

# STUDENT OUTCOMES COMMITTEE OF THE BOARD OF TRUSTEES

Thursday, January 6, 2022

1:00 p.m.

Pavilion Klein Cube, P2-3

and

via Zoom

## **AGENDA**

### (1) Public Session

(a) Approval of the Minutes of November 4, 2021 (A)

(b) Academic Program Review (A)

#### Medical Laboratory Technician Program

- What changes in the Programs have occurred as a result of assessment? Has continuous assessment taken place?
- What actions have been taken to address recommendations made in the last Program Reviews?
- To what extent does the Committee agree with the Program Review findings and recommendations?
- What is the Committee's action recommendation to the full Board?

Guests: Dr. Jocelyn Lewis, Department Head and Associate Professor Allied Health

Ekaterina Mashkina, Assistant Professor, Allied Health and Program Director, Phlebotomy and Medical Lab Assistant Programs

(c) Cultivating a Culture of Excellence in Teaching & Learning at CCP (D)

Guests: Dr. Girija Nagaswami, Professor, Department of English and Facilitator, Faculty Center for Teaching and Learning (FCTL)

Dr. Stephanie Scordia, Assistant Professor of English and Professional Learning Coordinator (Title III)

(d) New Business

#### **Attachments:**

Minutes of November 4, 2021

Academic Program Review: Medical Laboratory Technician Program

**STUDENT OUTCOMES COMMITTEE OF THE  
BOARD OF TRUSTEES**

**MINUTES**

**Thursday, November 4, 2021**

**1:00 p.m.**

**Pavilion Klein Cube, P2-3 and via Zoom**

**Presiding:** Ms. Fulmore-Townsend

**Committee**

**Members:** Mr. Clancy, Ms. Ireland, Ms. McPherson, Ms. Posoff

**Board**

**Participants:** Mr. Epps

**College**

**Members:** Ms. de Fries, Dr. Generals, Dr. Hirsch, Ms. Liautaud-Watkins, Dr. Roberts, Dr. Rooney, Dr. Thomas

**Cabinet**

**Members:** Ms. Witherspoon

**Guests:** Ms. Gordon, Ms. Krombie, Mr. Perkins, Dr. Sinnott, Dr. Sweet

**(1) Executive Session**

There were no agenda items for the Executive Session.

**(2) Public Session**

**(a) Approval of the Minutes of October 7, 2021**

The minutes were approved unanimously.

**(b) Academic Program Review**

**Digital Video Production (A.A.S. Degree)**

Dr. Sinnott, from the Office of Assessment and Evaluation, provided highlights from the academic program review. Enrollments have been stable (averaging over 100 students per semester) until COVID-19 hit, after which enrollments dropped. It is recommended that the program watch enrollments closely in upcoming semesters. With an average of about 100 students per semester, courses were running at 96% capacity, which should be considered when dealing with enrollments. Students are predominantly career-seeking students. Career opportunities are very strong; there is an 18% growth predicted in the field of camera operators/editors, and demand in the Philadelphia area is above average. There is a significant number of students who do

transfer to pursue filmmaking, mostly at Temple. Regarding transfer, Ms. McPherson suggested the program also look at top film schools such as those at New York University and University of Southern California, which might have scholarships. The program has been responsible in regards to assessment, with faculty engaged in conducting assessments and continuous improvement. All recommendations from the last APR have been completed.

Ms. Crombie, department head of Photographic Imaging, explained that the program is currently geared towards television production, but the program review indicated students are interested in making films and not just being on a TV crew. The industry has changed dramatically. New faculty are self-employed filmmakers, which is a future field on which the program should focus. Ms. Crombie stated that the program's students are more technically advanced than those at four-year schools in the area. As such, she does not want to encourage students to invest tens of thousands of dollars further in education when the program's students are already competitive in the field. In regards to questions about expanding the program and opportunities, Ms. Crombie explained that the College has already invested in the most expensive components: a TV studio and high-end equipment. Moving forward, a focus on screenwriting or small-scale entrepreneurial film-making would be beneficial. Revising the second-year curriculum to address these areas with more electives and options while moving away from the TV studio environment would help. Board members suggested that the program explore relationships with Comcast and NBC and that board members could help extend the program's advisory committee.

