Program Review

Associate of Applied Science in Medical Laboratory Technology

College of Health Professions

October 2014

MARSHALL UNIVERSITY
Program Review
Marshall University

Date: October 15, 2014

Program: Associate of Applied Science in Medical Laboratory Technology

Degree and Title

Date of Last Review: Academic Year 2008 – 2009

Recommendation
Marshall University is obligated to recommend continuation or discontinuance of a program and to provide a brief rationale for the recommendation.

Recommendation

1. Continuation of the program at the current level of activity; or

2. Continuation of the program at a reduced level of activity or with corrective action: Corrective action will apply to programs that have deficiencies that the program itself can address and correct. Progress report due by November 1 next academic year; or

3. Continuation of the program with identification of the program for resource development: Resource development will apply to already viable programs that require additional resources from the Administration to help achieve their full potential. This designation is considered an investment in a viable program as opposed to addressing issues of a weak program. Progress report due by November 1 next academic year; or

4. Development of a cooperative program with another institution, or sharing of courses, facilities, faculty, and the like; or

5. Discontinuation of the program

Rationale for Recommendation: (Deans, please submit the rationale as a separate document. Beyond the College level, any office that disagrees with the previous recommendation must submit a separate rationale and append it to this document with appropriate signature.)

1
Recommendation: Signature of person preparing the report:

1
Recommendation: Signature of Program Chair: Michael Prewitt, PhD, FCCP

1
Recommendation: Signature of Academic Dean:

1
Recommendation: Signature of Chair, Academic Planning Committee: (Baccalaureate pgms only)

1
Recommendation: Signature of Chair, Faculty Senate/Chair, Graduate Council:

1
Recommendation: Signature of the Provost and Senior Vice President for Academic Affairs:

1
Recommendation: Signature of the President:

1
Recommendation: Signature of Chair, Board of Governors:

10/10/14
Date:

10/10/14
Date:

10/18/14
Date:

12/30/14
Date:

1/3/15
Date:

1/3/15
Date:

4/30/15
Date:
College/School Dean’s Recommendation

Deans, please indicate your recommendation and submit the rationale.

Recommendation:
Continuation of the Program at the current level of activity.

Rationale:
(If you recommend a program for resource development identify all areas for specific development)

The Associate Degree in Medical Laboratory Technology (MLT) is an integrated ladder curriculum following a 2+2 model that allows students to earn the associate degree or continue their studies and earn the Bachelor’s Degree in Medical Laboratory Science (MLS). Both programs are fully accredited through 2018.

Enrollment is strong in the program, and graduates are in high demand – the program enjoys a 100% placement rate of its graduates. Many students continue in the 2+2 program and complete the Bachelor degree in MT.

Weaknesses that were identified during the last program review have been addressed to the extent possible. Clinical affiliation agreements and relationships have been improved and additional equipment has been purchased to replace old and outdated laboratory equipment. A new laboratory in Gullickson Hall (GH) has been created and equipped with used equipment from the Clinical Laboratory Science (CLS) program that closed last year at Mountwest. Faculty can only accept 20 students each year due to limited availability of clinical laboratories in the area.

Graduate and employer satisfaction with the program is high, and the pass rate on the credentialing examination exceeds the national average. This program should continue at its current level.

Michael Prewitt, PhD, FCCP
10/16/14

Signature of the Dean Date
Marshall University
Program Review

For purposes of program review, the academic year will begin in summer and end in spring.

Program: **Medical Laboratory Technology - AAS**

College: **Health Professions**

Date of Last Review: **Academic Year 2008 - 2009**

I. CONSISTENCY WITH UNIVERSITY MISSION

The Associate Degree in Medical Laboratory Technology (MLT) and the Bachelor’s Degree in Medical Laboratory Science (MLS) are an integrated ladder curriculum following a 2+2 model. Students may choose to earn the associate degree only or to continue on and earn a bachelor’s degree.

Part of the mission of Marshall University is to educate health personnel for the state of West Virginia and the Tri-State region. The mission of the Clinical Laboratory Sciences (CLS) Department MLT program is to provide competent laboratory professionals who are qualified to staff health care facilities and furnish the highest quality of patient care to our servicing area, including the Huntington tri-state area and other underserved areas of West Virginia, Ohio and Kentucky. These clinical laboratory professionals provide the highest quality laboratory test results that provide 70-80% of the objective data needed for physicians to make accurate patient diagnoses. The Clinical Laboratory Sciences Department provides continuing clinical medical education for the region as required by professional organizations and health care facilities. It is an ongoing mission of the department to implement innovative programs to meet the dynamic needs of the medical community.

The MLT program is providing health care providers, and most MLT graduates practice in the Tri-State region. Since graduates receive the clinical component of their education at local area hospitals, often these hospital vacancies are filled by Marshall University MLT graduates.

II. Accreditation Information

1. **Name of Accrediting Organization:**

   The Medical Laboratory Technology (MLT) program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)

   Address: 5600 N River Rd
2. Date of Most Recent Self-Study and Accreditation visit:

The most recent self-study document was submitted in June 2010, and the accreditation site visit took place on October 13-14, 2010.

3. Accreditation Status:

In April 2011, The MLT program was granted a full seven year accreditation (see attached copy of letter conferring accreditation in Appendix IX).

4. Accrediting Organization’s Report:

See attached copy of the NAACLS Accreditation Report in Appendix IX.

III. Adequacy of the Program

1. Faculty:

Currently there are three full time faculty members in the Clinical Laboratory Sciences Department. Two faculty members are tenured and hold the rank of associate professor; one faculty member is on the tenure-track and holds the rank of assistant professor.

All three full time faculty members have attended professional meetings within the past year and have plans to attend state and national professional meetings within the upcoming academic year. All three faculty members are certified as Medical Technologists by the American Society for Clinical Pathology (ASCP), which is the national certifying agency for the profession, and have specific expertise in the content areas for which they teach in the program.

All three full time faculty members have participated in giving presentations in the field, and one has published several peer-reviewed publications. Two of the faculty hold doctoral degrees, and one has a Master’s degree and is currently pursuing a doctorate degree in education (See Appendix I for Detailed Faculty Data Sheets).

2. Students:

a. Entrance Standards:

Entry into the Medical Laboratory Technology (MLT) program involves completion of academic prerequisites with acceptable grades, application to the
Clinical Laboratory Sciences (CLS) Department and competitive selection by an admission committee.

Students are required to meet certain criteria in order to be eligible for entry into the MLT program:

- Overall Grade Point Average of 2.0
- If students fall into the category of needing to take CHM 111 as a prerequisite to CHM 211 due to not having the minimum required ACT score of 21, then CHM 111 must be successfully completed with a “C” or greater before admission into the MLT program
- Students must be able to complete all required coursework, including clinical rotations, for the MLT program within 16 months (December) of the August start date of the program. This ensures that students have “most” of their first year general coursework completed and will be eligible for clinical rotations in either the following summer or fall after all didactic coursework is completed.

Students must submit the following to the MLT Program Director for application:

- If not a currently enrolled Marshall University student, the student must apply for general admission to Marshall University and have all transcripts sent for processing as soon as possible.
- Two letters of reference
- Letter of application – a sample of which can be found on the department website

Applications must be submitted between March 1 and May 31 for the following fall semester. Letters are mailed to all qualified applicants by the end of June following the application deadline notifying them of the admission committee’s decision and their admission status.

b. Entrance and Exit Abilities of past five years of graduates:

Appendix II shows that our last five years of graduates entered the program with yearly mean high school GPAs that ranged from 3.33 to 3.63. Yearly mean ACT scores ranged from 18.2 to 23.7. Appendix III shows that these graduates also compiled respectable GPAs during their undergraduate program, with yearly means ranging from 2.77 to 3.19. There is not a clear relationship between a student’s ACT score, SAT score, or GPA and the success rate in the MLT program. Some students with lower GPAs may do well if they are highly motivated to succeed in the program. It is important that students meet prerequisite course guidelines for admission into the program, as this is the best predictor of academic success. After admission to the program, attrition rates can vary from 0-25%, given the small class sizes. Once students complete the didactic portion of the curriculum with a minimum of “C”, more than 90% go on to complete the entire MLT program.
Appendix III includes data for certification exam pass rates.

Once an MLT student has graduated from the program, the employment success rate is high. Students can take the national certification examination through the American Society for Clinical Pathology (ASCP), although not all states require this certification to practice as an MLT, including our bordering states of Ohio and Kentucky. Although West Virginia is a licensure state, it is not required for state licensure that MLTs be certified by ASCP – this is a decision of individual hospitals, which varies greatly. The overall five year (2009-2014) pass rate was 79.7% for only 34 students, compared to the national average of 77.63% for this same period for over 10,000 students. Factors to be taken into consideration for this certification pass rate among MU graduates are the low number of students from MU taking the examination and that some of the MLT graduates choose not to take the certification examination, either because their place of employment did not require it, or they were continuing on to the bachelor’s program in Medical Laboratory Science. Students who choose to take the examination immediately after graduation from the MLT program have a much better pass rate than those who choose to wait months, or even years in some instances, after graduation from the MU MLT program, which does happen often in this program. We, as a program, cannot force students who graduate to take their certification exam; this is explicitly a decision of each individual student. The MLT program always strongly encourages all students to take their certification exam immediately following graduation from the program.

