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:	Manufacturing
Career Pathway:	Production
CTE Program of Study:	Manufacturing Production Technician
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 2014	Employment Change 2012-22	Employment Growth 2012-22	Avg. Wage 2014
United States	132,588,810	15,628,000	10.8%	$46,440
Delaware	412,140	40,900	9.4%	$49,254
District of Columbia	674,650	57,930	7.7%	$78,580
Maryland	2,557,510	189,370	6.1%	$53,470
New Jersey	3,869,260	313,190	7.5%	$53,920
Pennsylvania	5,653,840	467,940	7.7%	$45,750
Virginia	3,648,490	534,210	13.5%	$50,750

Table 3: LMI by Career Cluster & Pathway
(see instructions on page 4, LMI Instructions & Guidance Document)

Cluster Code	Cluster/Pathway Title	High Skill	High Wage	High Demand	2012-2022 Employment 2014	2012-2022 Employment Change 2012-2022	2012-2022 Employment Growth 2012-2022	2012-2022 Average Wage 2014
13	**Manufacturing Career Cluster**		•	•	**25,143**	**1,886**	**7.5%**	**$43,324**
	Rank Select Career Cluster by the Following Categories ->				*(9 of 16)*	*(10 of 16)*	*(10 of 16)*	*(12 of 16)*
13.1	**Production Pathway**				**12,909**	**798**	**6.0%**	**$36,685**
	Rank Select Career Pathway by the Following Categories ->				*(1 of 6)*	*(1 of 6)*	*(4 of 6)*	*(4 of 6)*
	Production Pathway – Mid-Atlantic States				696,700	5,528	0.8%	$36.971
	Production Pathway – United States				7,610,330	18,000	0.2%	$35,601
13.02	Manufacturing Production Process Development Pathway	•	•		2,272	229	9.2%	$62,953
13.03	Maintenance, Installation & Repair Pathway	•	•	•	8,402	793	9.4%	$48,580
13.04	Quality Assurance Pathway				1,560	66	7.3%	$41,190
13.05	Logistics & Inventory Control Pathway				*TBD	*TBD	*TBD	*TBD
13.06	Health, Safety & Environmental Assurance Pathway				*TBD	*TBD	*TBD	*TBD

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 Manufacturing Career Cluster is rated in the top ten (10) for employment, employment change, and employment growth rate. The cluster rated is 12th in average wages ($55,922) when compared to the other clusters in Delaware. The career cluster rating is high wage and high demand.

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?

   The employment growth for the cluster is less than the pathway. However, pathway LMI is on par with the overall growth rate in Delaware and the pathway demand is greater when reviewing LMI for most of the Mid-Atlantic region. The average wage for the cluster is above the median wage in Delaware. Further, wages can expand with earned opportunities for career advancement. LMI data also demonstrates that both regionally and across the country there is a high demand for careers in the manufacturing cluster. Finally, there is potential for students who complete the program of study to enroll in related degree programs or seek employment in SOCs found throughout the entire manufacturing cluster.

   **Note: LMI has not yet been fully aggregated at the cluster or SOC level by the EDEPS system developers for the manufacturing cluster. Additional LMI for the health, safety and environmental assurance pathway as well as the logistics and inventory control pathway based on relevant SOC data is in development by EDEPS staff.*

Table 4: LMI by Standard Occupation Code (SOC)
(see instructions on page 6, LMI Instructions & Guidance Document)

					2012-2022			
SOC Code	**Occupation Title**	**High Skill**	**High Wage**	**High Demand**	**Employment 2014**	**Employment Change 2012-2022**	**Employment Growth 2012-2022**	**Average Wage 2014**
49-1011	First-Line Supervisors of Mechanics, Installers, and Repairers		●	●	1,449	82	6.2%	$69,490
49-2094	Electrical and Electronics Repairers, Commercial and Industrial Equipment	●	●		270	20	9.2%	$62,820
17-3027	Mechanical Engineering Technicians	●	●		40	15	12.0%	$62,610