**Action: The Student Outcomes Committee unanimously recommended that the Board of Trustees accept the program review for the Digital Video Production program with approval for five years.**

**(c) Academic Program Review Updates**

**Liberal Arts: Honors Program**

**Behavioral Health/Human Services Program**

Dr. Sweet, Dean of Liberal Studies, explained that in November 2020, the two programs underwent the review process; both programs were given clear pathways for going forward before being considered for renewal.

The Liberal Arts: Honors program completed an environmental scan, talking with students, graduates, and those who did not join the program. The program has a new coordinator: Dr. Sarah Iepson, the department head of Art and the coordinator for the Phi Theta Kappa Honor Society. Faculty have started revising the program, completing assessments, and making changes that will attract more students and capture those who take courses in the program but do not graduate with the Honors degree. The program is also considering a certificate in which student participation in the Honors program would be noted. Dr. Sweet concluded that the program has completed the work necessary to receive approval.

The Behavioral Health/Human Services program had the same charge as the Honors program. After much collaboration with the program coordinator Dr. Pat Scoles and department head Dr. Fran DiRosa, the program has developed program revisions which address the needs of the Philadelphia workforce and the BHHS community. The program changes are going through the review process this semester. The updated program will go into effect in Fall 2022. The program will be able to assess the impact of the changes sometime after that.

**Action: The Student Outcomes Committee unanimously recommended that the Board of Trustees accept the program review updates for the Liberal Arts: Honors and the Behavioral Health/Human Services programs and approve the programs for three years with a one-year update from each program.**

**(d) Center for Male Engagement (CME) Progress Report**

Mr. Perkins provided information on the impact of the CME. It is a cohort-based program, with four support coaches and up to 75 students per coach. The CME examined retention rates: CME students have higher retention rates compared to both College-wide and to Black males who are not part of CME - 50% retention for new students, 60% for returning students. Regarding developmental education coursework, CME students have not compared as well to the general College population. However, 62% of students College-wide have to take at least one developmental education course, compared to 92% of CME students.

Regarding diversity, equity and inclusion, Mr. Perkins has conducted many sessions with faculty and staff. The College has started implementing the Academic Equity Coaches initiative. Based on the top 25 enrolled courses, departments with courses with the largest equity gaps were chosen to take part: Allied Health, English, and Foundational Math. They have identified faculty in those departments who will disaggregate data, look at circumstances underlying the equity gaps, and then implement changes to decrease these gaps.

The CME is grant-funded; the grant was just extended for an additional five years and received the maximum amount awarded (\$3 million). Over 1,000 students have been served over the last five years. With the new expansion, they are trying to increase the number of students per coach to 150. Most CME students are part-time (typically 6-9 credits per year); they therefore take on average 4.5 years to complete their associate's degree. Of the CME participants, 341 received an associate's degree or certificate, and 57 of those students have gone on to attain their bachelor's degree (across more than 40 institutions).

However, Black and Brown males still have the lowest retention rates and academic outcomes. Enrollments for these students have declined since the pandemic – 46% decline in Black and Brown males in the last four years. They have competing priorities, such as work, childcare, mental health, and taking care of family members

because of COVID-19. As such, we need to support them better. The College has recommitted to this work. In order to provide more supports, the number of positions has been increased to seven, including a retention coordinator and a community outreach coordinator. CME will therefore be able to serve an additional 1,000 students over the next five years with the expansion, which means a total of 2,000 over the next five years.

In response to questions from Board members, Mr. Perkins explained that recruitment efforts will target Black and Brown males more holistically. The recruiter (in Enrollment Management) will work more with students in high schools, from community-based organizations, and the I Am More initiative. They are also eliminating the requirement that students could have earned no more than 30 credits, because students still need support after their first 30 credits. He also explained that increasing the number of students per coach from 75 to 150 will be possible because the program is expanding to include more students who are not at-risk; with different levels of being at-risk, not all students need the same level of support. They are also creating cohorts across academic departments; they have identified faculty in English, Foundational Math, and Allied Health to provide support and outreach. CME staff have to create space where Black and Brown males can be vulnerable and get the support they need in real time, which might be new for some of them. If students have one trusted person, they are more likely to be retained.