3. Assessment Information:

a. The assessment summary for the period of the review can be found in Appendix IV. Also included are rubrics for each program learning outcome.

b. Other Learning and Service Activities:

No other learning or service activities provided outside of Appendix IV.

c. Plans for Program Improvement:

There were no areas of great deficiency during this assessment period. In addition to offering students an independent study course to review materials in preparation for a repeat rotation, clinical rotation policies are annually reviewed and revised annually in collaboration with the advisory committee to better align with expected student outcomes.

In 2012, the online examination question-set for the MLT clinical rotations was evaluated and updated in collaboration with the advisory committee. New questions and guidelines for taking exams in the clinical settings were put into
place in the Summer of 2013. Students since this change have been more successful in their examinations and been able to pass with the minimum required score of 70%.

Steps are currently being taken to advise students to take the national certification examination as soon after graduation as possible, although the program cannot mandate that students do this as a graduation requirement. As previously stated, not all hospitals require certification upon immediate employment, so many students wait to take the exam, and often their test scores are lower as a result.

d. Graduate Satisfaction:

All students who apply for graduation for an AAS in Medical Laboratory Technology are given a graduate survey, however, the response rate has not been high; 8 students completed the survey upon graduation. The respondents were all very satisfied with the instruction and support that they received while in our program. Since our program is small, many of the students keep in touch with the department, and are employed at local hospitals after graduation. During clinical site visits at these hospitals, all employers are generally satisfied with the graduates of the Marshall University MLT program and often contact the department to inquire about the number of anticipated graduates each year. There is a 100% job placement rate for all MLTs seeking employment in the field, and most are employed in the Tri-State region.

e. The previous five years of evaluations of assessment reports for the AAS in Medical Laboratory Technology are provided in Appendix VIII.

4. Previous Reviews: At its meeting in April 2009, the Marshall University Board of Governors recommended that the AAS in Medical Laboratory Technology continue at its current level of activity.

5. Identify weaknesses and deficiencies noted in the last program review and provide information regarding the status of improvements implemented or accomplished.

In its last program review, completed in academic year 2008 – 2009, the AAS in Medical Laboratory Technology Program identified the weaknesses below. These are transcribed verbatim from that report:

“The clinical affiliates cannot accommodate as many students per site as they have in the past; this is mainly due to staffing shortages in each hospital laboratory, which leaves less available staff to work with MLT students during rotations. The limited clinical placements do affect the number of students that can be admitted to the MLT program. As stated earlier, additional clinical
affiliates have been added to offset rotation slots lost due to staffing shortages, and plans are in place to approach new facilities to add as affiliates for the MLT program. Plans are also underway to streamline the MLT training process for all current affiliates, making it less cumbersome for hospital staff to work with MLT students. Relationships are also being strengthened with current clinical affiliates, and the Program Director has strongly encouraged each site to accept a maximum number of students to aid in possibly filling their hospital laboratory staffing shortages with Marshall MLT students in the future. Currently, students attend clinical rotations in the summer or fall following MLT didactic courses, and are placed in facilities depending on site availability during each term.

Due to budget constraints and some lack of availability, much of the equipment in the student laboratory on campus is outdated, and is in need of replacement. It is important for students to have exposure to instrumentation before entering clinical rotations at the hospitals. The MLT program has applied for equipment grants through Abbott Diagnostics for instrumentation for the past two years, and plans to continue applying every year, but has not been successful to date. A grant for $5000.00 was obtained in spring of 2006 by the CLS department through the Huntington Clinical Foundation for Lipid Point-of-Care testing equipment. There are plans to begin replacing student microscopes that are twenty years old a few at a time per year using student fees; three new student microscopes have been purchased for this year. The MLT program also relies on clinical affiliates to donate, or sell at a reduced rate, equipment that they are replacing with the latest models; a floor model chemistry analyzer was purchased with student fees during the 2007-08 academic year at a much discounted rate from St. Mary’s Medical Center for student laboratory experiences. Instrumentation was donated from Thomas Memorial Hospital in Fall 2008 for the CLS department student laboratory."

To address the above previous weaknesses, continued efforts have been made to strengthen relationships with clinical affiliates, and over the past few years, they have become more receptive to taking on additional students. There were some affiliates that were not taking students a few years ago that now have returned as Marshall affiliates. Other affiliates have begun taking more students than they have in the past, partly because they are beginning to see that students who rotate in their clinical sites are highly likely to begin working in them to fill ever-increasing job vacancies.

As for equipment issues, many of the equipment concerns have been addressed in recent years. All but 3-4 student microscopes have been replaced with new, state-of-the-art microscopes. In Fall of 2013, the dean of the College of Health Professions provided funding to purchase laboratory equipment from the Mountwest Community and Technical College (MCTC) Clinical Assistant program, which was discontinued. This newer equipment has provided students at the MLT level with more exposure to laboratory equipment, including a mock Laboratory Information System that will better prepare them for clinical rotations.
6. Current Strengths/Weaknesses:

**Strengths:**

The MLT program has small class sizes that allow for optimal interaction between students and faculty in the department. Typically, class sizes range from 12 to 17, and the availability of the faculty for student assistance is excellent. Many students are drawn to the program because of the smaller, more individualized class sizes.

The relationship with clinical affiliates for the MLT program has strengthened over the past five years, giving the MLT program greater flexibility in student rotation placements. Clinical faculty at each site have a good working relationship with the MLT Program Director and CLS faculty and work well together to resolve any issues that arise.

All faculty members are certified Medical Technologists and have experience in the field that enriches their courses. Having experienced faculty allows for relevant changes to be made in curriculum and processes in the department to better reflect changes in the field.

The teaching and office facilities in the CLS department are very good for the number of students enrolled in the program. The student lecture/laboratory room provides adequate space, and there are accommodations for a student in a wheelchair. The laboratory is well equipped with proper safety equipment such as an emergency safety shower, eyewash station and fire extinguishers. The student lecture/laboratory is also equipped with a computer with internet access and projector that has been beneficial in bringing in the most current teaching resources into the classroom.

A criteria-based admission policy into the MLT program allows for less student attrition and better success on the certification examination.

Since the majority of students who enter the MLT program hope to find employment in the Tri-State region, not having this program would be detrimental to the future health care needs of the region. With the current shortage of Clinical Laboratory Professionals and the projected future need for MLTs, the elimination of this program would result in escalation of the shortage crisis in the region and the State of West Virginia. The MLT program at Marshall is one of only five in West Virginia and its linked online MLS program one of only three programs in the state. Both the MLT and MLS programs are the only ones in the western part of West Virginia. Recruiters for laboratories across the country contact the CLS department throughout each academic year regarding job vacancies for MLT and MLS positions. Local hospitals such as St. Mary’s Medical Center, Cabell Huntington Hospital, Huntington VA Medical Center and
Charleston Area Medical Center staff their laboratories with at least 60-70% Marshall graduates. Hospital laboratories in the area are beginning to hire MLT students while they are in their clinical training before graduation due to shortages in the field. There is an increasing trend of our program not being able to graduate students fast enough to meet the demands of the field.

**Weaknesses:**

Although relationships have been strengthened with affiliates and they are more willing than in the past to accept students for training, the number of students that local hospital laboratories can accept for clinical rotation placement is still limited, mainly because of staffing shortages and preceptors not having enough time to provide multiple educational experiences in addition to their job duties. Clinical preceptors are not paid by Marshall University – they instruct MLT students as part of their routine work duties. Because of limited rotation placements, the MLT program would be limited to accepting an absolute maximum of 20 students each year. Space limitations on campus would also limit the capacity to 20 – currently the CLS department uses one classroom in the Science Building for all instruction, both lecture and laboratory, that only has the capacity for 20 students. The class sizes at Marshall for the MLT program are typical of those seen in other MLT programs across the country, for the same reasons previously stated, and Marshall’s MLT program is not unique in this respect.

Equipment and laboratory reagents and supplies are continually needed to provide on-campus laboratory experiences for students. As previously stated, the equipment needs have been met thus far and have improved since the 2008 review. Each year the CLS department has been able to purchase needed microscopes and equipment gradually with student fee and operating budget funds, as well as e-course fees that are generated from the online BS in MLS program, also housed in the CLS department. The funding has been adequate in recent years to provide needed equipment and supplies for students. For the future, increased e-course funds and possible increased lab fees could offset any unforeseen budget cuts for the department.

