



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 Structures 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	Employment 2015	Employment Change 2014-24	Employment Growth 2014-24	Avg. Wage 2015
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

Table 3: LMI by Career Cluster & Pathway <i>(see instructions on page 4, LMI Instructions & Guidance Document)</i>						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 ->					<i>(15 out of 16)</i>	<i>(16 out of 16)</i>	<i>(16 out of 16)</i>	<i>(6 out of 16)</i>
1.04	Power, Structural & Technical Systems	X				200	26	6.0%	\$33,602
	Rank Select Career Pathway by the Following Categories ->					<i>(5 out of 7)</i>	<i>(3 out of 7)</i>	<i>(2 out of 7)</i>	<i>(6 out of 7)</i>
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.

2. 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.

Table 4: LMI by Standard Occupation Code (SOC)

(see instructions on page 6, LMI Instructions & Guidance Document)

SOC Code	Occupation Title	Middle Skill	High Skill	High Wage	High Demand	2012-2022			
						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
47-2031	Carpenters	X		X	X	2710	480	17.8%	\$44,610
47-2051	Cement Masons and Concrete Finishers			X	X	420	50	13.3%	\$40,090
11-9021	Construction Managers		X	X	X	640	70	11.3%	\$111,170
47-2081	Drywall and Ceiling Tile Installers			X	X	380	40	10.2%	\$46,830
47-2111	Electricians	X		X	X	2190	400	18.3%	\$54,430
47-1011	First-Line Supervisors of Construction Trades and Extraction Workers	X		X	X	1700	270	15.5%	\$67,790
49-9021	Heating, Air Conditioning, and Refrigeration Mechanics and Installers	X		X	X	2000	360	17.9%	\$52,100
47-2073	Operating Engineers and Other Construction Equipment Operators	X		X	X	1170	110	9.1%	\$37,800
47-2152	Plumbers, Pipefitters, and Steamfitters	X		X	X	1010	170	16.6%	\$56,120
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)

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

The Agricultural Structures 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.

4. 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 structures 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.

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						
52.2001	Construction Management	Delaware Technical College	3	9	7	8
52.0205	Operations Management and Supervision	University of Delaware	45	14	18	22
47.0201	Heating, Air Conditioning, Ventilation and Refrigeration Maintenance/Technician	Delaware Technical College	24	16	17	24
	Carpentry	New Castle County Vo-Tech				6
	Electrical Trades	New Castle County Vo-Tech				220
	HVAC-R	New Castle County Vo-Tech				53
	Insulators and Asbestos Workers	New Castle County Vo-Tech				14
	Masonry	New Castle County Vo-Tech				17
	Plumbing	New Castle County Vo-Tech				68
	Welding	New Castle County Vo-Tech				9
	Electrical Trades	Polytechnical Institute				37
	HVAC-R	Polytechnical Institute				11

	Plumbing	Polytechnical Institute				6
	Industrial Maintenance	Polytechnical Institute				3
	Electrical Trades	Sussex Vocational Technical				61
	HVAC-R	Sussex Vocational Technical				22
	Plumbing	Sussex Vocational Technical				18

Table 5: LMI Supply Indicators by Secondary & Post-Secondary Levels (Questions/Analysis)

(see instructions on page 9, LMI Instructions & Guidance Document)

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

The agricultural structures 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 structures and engineering program of study will prepare students for related study in construction trades and engineering post-secondary programs.

6. 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 structures and engineering programs at the postsecondary level. Therefore, an agricultural structures 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)

7. 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.