

Companion Document to the:
**Labor Market Information (LMI) Instructions & Guidance**

Delaware Department of Education

**Appendix: Labor Market Information (LMI) Review**

Delaware CTE Program of Study Application

**Table 1: LEA Information***(see instructions on page 2, LMI Instructions & Guidance Document)*

|  |  |
| --- | --- |
| Career Cluster:  | Agriculture, Food, and Natural Resources |
| Career Pathway: | Power, Structural, and Technical Systems |
| CTE Program of Study:  | Agricultural Power and Engineering |
| High School and LEA Name: |  |
| County:  |  |

**Table 2: Labor Market Information (LMI) Benchmarks by Geographic Region***(see instructions on page 2, LMI Instructions & Guidance Document)*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Region** | **Employment2015** | **EmploymentChange 2014-24** | **EmploymentGrowth 2014-24** | **Avg. Wage2015** |
| United States | 137,896,660  | 9,788,900  | 6.5%  | $48,320  |
| Delaware | 433,840  | 37,150  | 8.1%  | $50,300  |
| District of Columbia | 676,060  | 46,040  | 6.0%  | $80,150  |
| Maryland | 2,596,630  | 504,540  | 18.2%  | $54,630  |
| New Jersey | 3,906,800  | 275,310  | 6.5%  | $54,950  |
| Pennsylvania | 5,709,480  | 345,920  | 5.7%  | $46,550  |
| Virginia | 3,682,450  | 368,050  | 9.3%  |  $51,670  |

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|  | **Table 3: LMI by Career Cluster & Pathway***(see instructions on page 4, LMI Instructions & Guidance Document)* | **2012-2022** |
| **Cluster Code** | **Cluster/Pathway Title** | **Middle Skill** | **High Skill** | **High Wage** | **High Demand** | **Employment 2015** | **Employment Change 2014-2024** | **Employment Growth 2014-2024** | **Average Wage 2015** |
| ***1*** | **Agriculture, Food, and Natural Resources** | **X** |  |  |  | **3370** | **46** | **0.5%** | **$59,758** |
|  | Rank Select Career Cluster by the Following Categories -> | *(15 out of 16)* | *(16 out of 16)* | *(16 out of 16)* | *(6 out of 16)* |
| *1.04* | Power, Structural & Technical Systems | X |  |  |  | 200 | 26 | 6.0% | $33,602 |
|  | Rank Select Career Pathway by the Following Categories -> | *(5 out of 7)* | *(3 out of 7)* | *(2 out of 7)* | *(6 out of 7)* |
| 1.04  | Power, Structural & Technical Systems – Mid-Atlantic States | X |  |  |  | 3,060  | 696 | 8.4%  | $38,919  |
| 1.04 | Power, Structural & Technical Systems – United States | X |  |  |  | 66,610  | 6,100 | 6.0%  | $36,180  |
| 1.01 | Food Products and Processing Systems | X |  | X |  | 60 | -19 | -6.7% | $53,560 |
| 1.02 | Plant Systems |  | X |  |  | 290 | -103 | -5.9% | $42,420 |
| 1.03 | Animal Systems |  |  |  |  | 910 | 55 | 2.6% | $22,321 |
| 1.05 | Natural Resources Systems | X | X | X |  | 500 | -15 | -2.0% | $186,324 |
| 1.06 | Environmental Service Systems | X |  | X |  | 1410 | 109 | 8.0% | $46,578 |
| 1.07 | Agribusiness Systems | X |  |  |  |  | -7 | -.02% |  |

**Table 3: LMI by Career Cluster & Pathway (Questions/Analysis)**

*(see instructions on page 5, LMI Instructions & Guidance Document)*

1. How does the employment, the employment change, the employment growth rate, and the average wage for the identified career cluster compare to LMI for other clusters in the State of Delaware? Is the career cluster rated as high wage and high demand?