IV. Viability of the Program:

1. Articulation Agreements:

   During the summer of 2014, multiple articulation agreements were formed with Mountwest Community and Technical College (MCTC) and College of Health Professions programs, including the MLT program. Students would begin their education at MCTC, taking courses towards the MLT program, and then apply for admission to the program after their second year. It is projected that this articulation will be successful, given the success of a past similar articulation with MCTC’s former Clinical Assistant Program and the MLT program.
2. **Off-Campus Classes:**

   No off-campus classes are offered for the MLT program.

3. **Online Courses:**

   There are currently no online courses offered at the MLT level. Plans are in place to possibly offer CLS 105 CT online beginning Fall of 2015.

4. **Service Courses:**

   Currently, CLS 105CT, Medical Laboratory Terminology, is a course that can be taken by non-CLS majors to fulfill the Critical Thinking core curriculum requirement.

   The Dietetics department requires their students to have a Biochemistry course as part of their curriculum, and an agreement was formed between Dietetics and the CLS department to offer CLS 200, Clinical Biochemistry, as an option to the Dietetics majors every Spring semester.

5. **Program Course Enrollment:**

   Although the enrollment number may appear low compared to other university programs, the enrollment numbers for the MLT program are comparable, and in many cases larger than, other similar programs across the country. Currently, there are 17 students enrolled in the MLT program, which is a large class size for a program of this nature. This year’s increased class size is a reflection of the CLS department and the College of Health Professions Office of Student Services increased student recruitment efforts for the MLT program; many students are unaware of the MLT program at Marshall University and the vast job availability that exists in the profession. The CLS department and the COHP Office of Student Services have plans to continue student recruitment efforts to maintain consistent MLT class sizes each year.

   CLS 105 CT is a course open to non-majors as well as required for CLS majors. CLS 105 began in the fall of 2009 and replaced the CLS 100 course. This course is open to more students and typically has between 45 and 65 students each year. CLS 105 CT has been a successful course for the program and as a service course for others at Marshall for the core curriculum.

   CLS 110, Clinical Hematology, was replaced with the course number CLS 230 in the fall of 2010 to align course numbers in a better sequence within the program and with the advanced courses of the same content in the Bachelor of Science in Medical Laboratory Science.

   **Specific course enrollments are provided in Appendix V.**
6. Program Enrollment:

As evidenced in Appendix VI, the students who are newly admitted to the MLT program each year do not necessarily reflect the number of students graduating from the MLT program each year. A small percentage of these disparities are due to student attrition due to academic or personal reasons. Another reason for the difference, however, is due to those students planning to continue on to the Bachelor Degree in Medical Laboratory Science (MLS) not applying for graduation for the MLT degree. Students are advised to apply for graduation after completion of the MLT program; however, some do not see the benefit of this if they plan to continue their education to the Bachelor level and do not plan to work in the profession until the completion of the Bachelor in Medical Laboratory Science program. In recent years, more students have applied and graduated with their MLT degree because most all begin working in the field after this degree and this is a requirement for employment.

In reference to the numbers in figure 1 in Appendix VI, it appears at first glance that the MLT program numbers have declined in recent years; however, that is not the case. In previous years, students had more delays in finishing the program due to having to repeat general courses such as Chemistry and were permitted to do so after clinical rotations were completed without a time limit. Because of this, more students were delayed in graduation from the MLT program and still listed in the major for prolonged periods of time. In fall of 2012, a new policy was put into effect prohibiting students in the MLT program from being admitted to the program if they were not able to complete all coursework within 16 months (December) of the program start date, and were not permitted to progress to clinical rotations until all courses, including chemistry, were successfully completed. This change has made it possible for all students who were admitted to the major to graduate on time at the end of clinical rotations and not remain in the major longer than necessary.

See Appendix VI and Figure 1 for data supporting program enrollment.

7. The trend line for program enrollment and graduation numbers is provided in Figure 1, which follows Appendix VI.

8. Enrollment Projections:

Certified MLTs are in great demand. The U.S. Bureau of Labor and Statistics reported that employment of MLTs is expected to increase 22% from 2012-2022, which is faster than average for all occupations (11%). Due to the projected shortages in the field and availability of jobs, it is predicted that this will encourage more students to enter the program.
Currently there are 17 students enrolled in the Fall 2014 MLT class, which is considered a large class size for this type of program. It is a goal of the MLT program to have between 12 and 18 students every year over the next five years. Due to the demand and 100% job placement of graduates, it is expected that application to the program will remain steady for years to come.

IV. Necessity of the Program:

1. Advisory Committee:

The MLT and MLS programs share the same advisory committee. The advisory committee is composed of the Marshall University MLS program faculty members and clinical faculty members from all of the local clinical sites. There are one to ten clinical faculty members at any given facility. The committee meets once per academic year on Marshall University’s campus, and there are normally 15 to 25 clinical faculty members in attendance. The clinical faculty members have a direct impact on the program. Problems with the clinical experiences, examination content, passage rates and other student issues are discussed as well as possible solutions to problems. If there are any curriculum changes, this is discussed, and the clinical faculty have an opportunity for input.

2. Graduates:

All students who graduate with an MLT degree and seek employment find employment within one month of graduation. Many are often hired while still in clinical rotations to work in the hospital that they are rotating in. Most commonly, students are employed at local area hospitals such as St. Mary’s Medical Center, the Huntington Veteran’s Administration Medical Center, Cabell Huntington Hospital, Charleston Area Medical Center and Thomas Memorial Hospital. Others are also employed at Kings Daughters Medical Center in Ashland, KY, and Holzer Medical Center in Gallipolis, OH. Most local area hospitals are very supportive of their MLTs to continue to the online MLS bachelor’s degree and recognize the importance of doing so.

According to the U.S. Department of Labor Bureau, the median national salary for MLTs in May 2012 was $37,240. Due to predicted shortages, salaries are expected to continue to rise.

Currently at least half of each year’s MLT class’s students progress on to the online Bachelor of Science in Medical Laboratory Science while working full-time or part-time in the field.

A summary of graduates and placement is included in Appendix VII.
3. **Job Placement:**

There is a 100% job placement rate for students graduating from the MLT program who seek employment in the field. Many local hospitals, as well as national agencies contact the MLT program in search of graduates to fill positions. Vacancies in local hospitals are posted in the department for MLT graduates. There is no need for Marshall MLT graduates to use the university job placement services since positions are available in high numbers and graduates of the MLT program in are in high demand. After graduation, students are encouraged to stay in contact with CLS faculty, and since many of the graduates are employed at MLT clinical sites, CLS faculty often visit with them face to face throughout each year.
Appendix I
Faculty Data Sheet
(Information for the period of this review)
May 15, 2009 - May 15, 2014

Name: Muhammad Amjad  
Rank: Associate Professor

Start Date at Marshall as a Faculty Member: August 17, 2009

Status: Tenured

Highest Degree Earned: Ph D  
Date Degree Received: 1998

Conferring Institution: University of Karachi, Pakistan, Karachi, Pakistan

Area of Degree Specialization: Microbiology

Professional Registration/Licensure: Specialist in Microbiology, Bioanalytical Laboratory Director, Specialist Microbiologist in Public Health and Medical Microbiology, Director of Microbiology, Diplomate American Board of Medical Microbiology, Director of Microbiology

Field of Registration /Licensure: Clinical Laboratory Director of Clinical Chemistry, Toxicology, Diagnostic Immunology, Microbiology, Director of Microbiology, Clinical Laboratory Director of Bacteriology, Diagnostic Immunology, Mycobacteriology, Mycology, Parasitology, Virology

Agency: American Society for Clinical Pathology, New Jersey State Board of Medical Examiners, National Registry of Microbiologists, American Society for Microbiology, State of Florida, Department of Health, American Board of Medical Microbiology, New York State Department of Health

Date Obtained, Expiration Date
- Obtained: January 1, 2003, Expired: January 1, 2020
- Obtained: July 1, 2003, Expired: December 31, 2013
- Obtained: August 11, 2009, Expired: August 11, 2012

List courses you taught during the final two years of this review. If you participated in a team-taught course, indicate each of them and what percentage of the course you taught. For each course include the year and semester taught (summer through spring), course number, course title and enrollment. (Expand the table as necessary)

<table>
<thead>
<tr>
<th>Term/Year</th>
<th>Course</th>
<th>Title</th>
<th>Enrolled</th>
<th>% Respon</th>
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<td>CLS 310</td>
<td>Clin Immun &amp; Mol Diag</td>
<td>9 100%</td>
<td>100</td>
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<tr>
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<td>4 100%</td>
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<td>Fall 2013</td>
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<td>Adv Clinical Microbiology</td>
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<td>Fall 2013</td>
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<td>Immunology and Microbiology</td>
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<td>25</td>
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<td>Medical-Lab Terminology (CT)</td>
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<td>Fall 2012</td>
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<td>Medical-Lab Terminology (CT)</td>
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<td>100%</td>
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**NOTE:** Part-time adjunct faculty do not need to fill in the remainder of this document.

1) Scholarship/Research

**Contracts, Grants and Sponsored Research**

Amjad, M. (Principal), Nusair, A. (Co-Principal), Grant, "Clinical Application of IL28B Polymorphism in the Treatment Outcome and Clearance of Hepatitis C Virus Infection.", The Association of Schools of Allied Health Professions Interdisciplinary Research Award., Private, $15,000.00, Not Funded.

