



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:	Science Technology Engineering & Mathematics
Career Pathway:	Science and Mathematics
CTE Program of Study:	Biomedical Science (PLTW)
High School and LEA Name:	
County:	

**Table 2: Labor Market Information (LMI) Benchmarks by Geographic Region**

*(see instructions on page 3, 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)*

					2012-2022			
Cluster Code	Cluster/Pathway Title	High Skill	High Wage	High Demand	Employment 2014	Employment Change 2012-2022	Employment Growth 2012-2022	Average Wage 2014
15	Science Technology Engineering and Mathematics	•	•	•	7,875	572	8.8%	\$96,928
	Rank Select Career Cluster by the Following Categories ->				(14 of 16)	(13 of 16)	(8 of 16)	(1 of 16)
15.02	Science & Mathematics	•	•	•	4,849	436	9.4%	\$88,213
	Rank Select Career Pathway by the Following Categories ->				(2 of 2)	(2 of 2)	(2 of 2)	(1 of 2)
	Science & Mathematics - Mid-Atlantic States	•	•	•	124,780	10,446	7.7%	\$89,730
	Science & Mathematics - United States	•	•	•	636,380	74,700	11.1%	\$78,225
15.01	Engineering & Technology	•	•		3,026	136	7.5%	\$110,893

**Questions: LMI by Career Cluster & Pathway Analysis**

*(see instructions on page 4, 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 Science Technology Engineering and Mathematics Career Cluster ranks in the top twelve (12) for employment, employment change, employment growth rate and average wage when compared to other clusters and is ranked first for average wage compared to all other clusters. The career cluster rating is high skill, high wage, and high demand.

- 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?

Average wage is almost \$10,000 less at the career pathway level than at the cluster level, but at an average of \$85,000 is still above the median income for Delaware. Employment growth rate, general employment and employment change numbers are all relatively high in Delaware. Salaries remain steady as you move out of Delaware and into the Mid-Atlantic and United States region and employment, employment change and employment growth numbers remain high as well. Related pathways have higher wage potential and show similar 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)*

					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
19-1021	Biochemists and Biophysicists	•	•	•	215	42	17.4%	\$92,250
19-4099	Life, Physical and Social Science Technicians, All other	•	•	•	134	n/a	n/a	\$51,690
19-4091	Environmental Science and Protection Technicians, Including Health	•	•	•	437	57	14.6%	\$72,050**

**Questions: LMI by Standard Occupation Code (SOC)**  
*(see instructions on page 7, LMI Instructions & Guidance Document)*

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

The Biochemical and Biophysics SOC would require students to pursue intensive education programs beyond high school and even beyond the bachelor degree level. The Life, Physical and Social Science Technician, and Environmental Science and Protection Technician (including Health) SOC are closely related to the program of study but would require training beyond the High School diploma. Students involved in the program will have to complete Algebra II (preferably Pre-

Calculus) and may be able to achieve articulated credits at the Delaware Technical and Community College through the successful completion of all courses and associated exams.

- Are there adequate state-level projected job openings or employment growth projections at the occupation level to justify starting a new program? 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 the biomedical sciences program of study. All related SOCs and the cluster and pathway are rated as high skill, high wage, and most are considered high demand jobs.

**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
<b>Total Secondary Programs of Study</b>						
15.01604	Biomedical Sciences PLTW	NA				
<b>Total Post-Secondary Programs of Study</b>						
40.0501	Chemistry	Delaware State University	6	2	4	3
40.0501	Chemistry	University of Delaware	47	30	42	36
03.0104	Environmental Science	University of Delaware	15	8	29	35
26.0202	Biochemistry	University of Delaware	17	15	22	22
26.0101	Biology	University of Delaware	134	150	135	133

**Questions: LMI Supply Indicators by Secondary & Post-Secondary Levels**  
*(see instructions on page 8, LMI Instructions & Guidance Document)*

- Is the Secondary Program articulated to or in any way related to the identified Post-Secondary Program(s)?

Advanced standing for the Biomedical Science program of study is under negotiation with the University of Delaware. The majority of post-secondary opportunities exist at this institution for Delaware students.

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?  
The numbers of enrolled students in finance programs at the post-secondary level indicate that is a moderate interest area. The Biomedical Science program in secondary schools will prepare students with the knowledge and abilities necessary to successfully participate in 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.

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