51-1011	First-Line Supervisors of Production and Operating Workers	●	●		1,307	17	1.2%	$62,380
19-4031	Chemical Technicians	●	●	●	945	118	14.2%	$62,280
17-3026	Industrial Engineering Technicians	●	●		136	25	11.3%	$61,440
49-9062	Medical Equipment Repairers	●	●		102	27	24.3%	$58,540
17-3023	Electrical and Electronics Engineering Technicians	●	●		164	23	10.4%	$55,410
51-4041	Machinists	●	●	●	487	111	16.5%	$52,440
49-9041	Industrial Machinery Mechanics	●	●	●	886	109	12.4%	$51,220
49-2028	Security and Fire Alarm Systems Installers		●		191	27	15.7%	$50,380
51-4121	Welders, Cutters, Solderers, and Brazers		●	●	517	58	11.8%	$47,820
51-2013	Electromechanical Equipment Assemblers		●		30	4	9.8%	$42,210
49-9071	Maintenance and Repair Workers, General	●	●	●	3,631	377	11.0%	$40,820
49-9099	Installation, Maintenance, and Repair Workers, All Other			●	499	37	9.0%	$40,250
51-9195	Molders, Shapers, and Casters, Except Metal and Plastic	●			73	33	31.7%	$29,940
51-2099	Assemblers and Fabricators, All Other			●	520	72	13.0%	$26,720

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 Machinists, Chemical Technicians, Industrial Machinery Mechanics, First-Line Supervisors, Mechanical Engineering Technicians, Electrical and Electronics Engineering Technicians SOCs are related to the program of study and have strong connections to post-secondary programs in the state. Further, through the earned MSSC certification, the program of study closely aligns to identified workplace needs and skills as identified by the Delaware Manufacturer's Association for employment. The LMI and SOC review for Delaware further demonstrate additional connections to the SOC families of 17-0000 (Architecture and Engineering Occupations), 49-0000 (Installation, Maintenance, and Repair Occupations), and 51-0000 (Production Occupations). All of which are supported by EDEPS data for including additional occupational opportunities throughout the United States.

2. 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 a manufacturing production technician program of study. Most related SOCs in the pathway are rated as high wage, high demand, and high wage.

Table 5: LMI Supply Indicators by Secondary & Post-Secondary Levels
(see instructions on page 7, LMI Instructions & Guidance Document)

Program Code (CIP)	Program (CIP) Title	School	Program Completion/Enrollment 2010-11	2011-12	2012-13	2013-14
Total Secondary Programs of Study						
13.01	Manufacturing Production Technician	New Castle County, Sussex County	Program of study to begin in 2014-15 school year.			
13.01	Manufacturing Technician	NCC Vo-tech	15	16	8	10
Total Post-Secondary Programs of Study						
48.0503	Machine Shop Technology/Assistant	Delaware Technical Community College-Stanton/Wilmington	3	1	5	
48.0501	Machine Tool Technology/Machinist	Delaware Technical Community College-Stanton/Wilmington	5	2	2	

41.0301	Chemical Technology/Technician	Delaware Technical Community College-Stanton/Wilmington	2	5	6	
15.1306	Mechanical Drafting and Mechanical Drafting CAD/CADD	Delaware Technical Community College-Owens	6	7	9	
15.1301	Drafting and Design Technology/ Technician, General	Delaware Technical Community College-Owens	10	4	3	
15.0805	Mechanical Engineering/Mechanical Technology/Technician	Delaware Technical Community College-Stanton/Wilmington	11	9	13	
15.0503	Energy Management and Systems Technology/Technician	Delaware Technical Community College-Stanton/Wilmington/Owens/ Terry	0	7	4	
15.0403	Electromechanical Technology/ Electromechanical Engineering Technology	Delaware Technical Community College-Terry	2	5	0	
15.0303	Electrical, Electronic and Communications Engineering Technology/Technician	Delaware Technical Community College-Stanton/Wilmington/Owens/ Terry	23	17	11	
14.1201	Engineering Physics/Applied Physics	Delaware State University	0	0	3	

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

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

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

   The manufacturing production technician program of study is a program that connects to several post-secondary degree and certification programs at both two- and four- year institutions of higher education. Specifically, the manufacturing production technician program of study will prepare students for related study in manufacturing and engineering technology post-secondary programs.

4. 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 manufacturing production technician programs at the postsecondary level. Therefore, a manufacturing production technician 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)

5. 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.

   Real-Time LMI Report will be published in the fall of 2015.