Amjad, M. (Principal), Grant, "Evaluation of urinary and plasma biomarkers in the early diagnosis of sepsis and acute kidney injury", Marshall University School of Medicine, Marshall University, $10,000.00, Not Funded.

Amjad, M. (Principal), Grant, "Role of Hepatitis C Virus non-structural 5A gene PKRBD sequencing in the Interferon Therapy.", College of Health Professions Research Grant, Marshall University, $1,000.00, Funded. (August 1, 2011 - Present).

Amjad, M. (Co-Principal), Moudgal, V. (Principal), Grant, "Hepatitis C Virus Nonstructural 5A Gene Mutations as Pretreatment Predictor of Rapid Virologic Response with Interferon Therapy.", Clinical and Translational Research Grant, St. Joseph Hospital, Ann Arbor, MI., Local, $30,000.00, Funded. (December 1, 2008 - Present).

**Intellectual Contributions**


Amjad, M., Moudgal, V., Faisal, M. Laboratory Diagnosis and Management of Hepatitis C Virus Infection. LabMedicine, 44(4), 292-299.

Presentations


2) Service

University

College of Health Professions Learning and Laboratory Resources Committee, Committee Member (August 17, 2011 - Present).

Marshall University Academic Senate, Committee Member (August 17, 2009 - Present).

3) Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations.

Professional Memberships


American Society for Microbiology. (1998 - Present).

4) Awards/honors (including invitations to speak in your area of expertise) or special recognition.
Faculty Data Sheet  
(Information for the period of this review)  
May 15, 2009 - May 15, 2014

Name: Pamela D Meadows  
Rank: Assistant Professor

Start Date at Marshall as a Faculty Member: August 17, 2007

Status: Probationary

Highest Degree Earned: MS  
Date Degree Received: 2012

Conferring Institution: Marshall University Graduate College, Huntington WV

Area of Degree Specialization: Health Care Administration

Professional Registration/Licensure: Medical Technologist Certification, Clinical Laboratory Practitioner License

Field of Registration /Licensure: National certification in professional field, Professional licensure required to practice in the state of WV-renewed annually

Agency: American Society of Clinical Pathologists, West Virginia Office of Laboratory Services

Date Obtained, Expiration Date  
Obtained: August 31, 1999  
Obtained: May 1, 2000, Expired: February 1, 2013

List courses you taught during the final two years of this review. If you participated in a team-taught course, indicate each of them and what percentage of the course you taught. For each course include the year and semester taught (summer through spring), course number, course title and enrollment. (Expand the table as necessary)

<table>
<thead>
<tr>
<th>Term/Year</th>
<th>Course</th>
<th>Title</th>
<th>Enrolled</th>
<th>% Respon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2014</td>
<td>CLS 210</td>
<td>Clinical Immunohematology</td>
<td>10</td>
<td>100%</td>
</tr>
<tr>
<td>Spring 2014</td>
<td>CLS 255</td>
<td>Clinical Lab Problems</td>
<td>10</td>
<td>100%</td>
</tr>
<tr>
<td>Spring 2014</td>
<td>CLS 466</td>
<td>Diagnostic Physiology</td>
<td>8</td>
<td>100%</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>CLS 410</td>
<td>Adv Clin Immunohematology</td>
<td>5</td>
<td>100%</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>CLS 430</td>
<td>Adv Clinical Hematology</td>
<td>5</td>
<td>100%</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>CLS 272</td>
<td>Clin Pract Immunohematol</td>
<td>4</td>
<td>100%</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>CLS 273</td>
<td>Clin Pract Microbiology</td>
<td>4</td>
<td>100%</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>CLS 271</td>
<td>Clin Practicum Chemistry</td>
<td>4</td>
<td>100%</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>CLS 270</td>
<td>Clin Practicum Hematology</td>
<td>4</td>
<td>100%</td>
</tr>
<tr>
<td>Fall 2013</td>
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<td>Clinical Hematology</td>
<td>11</td>
<td>100%</td>
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<tr>
<td>Summer 2013</td>
<td>CLS 272</td>
<td>Clin Pract Immunohematol</td>
<td>9</td>
<td>100%</td>
</tr>
<tr>
<td>Summer 2013</td>
<td>CLS 273</td>
<td>Clin Pract Microbiology</td>
<td>8</td>
<td>100%</td>
</tr>
<tr>
<td>Summer 2013</td>
<td>CLS 271</td>
<td>Clin Practicum Chemistry</td>
<td>8</td>
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<tr>
<td>Quarter</td>
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<td>Grade</td>
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<td>-------------</td>
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<td>---------</td>
<td>-------</td>
</tr>
<tr>
<td>Summer 2013</td>
<td>CLS 270</td>
<td>Clin Practicum Hematology</td>
<td>8</td>
<td>100%</td>
</tr>
<tr>
<td>Spring 2013</td>
<td>CLS 210</td>
<td>Clinical Immunohematology</td>
<td>13</td>
<td>100%</td>
</tr>
<tr>
<td>Spring 2013</td>
<td>CLS 255</td>
<td>Clinical Lab Problems</td>
<td>13</td>
<td>100%</td>
</tr>
<tr>
<td>Spring 2013</td>
<td>CLS 466</td>
<td>Diagnostic Physiology</td>
<td>10</td>
<td>100%</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>CLS 410</td>
<td>Adv Clin Immunohematology</td>
<td>10</td>
<td>100%</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>CLS 430</td>
<td>Adv Clinical Hematology</td>
<td>10</td>
<td>100%</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>CLS 230</td>
<td>Clinical Hematology</td>
<td>14</td>
<td>100%</td>
</tr>
</tbody>
</table>

NOTE: Part-time adjunct faculty do not need to fill in the remainder of this document.

1) Scholarship/Research

Presentations


2) Service

Department

P&P Committee-COHP.

3) Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations.

Professional Memberships

American Society for Clinical Laboratory Sciences, ASCLS, President, Previous Board of Directors, Scholarship Chair, Professional Society encompassing both professional and educational realms of Clinical Laboratory Sciences, including legislative activities. (July 2005 - Present).

Faculty Development Activities Attended


4) Awards/honors (including invitations to speak in your area of expertise) or special recognition.
Name: Jennifer Carol Duba Perry  
Rank: Associate Professor

Start Date at Marshall as a Faculty Member: August 17, 2005

Status: Tenured

Highest Degree Earned: EDD  
Date Degree Received: 2014

Conferring Institution: Marshall University, Marshall University

Area of Degree Specialization: Education Leadership, Curriculum and Instruction

Professional Registration/Licensure: Medical Technologist (MT), Medical Laboratory Technician (MLT)

Field of Registration/Licensure: American Society of Clinical Pathologists (ASCP), American Society of Clinical Pathologists (ASCP)

Date Obtained, Expiration Date:  
Obtained: July 1, 1994  
Obtained: January 1, 1993

List courses you taught during the final two years of this review. If you participated in a team-taught course, indicate each of them and what percentage of the course you taught. For each course include the year and semester taught (summer through spring), course number, course title and enrollment. (Expand the table as necessary)

<table>
<thead>
<tr>
<th>Term/Year</th>
<th>Course</th>
<th>Title</th>
<th>Enrolled</th>
<th>% Respon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring 2014</td>
<td>CLS 472</td>
<td>Adv CLS Clinical Practicum I</td>
<td>4 100%</td>
<td>100</td>
</tr>
<tr>
<td>Spring 2014</td>
<td>CLS 473</td>
<td>Adv CLS Clinical Practicum II</td>
<td>5 100%</td>
<td>100</td>
</tr>
<tr>
<td>Spring 2014</td>
<td>CLS 200</td>
<td>Clinical Biochemistry</td>
<td>15 100%</td>
<td>100</td>
</tr>
<tr>
<td>Spring 2014</td>
<td>CLS 285</td>
<td>Independent Study</td>
<td>1 100%</td>
<td>100</td>
</tr>
<tr>
<td>Spring 2014</td>
<td>CLS 464</td>
<td>Lab Instrumen Inform Sys</td>
<td>5 100%</td>
<td>100</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>CLS 200</td>
<td>Clinical Biochemistry</td>
<td>11 100%</td>
<td>100</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>CLS 460</td>
<td>Clinical Lab Mgt and Educ</td>
<td>9 100%</td>
<td>100</td>
</tr>
<tr>
<td>Fall 2013</td>
<td>CLS 285</td>
<td>Independent Study</td>
<td>1 100%</td>
<td>100</td>
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<tr>
<td>Fall 2013</td>
<td>CLS 499</td>
<td>Seminar in Lab Medicine</td>
<td>6 100%</td>
<td>100</td>
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<tr>
<td>Spring 2013</td>
<td>CLS 472</td>
<td>Adv CLS Clinical Practicum I</td>
<td>10 100%</td>
<td>100</td>
</tr>
<tr>
<td>Spring 2013</td>
<td>CLS 473</td>
<td>Adv CLS Clinical Practicum II</td>
<td>10 100%</td>
<td>100</td>
</tr>
<tr>
<td>Spring 2013</td>
<td>CLS 200</td>
<td>Clinical Biochemistry</td>
<td>16 100%</td>
<td>100</td>
</tr>
<tr>
<td>Spring 2013</td>
<td>CLS 285</td>
<td>Independent Study</td>
<td>1 100%</td>
<td>100</td>
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<tr>
<td>Spring 2013</td>
<td>CLS 464</td>
<td>Lab Instrumen Inform Sys</td>
<td>11 100%</td>
<td>100</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>CLS 272</td>
<td>Clin Pract Immunohematol</td>
<td>8 100%</td>
<td>100</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>CLS 273</td>
<td>Clin Pract Microbiology</td>
<td>8 100%</td>
<td>100</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>CLS 271</td>
<td>Clin Practicum Chemistry</td>
<td>8 100%</td>
<td>100</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>CLS 270</td>
<td>Clin Practicum Hematology</td>
<td>8 100%</td>
<td>100</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>CLS 200</td>
<td>Clinical Biochemistry</td>
<td>14 100%</td>
<td>100</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>CLS 460</td>
<td>Clinical Lab Mgt and Educ</td>
<td>11 100%</td>
<td>100</td>
</tr>
<tr>
<td>Fall 2012</td>
<td>CLS 499</td>
<td>Seminar in Lab Medicine</td>
<td>10 100%</td>
<td>100</td>
</tr>
</tbody>
</table>