Mr. Perkins provided an update on the I Am More initiative. I Am More has two pathways - credit and non-credit. They have an initial recruitment goal of 120 students over three years. Recruitment can be challenging because the program cannot do direct outreach to students because they do not self-identify as a returning citizen on any forms. The students have to reach out to the program. The retention goals are 60% for new students and 70% for returning. The completion goal is 60%, with an 85% recidivism goal (i.e., fewer than 15% will be arrested again). The program has a career development piece and they are planning to develop paid internship opportunities, with one support coach devoted to this area. Mr. Perkins described the eligibility requirements and key partnerships. For the non-credit courses, some are not available for financial aid, so the program is looking to scholarships or donor contributions.

**(e) New Business**

There was no new business.

**Next Meeting**

The next meeting of the Student Outcomes Committee of the Board is scheduled for Thursday, January 6, 2022 at 1:00 p.m. in the Pavilion Klein Cube, P2-3 and via Zoom.

**Attachments:**

Minutes of October 7, 2021

Academic Program Review: Digital Video Production (DVP)

Final Update on Academic Program Review

Liberal Arts: Honors Updates for November 2021

Behavioral Health/Human Services Update

Center for Male Engagement presentation

# Community College *of* Philadelphia

## Academic Program Review: Medical Laboratory Technician (MLT)

Authors: Ekaterina Mashkina, Dr. Dawn Sinnott  
Fall 2021

## Executive Summary

### Key Findings

#### Enrollment and Demographics

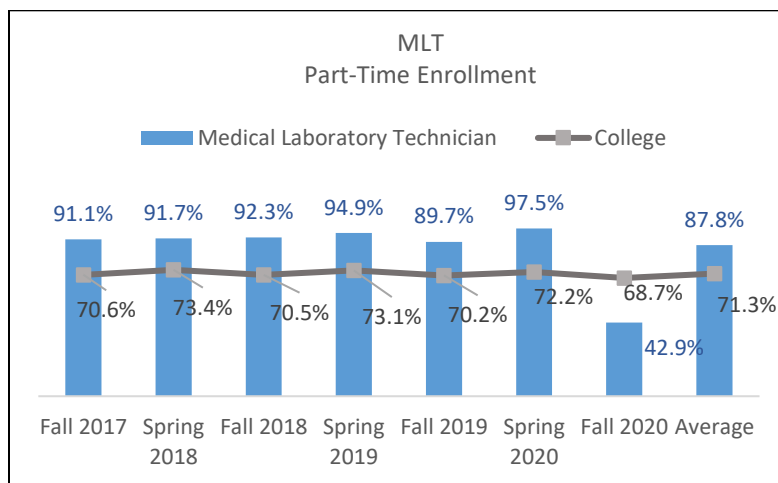
##### Exhibit 1: College and Program Enrollment

- In Fall 2017, the CLT (Clinical Laboratory Technician) Program closed, and MLT (Medical Laboratory Technician) Program opened. The following table demonstrates the enrollment migration from CLT to MLT. Since MLT is now the active program, from this point forward, all data will reference the combined enrollment as MLT program

Exhibit 1: College and Program Enrollment										
	Fall 2016	Spring 2017	Fall 2017	Spring 2018	Fall 2018	Spring 2019	Fall 2019	Spring 2020	Fall 2020	Average
College-Wide	18,125	17,019	17,296	16,503	16,671	15,544	15,996	14,789	13,673	16,180
CLT	43	40	27	25	4	4	0	1	1	16
MLT	0	0	18	23	35	35	39	39	27	24
MLT and CLT Total	43	40	45	48	39	39	39	40	28	40

##### Exhibit 2: College and Program Part-Time Enrollment

- Students enrolled in the MLT Program are predominantly part-time except for fall 2020, which was at the height of the COVID-19 restrictions period. On average, almost 90% of MLT Program enrollment is part-time.