**The Agriculture, Food, and Natural Resources Career Clusters rank in the top six (6) for average wage. The career cluster rating is Middle Skill.**

1. How does the employment, the employment change, the employment growth rate, and the average wage for the identified career pathway compare to LMI at the cluster level? How does the identified pathway level LMI in Delaware compare to the pathway level LMI in the Mid-Atlantic and/or the United States? How does the identified pathway level LMI in Delaware compare to the other pathway level LMI in Delaware?

**Employment growth rate is significantly higher at the career pathway level than at the cluster level, while the employment and average wage are lower. Salaries, employment growth, and change in employment increase as you move out of the state of Delaware and into the Mid-Atlantic and larger United States region. Related pathways have lower wage potential, but show slightly higher employment, employment change and employment growth numbers within the state of Delaware.**

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| **Table 4: LMI by Standard Occupation Code (SOC)***(see instructions on page 6, LMI Instructions & Guidance Document)* | **2012-2022** |
| **SOC Code** | **Occupation Title** | **Middle Skill** | **High Skill** | **High Wage** | **High Demand** | **Employment 2014** | **Employment Change 2014-2024** | **Employment Growth 2014-2024** | **Average Wage 2016** |
| 17-2021 | Agricultural Engineers |  | X | X |  | 2900 | 100 | 4.4% | $73,640 |
| 49-3041 | Farm Equipment Mechanics and Service Technicians | X |  |  |  | 170 | 20 | 7.5% | $35,130 |
| 49-3023 | Automotive Service Technicians and Mechanics | X |  | X | X | 2070 | 90 | 4.4% | $38,580 |
| 49-3031 | Bus and Truck Mechanics and Diesel Engine Specialists | X |  | X | X | 530 | 50 | 10.8% | $47,980 |
| 49-9012 | Control and Valve Installers and Repairers, Except Mechanical Door | X |  | X |  | 130 | 10 | 1.5% | $72,730 |
| 49-9099 | Installation, Maintenance, and Repair Workers, All Other | X |  |  | X | 480 | 520 | 7.9% | $37,530 |
| 49-2093 | Electrical and Electronics Installers and Repairers, Transportation Equipment | X |  |  |  | 2070 | 2160 | 4.4% | $40,700 |
| 49-1011 | First-Line Supervisors of Mechanics, Installers, and Repairers | X |  | X | X | 1450 | 1550 | 6.8% | $71,680 |
| 49-3042 | Mobile Heavy Equipment Mechanics, Except Engines | X |  | X |  | 370 | 20 | 6.0% | $48,130 |
| 47-2073 | Operating Engineers and Other Construction Equipment Operators | X |  | X | X | 1170 | 110 | 9.1% | $37,800 |
| 47-2111 | Electricians | X |  | X | X | 2190 | 400 | 18.3% | $54,430 |
| 51-4041 | Machinists | X |  |  |  | 490 | 520 | 7.6% | $54,020 |
| 51-4121 | Welders, Cutters, Solderers, and Brazers | X |  | X |  | 510 | 20 | 4.1% | $49,130 |

**Table 4: LMI by Standard Occupation Code (SOC) (Questions/Analysis)**

*(see instructions on page 7, LMI Instructions & Guidance Document)*

1. How closely related to the program of study are the identified occupations (SOCs)?

**The Agricultural Power and Engineering Program of Study focuses on scientific principles and methods required to understand the interrelationships of construction. The SOCs listed in table 4 are directly related to the program of study.**

1. Are there adequate state-level projected job openings or employment growth projections at the occupation level to justify starting a new program of study? Do the occupations related to the program of study rank as high skill, high wage and/or high demand?

**The number of job openings projected for the cluster and pathway as well as the related SOCs will support an agricultural power and engineering program of study. All related SOCs and the cluster and pathway are rated as either middle skill, high skill, high wage, or high demand jobs.**