1) Scholarship/Research

**Presentations**


**Research Currently in Progress**

Perry, Jennifer C, "Online Graduates in Clinical Laboratory Sciences: Are they prepared for the Workplace?", Writing Results, Scholarly.

**Directed Student Learning and Research**


Damron, J., Learning, Directed Individual/Independent Study, Clinical Lab Sciences Department,

2) Service

**Department**

CLS Scholarship Committee, Committee Chair, (September 2005 - Present).

**College**

COHP Promotion and Tenure Committee, Committee Member (August 2012 - Present).

COHP Publications Ad Hoc Committee, Committee Member (January 2011 - Present).

College of Health Professions Online Learning Committee, Committee Member (August 2007 - Present).

COHP Curriculum Committee, Committee Member (January 2006 - Present).

COHP Curriculum Committee, Committee Chair (September 2008 - September 2012).

School of Kinesiology Promotion and Tenure Committee, Committee Member (January 2012 - April 2012).

Social Work Search Committee, Committee Member (April 2011 - June 2011).

COHP Clinical Affiliations Agreements Ad Hoc Committee, Committee Member (August 2010 - March 2011).

Dietetics Department Faculty Search Committee, Committee Member (January 2010 - May 2010).

•College of Health Professions Dean’s Search Committee, Committee Member (November 2009 - March 2010).

**University**

Library Committee, Committee Member (August 2010 - Present).

Chairperson Clinical Laboratory Sciences Department, Administrative Assignment, Department Chair (August 2007 - Present).

SCORES Committee, Committee Member (August 2006 - Present).

Faculty Senate, Committee Member (August 2006 - May 2010).

Marshall University Graduate College Doctoral Seminar Planning Committee, Committee Member (March 2008 - October 2009).

**Professional**

American Society for Clinical Laboratory Science--WV Chapter, Officer, Secretary, WV, USA (October 2011 - Present).

American Society for Clinical Laboratory Science, Student Forum Advisor, WV, USA (October
2008 - Present).

WVSCLS Joint Meeting Planning Committee, Committee Member, WV, USA (October 2007 - Present).

American Society for Clinical Laboratory Science-WV Chapter, Board of Directors of a Company, WV, USA (October 2007 - October 2009).

Community

Stanford University Chronic Disease Help Yourself Workshops, Co-teacher with Dr. Kelli Williams, Huntington, WV, USA (January 2011 - May 2011).

3) Professional development activities, including professional organizations to which you belong and state, regional, national, and international conferences attended. List any panels on which you chaired or participated. List any offices you hold in professional organizations.

Professional Memberships

American Society for Clinical Laboratory Science, ASCLS, Student Forum Advisor for WV Chapter. (October 2008 - Present).

American Society for Clinical Laboratory Science, ASCLS, State Meeting Planning Committee Member. (October 2007 - Present).

American Society for Clinical Laboratory Science, ASCLS, Member. (August 2005 - Present).

American Society for Clinical Laboratory Science, ASCLS, Board of Directors Member for WV Chapter. (October 2007 - October 2009).

Faculty Development Activities Attended

Conference Attendance, "Changing Healthcare Environment: Possible Impact on Clinical Laboratory Testing", ASCLS and CLMA, Charleston, WV, USA, 1 credit hours. (October 18, 2013).

Conference Attendance, "How to Implement and Maintain a Successful POC Program", WVSCLS and WVCLMA, Huntington, West Virginia, USA, 1 credit hours. (October 5, 2012).

Conference Attendance, "Cardiac Biomarkers in HF and ACS", WVSCLS and WVCLMA, Charleston, West Virginia, USA, 1 credit hours. (October 4, 2012).

Conference Attendance, "Federal Government and Healthcare Reform Update", WVSCLS and WVCLMA, Huntington, West Virginia, USA, 1 credit hours. (October 4, 2012).

Workshop, "How to WAC a Course: Designing a Writing Intensive Course", The Center for Teaching and Learning, Marshall University, Huntington, West Virginia, USA, 1 credit hours. (August 2012).

Conference Attendance, "Cases from the ASCLS Consumer Website", WVSCLS Joint State Meeting, Charleston, WV, USA, 1 credit hours. (October 7, 2011).

Conference Attendance, "Platelets", WVSCLS Joint State Meeting, Charleston, WV, USA, 1 credit hours. (October 7, 2011).

Conference Attendance, "Obesity, Metabolic Syndrome and Diabetes", WVSCLS Joint State
Meeting, Charleston, WV, Kanawha, 1 credit hours. (October 6, 2011).

Conference Attendance, "State and Federal Laboratory Regulations Update", WVSCLS Joint State Meeting, Charleston, WV, USA, 1 credit hours. (October 6, 2011).

Workshop, "Stanford University Chronic Disease Management Leader Training", Marshall University School of Medicine, Huntington, WV, USA, 30 credit hours. (January 3, 2011 - January 7, 2011).

Seminar, "Electronic Portfolios", Marshall University Graduate College, South Charleston, WV, USA. (October 16, 2010).

Continuing Education Program, "Blackboard Basics for the Face-to-Face Class", Marshall University, Huntington, West Virginia, US, United States. (August 17, 2010).

Seminar, "Doctoral Seminar", Marshall University Graduate College, South Charleston, WV, USA. (October 10, 2009).

Continuing Education Program, "Fall Teaching Conference", Marshall University, Huntington, WV, USA. (August 18, 2009 - August 19, 2009).

4) Awards/honors (including invitations to speak in your area of expertise) or special recognition.

Awards and Honors

Full NAACLS Program Accreditation for MLT and MLS Programs, National Accreditation Agency for Clinical Laboratory Science, (April 1, 2011).
# Appendix II

Students’ Entrance Abilities for Past Five Years of Graduates: AAS in Medical Laboratory Technology

<table>
<thead>
<tr>
<th>Year</th>
<th>N</th>
<th>Mean High School GPA</th>
<th>Mean ACT</th>
<th>Mean SAT Verbal</th>
<th>Mean SAT Quantitative</th>
<th>Mean SAT Writing</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-2010</td>
<td>12</td>
<td>3.51 (n = 12)</td>
<td>21.3 (n = 11)</td>
<td>475 (n = 4)</td>
<td>487.5 (n = 4)</td>
<td>--</td>
</tr>
<tr>
<td>2010-2011</td>
<td>6</td>
<td>3.35 (n = 6)</td>
<td>18.2 (n = 5)</td>
<td>470 (n = 3)</td>
<td>466.7 (n = 3)</td>
<td>--</td>
</tr>
<tr>
<td>2011-2012</td>
<td>13</td>
<td>3.33 (n = 13)</td>
<td>20.1 (n = 12)</td>
<td>530 (n = 2)</td>
<td>520 (n = 2)</td>
<td>--</td>
</tr>
<tr>
<td>2012-2013</td>
<td>10</td>
<td>3.63 (n = 10)</td>
<td>23.7 (n = 9)</td>
<td>470 (n = 1)</td>
<td>460 (n = 1)</td>
<td>470 (n = 1)</td>
</tr>
<tr>
<td>2013-2014</td>
<td>14</td>
<td>3.36 (n = 14)</td>
<td>22.8 (n = 11)</td>
<td>530 (n = 3)</td>
<td>490 (n = 3)</td>
<td>540 (n = 3)</td>
</tr>
</tbody>
</table>
### Appendix III
Exit Abilities for Past Five Years of Graduates: AAS in Medical Laboratory Technology