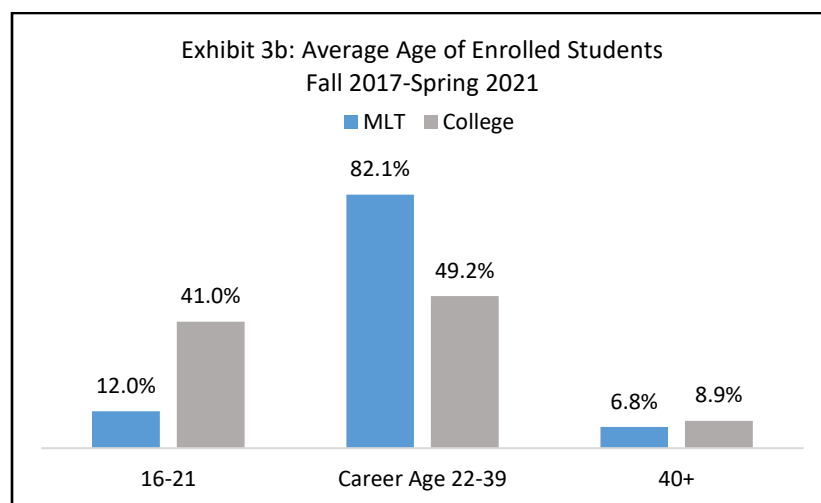


## Exhibit 3: College and Program Enrollment by Age

- On average, MLT students were more likely to be career age students between 22 and 39 years of age than the college-wide average; MLT 82% and CW 50%; see Exhibit 3a and 3b.

Exhibit 3a Enrollment by Age

MLT	Fall 2016	Spring 2017	Fall 2017	Spring 2018	Fall 2018	Spring 2019	Fall 2019	Spring 2020	Fall 2020	Spring 2021	MLT Avg	CW Avg
	43	40	45	48	39	39	39	40	28	35	40	
16-21	4.4%	0.0%	16.7%	17.4%	11.4%	8.6%	12.8%	10.3%	14.8%	8.6%	12.0%	41.0%
22-29	44.4%	40.0%	66.7%	43.5%	48.6%	51.4%	64.1%	61.5%	55.6%	60.0%	56.6%	33.4%
30-39	35.6%	35.6%	16.7%	34.8%	31.4%	34.3%	17.9%	23.1%	18.5%	25.7%	25.5%	15.7%
40+	11.1%	13.3%	0.0%	4.3%	8.6%	5.7%	5.1%	5.1%	11.1%	5.7%	6.8%	8.9%



## Exhibit 4: Program Enrollment Gender Within Race

- On average, the MLT Program enrolled a higher percentage of Asian females (26.5%) than the college overall (5.1%)
- On average, the MLT Program enrolled a higher percentage of White females (31.7%) than the college overall (13.3%)
- On average, the MLT Program enrolled a lower percentage of Black females (8.8%) than the college overall (28.1%)
- On average, the MLT Program enrolled a higher percentage of females (83.3%) than the college overall (56.0%)

Exhibit 4: College and Department Enrollment by Gender within Race

MLT		Fall 2016	Spring 2017	Fall 2017	Spring 2018	Fall 2018	Spring 2019	Fall 2019	Spring 2020	MLT Average	College Average
Asian	Female	22.2%	21.7%	25.7%	25.7%	28.2%	28.2%	29.6%	27.3%	26.5%	5.1%
Asian	Male	5.6%	4.3%	2.9%	2.9%	2.6%	2.6%	3.7%	3.0%	3.2%	4.3%
Black	Female	22.2%	17.4%	11.4%	8.6%	7.7%	5.1%	3.7%	3.0%	8.8%	28.1%
Black	Male	0.0%	0.0%	5.7%	5.7%	10.3%	10.3%	11.1%	12.1%	7.6%	12.6%
Hispanic	Female	5.6%	13.0%	5.7%	5.7%	7.7%	7.7%	11.1%	9.1%	8.0%	9.4%
Hispanic	Male	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	4.6%
White	Female	33.3%	34.8%	34.3%	37.1%	33.3%	33.3%	18.5%	27.3%	31.7%	13.3%
White	Male	5.6%	4.3%	5.7%	5.7%	2.6%	2.6%	0.0%	3.0%	3.6%	8.0%
Total Females		83.3%	87.0%	77.1%	77.1%	74.4%	63.0%	66.7%	75.1%	83.3%	56.0%
Total Males		11.1%	8.7%	14.3%	14.3%	15.4%	14.8%	18.2%	14.5%	11.1%	29.4%