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| --- | --- |
| **Table 5: LMI Supply Indicators by Secondary & Post-Secondary Levels***(see instructions on page 8, LMI Instructions & Guidance Document)* | **Program Completion/Enrollment** |
| **Program Code (CIP)** | **Program (CIP) Title** | **School** | **2011-12** | **2012-13** | **2013-14** | **2014-15** |
| **Total Secondary Programs of Study** |  |  |  |  |
| *1.04301* | Power and Mechanical Systems | Christiana High School/Christina | 183 | 51 | 23 | 0 |
| *1.04302* | Structural Systems | Sussex Central High School/Indian River | 250 | 183 | 294 | 334 |
| *1.04301* | Power and Mechanical Systems | Sussex Central High School/Indian River | 268 | 150 | 277 | 380 |
| *1.04301* | Power and Mechanical Systems | Lake Forest High School/Lake Forest | 108 | 103 | 84 | 99 |
| *1.04302* | Structural Systems | Laurel High School/Laurel | 174 | 176 | 208 | 215 |
| *1.04302* | Structural Systems | Milford High School/Milford | 106 | 162 | 112 | 136 |
| *1.04301* | Power and Mechanical Systems | Milford High School/Milford | 127 | 101 | 134 | 145 |
| *1.04302* | Structural Systems | Smyrna High School/Smyrna | 184 | 126 | 193 | 172 |
| *1.04301* | Power and Mechanical Systems | Smyrna High School/Smyrna | 190 | 134 | 189 | 168 |
| *1.04302* | Structural Systems | Woodbridge High School/Woodbridge | 182 | 49 | 198 | 182 |
| **Total Post-Secondary Programs of Study** |  |  |  |  |
| *47.0604* | Automobiles/Automotive Mechanics Technology/Technician | Delaware Technical College | 46 | 29 | 33 | 34 |
| *52.0205* | Operations Management and Supervision | University of Delaware | 45 | 14 | 18 | 22 |
| *48.0501* | Machine Tool Technology/Machinist | Delaware Technical College | 2 | 2 | 3 | 5 |
| *48.0503* | Machine Tool Technology/Assistant | Delaware Technical College | 1 | 5 | 2 | 2 |
|  | Electrical Trades | New Castle County Vo-Tech |  |  |  | 220 |
|  | Heavy Equipment Operator | New Castle County Vo-Tech |  |  |  | 13 |
|  | Iron Workers | New Castle County Vo-Tech |  |  |  | 9 |
|  | Pipefitting | New Castle County Vo-Tech |  |  |  | 60 |
|  | Sheet Metal | New Castle County Vo-Tech |  |  |  | 33 |
|  | Welding | New Castle County Vo-Tech |  |  |  | 13 |
|  | Machinist | New Castle County Vo-Tech |  |  |  | 5 |
|  | Electrical Trades | Polytechnical Institute |  |  |  | 37 |
|  | Industrial Maintenance | Polytechnical Institute |  |  |  | 3 |
|  | Electrical Trades | Sussex Vocational Technical |  |  |  | 41 |

**Table 5: LMI Supply Indicators by Secondary & Post-Secondary Levels (Questions/Analysis)***(see instructions on page 9, LMI Instructions & Guidance Document)*

1. How is the secondary program of study articulated to or in any way related to the identified post-secondary program(s)?

**The agricultural power and engineering program of study is a broad program that connects to many related post-secondary degree and certification programs at adult education center, as well as two- and four- year institutions of higher education. Specifically, the agricultural power and engineering program of study will prepare students for related study in industrial maintenance, metal fabrication, mechanic trades as well as engineering post-secondary programs.**

1. How does the annual completion data at the secondary and post-secondary level compare to the projected career pathway-related projected job openings in Table 4?

**As illustrated by the number of enrolled students, there is high interest in agricultural power and engineering programs at the postsecondary level. Therefore, an agricultural power and engineering program of study at the secondary level will better prepare students with the skills and knowledge to enter post-secondary programs. This work will lead to students achieving articulated credit while in high school and lessening the amount of time required to enter the workforce.**

**Table 6: Other LMI Data Including Real-Time LMI (Questions/Analysis)**

*(see instructions on page 10, LMI Instructions & Guidance Document)*

1. Are there additional LMI data (demand & supply) at the local, county, state, or Mid-Atlantic region that support starting a new program of study in this pathway? This includes additional occupations for which there is not an SOC, any other analysis of LMI data, and any additional information on demand & supply factors that influence employment which can include real-time labor market information.