<table>
<thead>
<tr>
<th>Year</th>
<th>N</th>
<th>Mean GPA</th>
<th>Licensure Exam Results</th>
<th>Certification Test Results</th>
<th>Other Standardized Exam Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009-2010</td>
<td>12</td>
<td>3.03</td>
<td>NA</td>
<td>67% pass rate for 6 of 9 total students taking exam; National Average (N.A.) was 76.3%</td>
<td>NA</td>
</tr>
<tr>
<td>2010-2011</td>
<td>6</td>
<td>2.77</td>
<td>NA</td>
<td>100% pass rate for total of 4 students; N.A. 75.8%</td>
<td>NA</td>
</tr>
<tr>
<td>2011-2012</td>
<td>13</td>
<td>3.19</td>
<td>NA</td>
<td>62.5% pass rate for 5 of 8 students; N.A. 79.7%</td>
<td>NA</td>
</tr>
<tr>
<td>2012-2013</td>
<td>10</td>
<td>2.90</td>
<td>NA</td>
<td>83.3% pass rate for 5 of 6 students; N.A. 77.4%</td>
<td>NA</td>
</tr>
<tr>
<td>2013-2014</td>
<td>14</td>
<td>3.06</td>
<td>NA</td>
<td>85.7 % pass rate for 6 of 7 students; N.A. 78.9%</td>
<td>NA</td>
</tr>
</tbody>
</table>
## Appendix IV: Assessment Summary
### Assessment Summary

**Component Area/Program/Discipline: AAS in Medical Laboratory Technology**

<table>
<thead>
<tr>
<th>Program’s Student Learning Outcomes</th>
<th>Assessment Measures (Tools)</th>
<th>Standards/Benchmark</th>
<th>Results/Analysis</th>
<th>Action Taken to improve the program</th>
</tr>
</thead>
</table>
| Students will demonstrate attitudes, knowledge, and skills that prepare them for career entry into the clinical laboratory workforce and a Medical Laboratory Technician (MLT). | **Assessment Point 1**  
CLS 270, 271, 272, 273: Practical Performance and Socialization Assessments in each clinical area | Milestone | 2012: There were 8 students who began the clinical rotation experiences, and 1 student left the rotation due to numerous issues related to academic performance and attitude. 
2013: Most students met either the milestone or capstone level for achievement; one student failed a blood banking rotation and will be repeating it in the summer of 2014. |  
2012: Policies for handling student disciplinary and academic expectations are being reviewed and revised before the next upcoming rotation cycle in Summer 2013. 
2013: The student who failed the blood banking rotation was an isolated case and was given an independent study course review during the academic year 2013-14 to prepare her for the repeat rotation in this area. No other action needed. |
| | **Assessment Point 2**  
CLS 255: Research Paper and Presentation, Multiple Field specific case scenario simulations and assessments. | Milestone | 2012 and 2013: All students met the milestone benchmark for this assessment point. |  
2012 and 2013: No action necessary. |
| Students will continue learning advanced knowledge about human health and disease. | **Assessment Point 1**  
CLS 210: Lecture and laboratory homework assignments, in class case studies, laboratory exercises, second laboratory practical where students have to explain their results to the theory as to what caused the problem, teaching exercise where each student has to demonstrate and explain a procedure and watch that student perform | Milestone | 2012 and 2013: All students met the milestone benchmark for this assessment point. |  
2012 and 2013: No action necessary. |
the procedure, short answer questions or examinations.

<table>
<thead>
<tr>
<th>Assessment Point 2</th>
<th>Milestone</th>
<th>2012 and 2013: All students met the milestone benchmark for this assessment point.</th>
<th>2012 and 2013: No action necessary.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLS 255: Research Paper and Presentation; multiple field specific case scenario simulations and assessments.</td>
<td>milestone</td>
<td>2012 and 2013: All students met the milestone benchmark for this assessment point.</td>
<td>2012 and 2013: No action necessary.</td>
</tr>
</tbody>
</table>

Students will demonstrate knowledge and experience necessary for the national certification as a Medical Laboratory Technician.

<table>
<thead>
<tr>
<th>Assessment Point 1</th>
<th>Milestone</th>
<th>2012: There were 8 students who began the clinical rotation experiences, and 1 student left the rotation due to numerous issues related to academic performance and attitude.</th>
<th>2013: Most students met either the milestone or capstone level for achievement; one student failed a blood banking rotation and will be repeating it in the summer of 2014.</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLS 270, 271, 272, and 273: Practical Performance Evaluations and Final Assessments in each clinical area.</td>
<td>milestone</td>
<td>2012: There were 8 students who began the clinical rotation experiences, and 1 student left the rotation due to numerous issues related to academic performance and attitude.</td>
<td>2013: Most students met either the milestone or capstone level for achievement; one student failed a blood banking rotation and will be repeating it in the summer of 2014.</td>
</tr>
</tbody>
</table>

2012: Policies for handling student disciplinary and academic expectations are being reviewed and revised before the next upcoming rotation cycle in Summer 2013.

2013: The student who failed the blood banking rotation was an isolated case and was given an independent study course review during the academic year 2013-14 to prepare her for the repeat rotation in this area. No other action needed.
**Program Assessment Rubrics: AAS in Medical Laboratory Technology**

**Program Learning Outcome 1:** Students will demonstrate attitudes, knowledge, and skills that prepare them for career entry into the clinical laboratory workforce and a Medical Laboratory Technician (MLT).

<table>
<thead>
<tr>
<th>Traits</th>
<th>Performance Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Introductory</td>
</tr>
<tr>
<td>Students will be able to demonstrate ethical self-awareness and</td>
<td>Student is unable to adequately evaluate</td>
</tr>
<tr>
<td>appropriate attitudes towards patient care and fellow health care</td>
<td>ethical dilemmas and acts in an</td>
</tr>
<tr>
<td>professionals.</td>
<td>inappropriate manner, which had</td>
</tr>
<tr>
<td></td>
<td>could violate patient rights and</td>
</tr>
<tr>
<td></td>
<td>safety. Students are unable to</td>
</tr>
<tr>
<td></td>
<td>evaluate laboratory professional</td>
</tr>
<tr>
<td></td>
<td>interactions effectively and act</td>
</tr>
<tr>
<td></td>
<td>appropriately with fellow laboratory</td>
</tr>
<tr>
<td></td>
<td>students or clinical coordinators in a</td>
</tr>
<tr>
<td></td>
<td>way that is disruptive or offensive.</td>
</tr>
<tr>
<td>Students are able to demonstrate laboratory science knowledge in the</td>
<td>Students are unable to demonstrate</td>
</tr>
<tr>
<td>four primary areas of the laboratory at the MLT level.</td>
<td>competency in laboratory theoretical</td>
</tr>
<tr>
<td></td>
<td>concepts at the MLT level as</td>
</tr>
<tr>
<td></td>
<td>demonstrated by less than a 70% on</td>
</tr>
<tr>
<td></td>
<td>knowledge assessments, case scenario</td>
</tr>
<tr>
<td></td>
<td>evaluations, capstone project, and</td>
</tr>
<tr>
<td></td>
<td>class discussion involvement.</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>Students are able to demonstrate laboratory skills at the MLT level</td>
<td>Students are unable to demonstrate</td>
</tr>
<tr>
<td>upon program completion.</td>
<td>acceptable laboratory skills as</td>
</tr>
<tr>
<td></td>
<td>evidenced by achieving less than a 70%</td>
</tr>
<tr>
<td></td>
<td>on practical performance evaluations</td>
</tr>
<tr>
<td></td>
<td>in all laboratory areas.</td>
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<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Program Learning Outcome 2:** Students will continue learning advanced technical knowledge about human health and disease.

<table>
<thead>
<tr>
<th>Traits</th>
<th>Performance Levels</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students are able to demonstrate appropriate problem-solving skills for the MLT level.</td>
<td><img src="#" alt="Table Content" /></td>
</tr>
<tr>
<td>Students are able to evaluate peer-reviewed literature in the clinical laboratory science field at the cognitive level appropriate for the MLT.</td>
<td><img src="#" alt="Table Content" /></td>
</tr>
<tr>
<td>Students are able to discuss clinical laboratory testing concepts and procedures knowledgeably with other Medical Laboratory professionals and other pertinent health care professionals.</td>
<td><img src="#" alt="Table Content" /></td>
</tr>
</tbody>
</table>

*Students are able to demonstrate appropriate problem-solving skills for the MLT level.*

- **Introductory**
  - Students are unable to assess appropriate actions to take when dealing with specimen errors, instrumentation errors, and cannot adequately interpret the validity of test results given selected laboratory case studies.

- **Milestone**
  - Student is able to assess appropriate actions to take when dealing with specimen errors, instrumentation errors, and cannot adequately interpret the validity of test results given selected advanced laboratory case studies, troubleshoot advanced instrumentation effectively a minimum of 70% of the time.