## Retention – Returned or Graduated

### Exhibit 5: Fall to Spring Retention

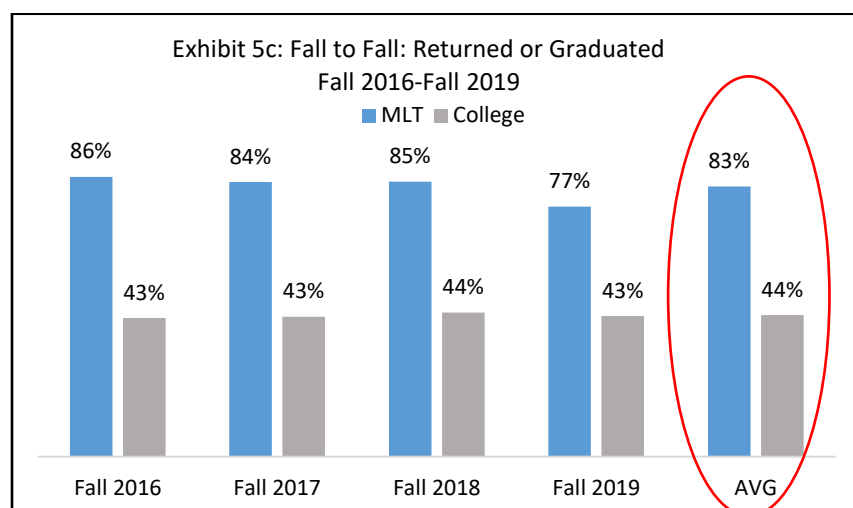
- Fall to spring retention is strong, with an overall average of 92.8% of enrolled students persisting to the following spring; see Exhibit 5a.
- Fall to fall retention for the MLT Program continues to outpace the College average, with an overall average of 83% of enrolled MLT students graduating or persisting to the following fall: College average 44%; see Exhibit 5b and 5c.

Exhibit 5a: Fall to Spring Retention

MLT	Fall 2016	Fall 2017	Fall 2018	Fall 2019	Fall 2020	MLT Average	College Average
Headcount	43	45	39	39	28	39	15,909
Returned to Same Program	90.7%	91.1%	94.9%	94.9%	92.9%	92.8%	64.4%
Returned to Different Program	0.0%	2.2%	0.0%	5.1%	0.0%	1.5%	4.8%
Graduated	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	2.9%
Did Not Persist	9.3%	6.7%	5.1%	0.0%	7.1%	5.7%	27.8%

Exhibit 5b: Fall to Fall Retention

MLT	Fall 2016	Fall 2017	Fall 2018	Fall 2019	MLT Average	College Average
Headcount	43	45	39	39	41	17,022
Returned to Same Program	51%	35.6%	41.0%	33.3%	40.4%	34.1%
Returned to Different Program	0%	6.7%	0.0%	7.7%	3.6%	7.2%
Graduated	35%	48.9%	43.6%	43.6%	42.8%	9.5%
Did Not Persist	14%	8.9%	15.4%	15.4%	13.3%	49.2%



## Graduation

### Exhibit 6: Degrees Awarded

- A total of 89 AAS degrees were awarded between 2016 and 2020, see exhibit 6

Exhibit 6: Degrees Awarded in Medical Laboratory Technician program, and all AAS Degree Programs

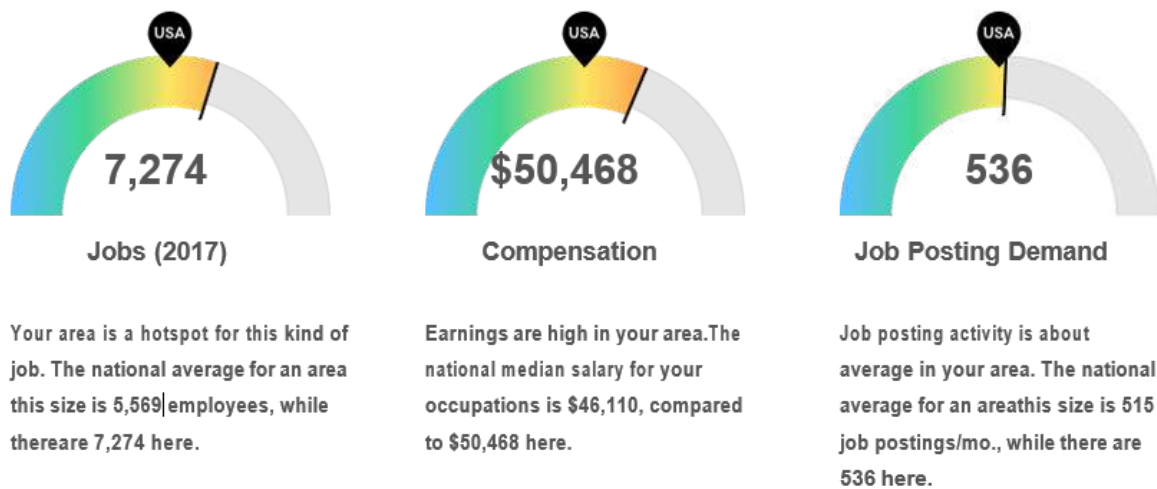
	2016	2017	2018	2019	2020	Total
MLT	0	0	0	16	17	33
Clinical Lab Technician	17	18	19	2	0	56
Total	17	18	19	18	17	89
AAS Degrees	603	587	530	558	482	3,384

