td>Management</td>
<td>15</td>
</tr>
<tr>
<td>Computer and Mathematical</td>
<td>20</td>
</tr>
<tr>
<td>Transportation and Material Moving</td>
<td>-10</td>
</tr>
<tr>
<td>Construction and Extraction</td>
<td>-5</td>
</tr>
<tr>
<td>Building and Grounds Cleaning and Maintenance</td>
<td>-10</td>
</tr>
<tr>
<td>Installation, Maintenance, and Repair</td>
<td>-5</td>
</tr>
<tr>
<td>Community and Social Service</td>
<td>0</td>
</tr>
<tr>
<td>Education, Training, and Library</td>
<td>5</td>
</tr>
<tr>
<td>Legal</td>
<td>-10</td>
</tr>
<tr>
<td>Sales and Related</td>
<td>-5</td>
</tr>
<tr>
<td>Architecture and Engineering</td>
<td>0</td>
</tr>
<tr>
<td>Life, Physical, and Social Science</td>
<td>-5</td>
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<tr>
<td>Arts, Design, Entertainment, Sports, and Media</td>
<td>-10</td>
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<tr>
<td>Protective Service</td>
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<tr>
<td>Farming, Fishing, and Forestry</td>
<td>-10</td>
</tr>
<tr>
<td>Production</td>
<td>0</td>
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<tr>
<td>Office and Administrative Support</td>
<td>-5</td>
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OCCUPATION PROJECTIONS FOR CHEYNEY’S WORKFORCE REGION, 2016-2026

<table>
<thead>
<tr>
<th>Jobs</th>
<th>2016</th>
<th>2026</th>
<th>% Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skilled</td>
<td>1,183,030</td>
<td>1,262,095</td>
<td>7%</td>
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<tr>
<td>Low Skilled</td>
<td>875,197</td>
<td>915,181</td>
<td>5%</td>
</tr>
<tr>
<td>Total</td>
<td>2,058,228</td>
<td>2,177,276</td>
<td>6%</td>
</tr>
</tbody>
</table>
ADDITIONAL FINDINGS AND RESOURCES

The goal of the Workforce Needs Assessment is to serve as a key tool to improve program planning, increase return on investment to learners and Pennsylvania, and to increase the efficiency and productivity of higher education and training institutions. This updated content can be found on the State System Workforce Needs Assessment Landing Page and helps to inform and guide the development of the State System’s Workforce Needs Assessment. The landing page provides greater detail of the Workforce Needs Assessment analysis and findings, including information on:

• Top skilled occupations showing the highest excess demand gaps;
• Middle-Skilled occupation gaps;
• Top STEM-H occupations with highest levels of excess employer demand; and
• Top skilled occupation supply surpluses.

In addition to the Gap findings, the results will be presented with new resources that help to contextualize the changing economic landscape in Cheyney’s workforce region. These resources include:

• Risk of automation;
• Alignment with the Gig economy;
• Identification of high priority and STEM-H Occupations;
• Education and experience requirements; and
• Average annual pay.

To see the detailed gap results for all skilled occupations and view all resources, visit the State System’s EdHub at https://analytics.oei.passhe.edu/StateSystemEdHub/

COLLABORATION

Thanks to the collaboration between all of the contributors to Pennsylvania’s Workforce Needs Assessment, the analysis has allowed for several engagements that contributed to:

• Governor Wolf’s Middle-Class Taskforce
• Inter-sector data team: PA Departments of Education, Community & Economic Development, Governor’s Policy Office, Labor & Industry