- **Capstone**
  - Student is able to assess appropriate actions to take when dealing with specimen errors, instrumentation errors, and cannot adequately interpret the validity of test results given selected advanced laboratory case studies, troubleshoot advanced instrumentation effectively at least 85% of the time.

- **Advanced**
  - N/A

*Students are able to evaluate peer-reviewed literature in the clinical laboratory sciences.*

- **Introductory**
  - Students evaluate literature that is not appropriate to clinical laboratory sciences. Students evaluate literature that is greater than five years old. Students evaluate literature that is not peer-reviewed, such as newsletters, news magazines, or websites that are not reputable. Students are not able to summarize the article findings and relay their own thoughts of the subject matter.

- **Milestone**
  - Literature is appropriate to the clinical laboratory sciences and is less than five years old. Students evaluate literature that is from peer-reviewed sources, however articles are somewhat basic and do not contain a scientific study with materials and methods, findings, and conclusions. Students do summarize basic concepts of the literature but major interpretation is missing; depth of full synthesis is missing and as well as complete understanding of subject matter. Students discuss with fellow classmates and faculty basic concepts of peer reviewed journal articles; depth of full synthesis is missing as well as complete understanding of subject matter.

- **Capstone**
  - Literature is appropriate to the clinical laboratory sciences and is less than five years old. Students evaluate literature that is from peer-reviewed sources, and articles are based on a scientific study with materials and methods, findings, and conclusions. Students summarize basic concepts of the literature and demonstrate depth of full synthesis as well as complete understanding of subject matter.

- **Advanced**
  - N/A

*Students are able to discuss clinical laboratory testing concepts and procedures knowledgeably with other Medical Laboratory professionals and other pertinent health care professionals.*

- **Introductory**
  - Students do not have an adequate knowledge base of clinical laboratory testing concepts and are unable to articulate effectively with fellow laboratory students through classroom discussion. Students are unable to communicate effectively with laboratory staff at clinical sites as evidenced by scores of less than 4 on a 1-5 scale on the Professional Attitudes and Socialization Assessment.

- **Milestone**
  - Students have an adequate knowledge base of clinical laboratory testing concepts and are able to articulate effectively with fellow laboratory students through classroom discussion at least 70% of the time. Students are able to communicate effectively with laboratory staff at clinical sites as evidenced by scores of a minimum of 4 on a 1-5 scale on the Professional Attitudes and Socialization Assessment.

- **Capstone**
  - Students have an adequate knowledge base of clinical laboratory testing concepts and are able to articulate effectively with fellow laboratory students through classroom discussion 85% or greater of the time. Students are able to communicate effectively with laboratory staff at clinical sites as evidenced by scores of 5 on a 1-5 scale on the Professional Attitudes and Socialization Assessment.

- **Advanced**
  - N/A
**Program Learning Outcome 3:** Students will demonstrate knowledge and experience necessary for the national certification as an Medical Laboratory Technician (MLT).

<table>
<thead>
<tr>
<th>Traits</th>
<th>Introductory</th>
<th>Milestone</th>
<th>Capstone</th>
<th>Advanced</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students are able to demonstrate laboratory science knowledge in the area of Advanced Clinical Chemistry and Urinalysis.</td>
<td>Student is unable to pass the knowledge examination in Clinical Chemistry during Practicum with a minimum of 70%. Student is unable to pass the knowledge examination in Urinalysis during Practicum with a minimum of 70%. Student is unable to pass the comprehensive mock MLT registry examination with a minimum of 70% in the Clinical Laboratory Problems course. Student is unable to accurately identify microscopic findings in urine sample images such as cellular elements, crystals, microorganisms, and other significant findings at a minimum of 70%; student cannot differentiate between abnormal and normal findings.</td>
<td>Student is able to pass the knowledge examination in Clinical Chemistry during Practicum with a minimum of 70%. Student is able to pass the knowledge examination in Urinalysis during Practicum with a minimum of 70%. Student is able to pass the comprehensive mock MLT registry examination with a minimum of 70% in the Clinical Laboratory Problems course. Student is able to identify microscopic findings in urine sample images such as cellular elements, crystals, microorganisms, and other significant findings at a minimum of 70% accuracy; students can differentiate between abnormal and normal findings 100% of the time.</td>
<td>Student is able to pass the knowledge examination in Clinical Chemistry during Practicum with an 85% or greater. Student is able to pass the knowledge examination in Urinalysis during Practicum with a minimum of 70%. Student is able to pass the comprehensive mock MLT registry examination with an 85% or greater in the Clinical Laboratory Problems course. Student is able to identify microscopic findings in urine sample images such as cellular elements, crystals, microorganisms, and other significant findings at 85% or greater accuracy; students can differentiate between abnormal and normal findings 100% of the time.</td>
<td>N/A</td>
</tr>
<tr>
<td>Students are able to demonstrate laboratory science knowledge in the area of Advanced Hematology and Coagulation.</td>
<td>Student is unable to pass the knowledge examination in Hematology and Coagulation during Practicum with a minimum of 70%. Student is unable to pass the comprehensive mock MLT registry examination with a minimum of 70% in the Clinical Laboratory Problems course. Student is unable to perform white blood cell differentials on normal and abnormal peripheral smears with a minimum of 70% accuracy. Student is unable to identify inclusions, abnormal rbc morphology, and various stages of cell maturation for red blood cells and white blood cells with a minimum of 70% accuracy.</td>
<td>Student is able to pass the knowledge examination in Hematology and Coagulation during Practicum with a minimum of 70%. Student is able to pass the comprehensive mock MLT registry examination with a minimum of 70% in the Clinical Laboratory Problems course. Student is able to perform white blood cell differentials on normal and abnormal peripheral smears with a minimum of 70% accuracy. Student is able to identify inclusions, abnormal rbc morphology, and various stages of cell maturation for red blood cells and white blood cells with a minimum of 70% accuracy.</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Students are able to demonstrate laboratory science knowledge in the area of Advanced Blood Banking.</td>
<td>Student is unable to pass the knowledge examination in Blood Banking during Practicum with a minimum of 70%. Student is unable to pass the comprehensive mock MLT registry examination with a minimum of 70% in the Clinical Laboratory Problems course.</td>
<td>Student is able to pass the knowledge examination in Blood Banking during Practicum with a minimum of 70%. Student is able to pass the comprehensive mock MLT registry examination with a minimum of 70% in the Clinical Laboratory Problems course.</td>
<td>N/A</td>
<td></td>
</tr>
<tr>
<td>Students are able to demonstrate laboratory science knowledge in the areas of Microbiology and Serology.</td>
<td>Student is unable to pass the knowledge examination in Microbiology during Practicum with a minimum of 70%. Student is unable to pass the knowledge examination in Serology during Practicum with a minimum of 70% Students are not able to identify gram stain images, plate colony morphology, fungi, or parasites.</td>
<td>Student is able to pass the knowledge examination in Microbiology during Practicum with a minimum of 70%. Student is able to pass the knowledge examination in Serology during Practicum with a minimum of 70% Students are able to identify gram stain images, plate colony morphology, fungi, and parasites with a minimum of 70% accuracy.</td>
<td>Student is able to pass the knowledge examination in Microbiology during Practicum with an 85% or higher. Student is able to pass the comprehensive mock MLT registry examination with an 85% or greater in the Clinical Laboratory Problems course. Students are able to identify gram stain images, plate colony morphology, fungi, and parasites with 85% accuracy or greater.</td>
<td></td>
</tr>
</tbody>
</table>
# Appendix V

## Program Course Enrollment: AAS in Medical Laboratory Technology

<table>
<thead>
<tr>
<th>College</th>
<th>Subject</th>
<th>Course</th>
<th>Title</th>
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<th>Course Type</th>
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<th>Sp10</th>
<th>Su10</th>
<th>Fa10</th>
<th>Sp11</th>
<th>Su11</th>
<th>Fa12</th>
<th>Sp12</th>
<th>Su12</th>
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<th>Fa14</th>
<th>Sp14</th>
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<td>HP</td>
<td>CLS</td>
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<td>Medical-Lab Terminology</td>
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<td>Clin Practicum Chemistry</td>
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</table>
Appendix VI
Program Enrollment: AAS in Medical Laboratory Technology

<table>
<thead>
<tr>
<th>Students</th>
<th>Year 1 2009-2010</th>
<th>Year 2 2010-2011</th>
<th>Year 3 2011-2012</th>
<th>Year 4 2012-2013</th>
<th>Year 5 2013-2014</th>
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</thead>
<tbody>
<tr>
<td>Principal Majors Enrolled: AAS in Medical Laboratory Technology No Area of Emphasis</td>
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<td>18</td>
<td>27</td>
<td>25</td>
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<td>Second Major</td>
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<td>Third Major</td>
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<td>Minors</td>
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<td>Pre-Clinical Laboratory Science Majors</td>
<td>13</td>
<td>19</td>
<td>20</td>
<td>14</td>
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<tr>
<td>Total of Students Enrolled in the AAS In Medical Technology Program</td>
<td>14</td>
<td>18</td>
<td>27</td>
<td>25</td>
<td>16</td>
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<tr>
<td>Graduates of the Program</td>
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<td>6</td>
<td>13</td>
<td>10</td>
<td>14</td>
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</table>