## Workforce Development

## Exhibit 7: Workforce Development

- An average area of this size typically has 5,569 jobs, while 7,274 are in the Philadelphia area. This higher-than-average job supply may make it easier for workers in this field to find employment in the local area; see Exhibit 7a.
- All data reflects pre COVID-19 employment trends; data should be reprocessed in 2022 to reflect the current environment.

## Exhibit 7a: Employment Demand

**Average Job Posting Demand Over a Deep Supply of Regional Jobs**

- Labor and wage data finds, there are 962 employers in the local area. Penn Medicine, University of Pennsylvania, and Patient First Corporation of three of the most active employers see Exhibit 7b.
- Employment areas in highest demand include Veterinary Technicians, Medical Technologists, and Laboratory Technicians, see Exhibit 7c.
- CCP is a leader in local programs that can train for these occupations; 19 institutions have produced completions in the last five years, see Exhibit 7d.
- National US Bureau of Labor Statistics projects 11% growth nationally, see Exhibit 7e

## Exhibit 7b: Top Local Employers

	Unique Postings
Penn Medicine	811
University of Pennsylvania	648
Patient First Corporation	298
Quest Diagnostics Incorporated	294
Thomas Jefferson University	241
Crozer-Keystone Health System	240
Banfield Pet Hospital	215
Einstein Healthcare	211

Main Line Health	185
Tower Health	185

## Exhibit 7c: Areas of High Job Posting

	Unique Postings
Veterinary Technicians	940
Medical Technologists	793
Sterile Processing Technicians	555
Medical Technologists/Medical Laboratory Technicians	532
Medical Laboratory Technicians	277
Histotechnologists	227
Laboratory Technicians	225
Travel Medical Technologists	181
Medical Laboratory Technologists	161
Resource Technologists	156

## Exhibit 7d: Local Programs That Train for These Occupations

Top Schools	Completions (2020)
Community College of Philadelphia	246
Bucks County Community College	134
Temple University	134
Delaware County Community College	123
University of the Sciences	121
Thomas Jefferson University	117
Drexel University	94
Philadelphia College of Osteopathic Medicine	83
University of Pennsylvania	76
Saint Joseph's University	70

## National Employment Projections

621500 Medical and diagnostic laboratories

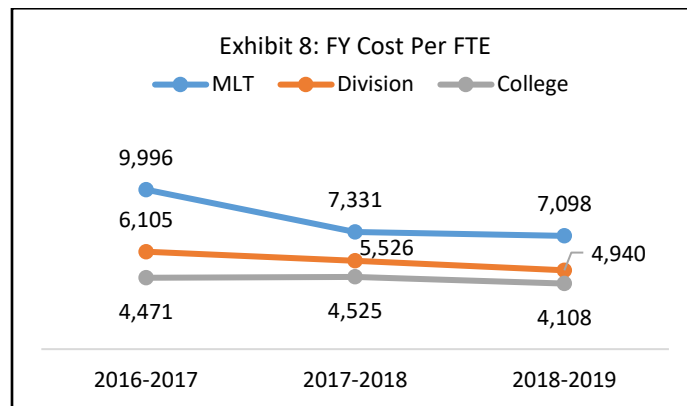
Employment in thousands.

## Exhibit 7e: US Bureau of Labor Statistics Employment Projections Nationally

Occupation Title	Occupation Code	Employment 2020	Employment 2030	Employment Change, 2020-2030	Employment Percent Change, 2020-2030	Occupational Openings, 2020-2030 Annual Average	Median Annual Wage 2020
Clinical laboratory technologists and technicians	29-2010	335.5	372	36.5	10.9	25.9	54,180

## Cost

- See Exhibit 8
- The MLT and Phlebotomy programs are supported by one budget and two sources derived from general College funds: the Operating and Capital budgets. The operational budget is developed for each fiscal year; resource allocation decisions are made within the College's strategic plan, and the various cost center plans parameters. Operating budgets are designed to meet the immediate functional needs of the Program. The MLT/Phlebotomy operational budget is adequate for the continued operation of both Programs. Program faculty annually review the Operating Budget and can request needed changes to the budget.
- The MLT/Phlebotomy Capital budget is allocated to provide for the purchase of equipment for the program. At the beginning of the budget process, each program is asked to request the necessary equipment to support the program. In addition, the College receives Perkins funding to procure equipment designed to enhance student success in the program.
- Under current leadership, Cost Per FTE has decreased by almost 30% over the past three years while increasing program outcomes.



## Assessment

A fully documented holistic plan that includes a timeline for continuous and systematic assessment of the program's effectiveness guides the Program's assessment practice. The plan includes:

- Advisory Committee: The purpose of the Advisory Committee is to provide input from the clinical laboratory setting and related settings to assure that courses and content of the program are current and relevant to the workplace.
- Student evaluation of faculty and courses is done using Allied Health Department evaluation forms and completed by mid-semester to determine if changes are needed.
- Student evaluation of clinical sites
- Employer and graduate job placement surveys
- Analysis and publication of program outcomes on the MLT web page annually (includes ASCP pass rate, graduation, and job placement rates)

- Peer-evaluation of teaching effectiveness – every faculty is evaluated by a College faculty on a specific schedule (see attachment). New faculty evaluated every year.
- Faculty are required to perform an assessment of each course they teach after its completion at the end of each semester based on the benchmarks for each established Course Learning Outcome (CLO) via **AEFIS** software.
- Faculty meetings - the MLT faculty meet at least once a semester to discuss student progress, course evaluations, program effectiveness, and clinical affiliates. Changes are made after each semester to improve the quality of the MLT Program, whenever necessary

The MLT Program has exceeded expectations for the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) Benchmark for American Society for Clinical Pathology (ASCP) Certification Rates, the NAACLS Benchmark for Graduation Rates, and the NAACLS Benchmark for NAACLS Benchmark for Graduate Placement Rates.

[American Society for Clinical Pathology \(ASCP\) Exam Outcomes<sup>1</sup>](#)

Date	Graduation Rate	ASCP Rate	Job Placement	Attrition
<a href="#">MLT 2019 Outcomes Data</a>	100%	85%	100%	0%
<a href="#">MLT 2018 Outcomes Data</a>	95%	92%	100%	5%
<a href="#">MLT 2017 Outcomes Data</a>	100%	73%	100%	0%
<a href="#">MLT 2016 Outcomes Data</a>	94%	100%	100%	n/a

## B. Prior Audit

- This is the first APR for the current Medical Laboratory Technician Program

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<sup>1</sup> MLT Self-Study Page 14

### C. Action Items

The Office of Assessment and Evaluation makes the following recommendations for the Program.

#### **Enrollment and Demographics**

1. Continue to monitor all The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) standards for reaccreditation and meet required deadlines for the five-year interim report due Oct 2025 and the next self-study scheduled for Oct 2029.  
Person Responsible: Department Head  
Timeline: Fall 2022 through Fall 2029
2. Continue to maintain admission number at the maximum capacity (24 students accepted for the first year of the program)  
Person Responsible: Department Head  
Timeline: Fall 2022 through Fall 2027
3. Collaborate with Marketing and Recruitment to improve awareness of the MLT career opportunities and to recruit students from underrepresented populations.  
Person Responsible: Department Head  
Timeline: Fall 2022 through Fall 2027

#### **Workforce Development**

4. Continue monitoring student post-graduation outcomes to maintain 100% Placement Rate  
Person Responsible: Department Head  
Timeline: Fall 2022 through Fall 2027

#### **Program Development**

5. Continue plans to update curriculum introducing more molecular biological methods for detecting and characterizing microorganisms that are critical to diagnostic microbiology and are now part of routine specimen processing.  
Person Responsible: Department Head  
Timeline: Fall 2022 through Fall 2027
6. Continue the development of a flexible curriculum with lectures online and labs in person on campus using various technologies (videos, case studies, procedure simulations, online image databases) and assessments after each module. This structure has demonstrated enhanced learning, and current assessments show that this format is beneficial for the students.  
Person Responsible: Department Head  
Timeline: Fall 2022 through Fall 2027



## 1. Narrative

The Medical Laboratory Technician associate degree program at CCP is nationally accredited. It prepares individuals to enter a career as a Medical Laboratory Technicians (MLT) for work in hospitals, research centers, biomedical laboratories, commercial labs, clinics, public health facilities, and the pharmaceutical industry.

The medical laboratory technician is an important part of the health care team. Technicians work under a medical laboratory scientist and perform a wide range of tests and laboratory procedures that require a high level of skill. They analyze blood, body fluids, and other specimens using precision instruments. They look for bacteria, parasites, and other microorganisms, analyze fluids' chemical content, match blood for transfusions, and test for drug levels in the blood to show how a patient responds to treatment. They also prepare specimens for examination, count cells, and look for abnormal blood and body fluids cells.

The MLT Program is designed to provide students with a thorough background in physical, biological, and chemical sciences; safety, specimen collection, handling, and processing; pre-analytical, analytical, and post-analytical components, instrumentation theories, and the application of these theories to a clinical laboratory science practice.

The National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) reaccredited the MLT Program at Community College of Philadelphia for ten years with a five-year interim report due Oct 2025 and the next self-study scheduled for Oct 2029.

The MLT Program has exceeded expectations for the NAACLS Benchmark for American Society for Clinical Pathology (ASCP) Certification Rates, the NAACLS Benchmark for Graduation Rates, and the NAACLS Benchmark for NAACLS Benchmark for Graduate Placement Rates.

Multi-layered assessment methods provide a rich foundation for continuous improvement. Data included in the program's comprehensive schedule for assessing course learning outcomes and program learning outcomes also incorporates reviews of clinical performance by the Advisory Committee, student evaluation of faculty and courses, student evaluation of the clinical sites, employer and graduate job placement surveys, peer-evaluation of teaching effectiveness.

Faculty closely monitor student attrition and graduation, discuss curriculum, and evaluate the experiences students receive during their clinical rotation. The Program Director systematically analyzes data for each semester resulting in a 2% attrition rate for the past three years.

MLT faculty also meet at least once a semester to review the outcome measures, discuss student progress, changes to the course content to prepare graduates and pass the ASCP exam, course evaluations, program effectiveness, and clinical affiliates. Changes are made after each semester to improve the quality of the MLT Program whenever necessary. This data is also shared with the Advisory Committee once a year, and feedback is requested. For example, changes made due to the students' and clinical affiliate feedback from Spring 2019. The student's feedback indicated that there were too many assignments in the MLT 265. After discussing this issue with faculty in Fall 2019, the assignment structure was reworked. The clinical affiliates' feedback indicated that our evaluation forms are outdated. It was decided to create new evaluation forms and add checklists for all clinical courses of the MLT program after discussing this issue with the faculty during the meeting in Fall 2019.

Over the next five years, the department plans to introduce more molecular methods into the MLT curriculum. More and more labs are now using molecular techniques to diagnose pathogens like COVID-19, MRSA, and C-Diff (*Clostridioides difficile*) due to the importance of timely patient isolation. It used to be that only Medical Lab Scientists (4-year degree) were allowed to handle the PCR analyzers. Now our MLT students can also run PCR. Examples of new equipment we will be using include mini-PCR and electrophoresis chambers in the Clinical Chemistry course; Multiplex PCR (Biofire film array) in the Microbiology course.

There is a nationwide shortage of lab professionals due to increases in lab testing due to COVID-19 and large numbers of techs retiring. Moreover, there is a shortage of affordable MLT programs in our region. To maintain high-quality standards and optimal outcomes, the department plans to keep the admission number at the maximum capacity (24 students accepted for the program's first year).