Note: Clinical Laboratory Science Students may choose one of three majors: AAS in Medical Technology, BS in Medical Laboratory Science, or BS in Cytotechnology. They are counted separately because there will be duplicate counts on each of these three program reviews.
Figure 1. Trend Line for Total Enrollment and Program Graduates: AAS in Medical Laboratory Technology
Appendix VII
Job and Graduate School Placement Rates: AAS in Medical Laboratory Technology

<table>
<thead>
<tr>
<th>Year</th>
<th># of graduates employed in major field</th>
<th># of graduates employed in related fields</th>
<th># of graduates employed outside field</th>
<th># of graduates accepted to Graduate Programs</th>
<th># of graduates not accounted for</th>
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</thead>
<tbody>
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<td>2009-2010</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>2010-2011</td>
<td>4</td>
<td>0</td>
<td>0</td>
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<tr>
<td>2011-2012</td>
<td>8</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>2012-2013</td>
<td>10</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
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<tr>
<td>2013-2014</td>
<td>9</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>4</td>
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<tr>
<td>Five –Year Total</td>
<td>40</td>
<td>0</td>
<td>0</td>
<td>4</td>
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</tbody>
</table>
Appendix VIII: Assessment Letters: Medical Laboratory Technology – AAS

Office of Assessment & Program Review
August 5, 2013

Ms. Jennifer Perry, Chair
Clinical Laboratory Science
College of Health Professions

Dear Jennifer:

The University Assessment Committee reviewers and I have completed our evaluations of the AAS in Medical Laboratory Technology’s assessment of student learning for academic year 2012 – 2013, as submitted in the Open Pathways Project report last updated in May 2013. This letter will provide general comments and suggestions for improvement. Please refer to the attached assessment rubric for additional comments from reviewers. Please note that the reviewers’ comments are based on the reports you submitted in February 2013, so may not be appropriate for your final report.

The learning outcomes you completed in step 2 are really program outcomes, i.e. they state what they program, not the student, will do. However, your rubrics take these program outcomes and break them down into student learning outcomes. I believe that the cognitive levels of these outcomes are (for the most part) appropriate for students in an Associate’s Degree program. However, for your final program outcome, your rubric simply states that students will “demonstrate knowledge.” This wording suggests a low cognitive level and I can’t tell from your rubric description what students will do (other than pass an exam) to demonstrate competency. What does that exam ask them to do? Do they explain, analyze, evaluate, etc.? If so, I recommend that you re-write the outcomes accordingly. Your report shows the use of a variety of assessment measures that are integrated throughout your curriculum. However, keep in mind that the benchmark for an Associate Degree Program’s first assessment point should be “Introductory,” with “Milestone” for the final assessment point. This allows you to gauge students’ development in skill level over time. Regarding your rubrics, I recommend trying to move away from quantitative performance level descriptions (70%/85%) to more qualitative descriptions. You might want to review the university’s rubrics, which you can find at mwwww.new.marshall.edu/assessment/LearningOutcomes.aspx. Click on the hyperlink for each domain of critical thinking to access its rubric. You did a nice job with analysis and planned actions.

During the academic year 2013 – 2014, programs will continue to report assessment results and plan actions using the online reporting form used last year. These reports will be due at the end of the academic year. If you have questions or concerns, please let me know.

Sincerely,

Mary E. Reynolds
Mary E. Reynolds, Associate Vice President
Assessment and Quality Initiatives

One John Marshall Drive • Huntington, West Virginia 25755-2003 • Tel 304/696-2266 • Fax 304/696-2261
A State University of West Virginia • An Affirmative Action/Equal Opportunity Employer
Ms. Jennifer Perry, Chair
Clinical Laboratory Science
College of Health Professions

June 20, 2012

Dear Jennifer:

The University Assessment Committee and I have completed our evaluation of the AAS in Medical Laboratory Technology’s assessment of student learning. This letter will provide general comments and suggestions for improvement. I have included the scoring rubric we used to evaluate your assessment report in a separate document.

As in the past, your student learning outcomes are much too general. What are some of the knowledge and skills students will demonstrate? Course grades are not acceptable assessment measures; they are too holistic and, by their very nature, should cover multiple outcomes. Practical exams are desirable, but it’s difficult to identify students’ relative strengths and weaknesses in performance based on the data you have reported.

During the coming academic year, it will be important that you follow the plan you developed as part of the first two activities of the Open Pathways Demonstration Project. The project’s steering committee will provide more feedback regarding next steps in that project at summer’s end. If you have questions or concerns, please let me know.

Sincerely,

Mary E. Reynolds

Mary E. Reynolds
Director of Academic Assessment

C: Dr. Michael Prewitt, Dean, COHP
Ms. Jennifer Perry, Chair  
Clinical Laboratory Science  
COHP

Dear Jennifer:

The University Assessment Committee reviewers and I have completed our evaluations of the AAS in Medical Laboratory Technology's assessment of student learning. This letter will provide general comments and suggestions for improvement. Although the scoring rubric we used to evaluate assessment reports was sent to you in April, I will not include numerical ratings in this letter. The reason for this is that the rubric is still relatively new and is continuing to be revised. At this time, I ask that you use it for formative purposes to help improve your assessment plan. We also would appreciate your comments concerning this rubric.

Your outcomes are measurable, but perhaps a bit general. What are the skills and competencies students need to develop? Also, course grades are too holistic to measure specific outcomes. The only reason it may seem appropriate to you to use course grades as an assessment measure is that your outcomes are so general. It is obvious from your report, however, that you are listening to student concerns (e.g., Assessment Day data) and are responding accordingly to improve your program. I also am impressed with your students' pass rate on the licensing exam. Assessment Committee reviewers commented that the program's student learning goals are more about admission standards.

During the academic year 2011 - 2012, I plan to meet with all programs to assist with further development of assessment plans and look forward to meeting with you. I will be in touch at the end of the summer about scheduling. If you have questions or concerns, please let me know.

Sincerely,

Mary E. Reynolds

Mary E. Reynolds  
Director of Academic Assessment

C: Dr. Mike Prewitt, Dean, COHP

One John Marshall Drive • Huntington, West Virginia 25755-2003 • Tel 304/696-2206 • Fax 304/696-2261
A State University of West Virginia • An Affirmative Action/Equal Opportunity Employer
Ms. Jennifer Perry, Chair
Clinical Laboratory Science
COHP

Dear Jennifer:

I have completed my evaluation of the AAS in Medical Laboratory Technology's assessment of student learning. This letter will provide my general comments and suggestions for improvement. Although the scoring rubric we used to evaluate assessment reports is attached, I will not include numerical ratings in this letter. The reason for this is that we used the attached rubric is still relatively new and, as you will see, it raises the bar for what is considered excellent assessment. However, I ask that you use it for formative purposes to help improve your assessment plan. We also would appreciate your comments concerning this rubric.

Although technically your learning outcomes are measurable, they are extremely vague. What are the “knowledge, skills, and competencies” graduates should possess? Also, course grades are not acceptable ways to measure learning outcomes. Exams are appropriate, but the holistic nature of your reporting does not allow an adequate assessment of strengths and weaknesses in the area of student learning. You are, however, to be congratulated on your students’ pass rate (100%) on the National BOR exam. This is a strong testament to the strength of your program. As requested, I would be happy to meet with you after Assessment Day to discuss the development of your survey and to discuss your assessment program in general.

Please see the attached rubric. If you have questions or concerns, please let me know.

Sincerely,

Mary E. Reynolds
Mary E. Reynolds
Director of Academic Assessment

C: Dr. Gretchen Oley, Interim Dean, COHP
Appendix IX: Accreditation Letter and Report

April 12, 2011

Stephen J. Kopp, PhD
President
Marshall University
Office of the President
1 John Marshall Drive
Huntington, WV 25755

Dear President Kopp:

Enclosed is the NAACLS Board of Directors’ official accreditation award for your Medical Laboratory Technician program’s accreditation as decided at the April 7, 2011 meeting.

The Board of Directors’ award is based on the continuing accreditation review process that included a site visit of your program on October 13-14, 2010.

Accreditation for your program will continue until April 30, 2018. As a result, your program will commence the continuing accreditation process with submission of the Self-Study Report on April 1, 2017 and the scheduling of a site visit during Fall 2017. We provide this information to assist you in your program’s administrative and financial planning.

This letter and the accompanying award represent formal accreditation by NAACLS. The NAACLS Certificate of Accreditation will be forwarded to the Program Director.

Sincerely,

Peggy Simpson

Peggy Simpson, MS, MT(ASCP)
President, NAACLS Board of Directors

cc: Jennifer D. Perry, MS, BS, MT(ASCP), Program Director
    Michael Prewitt, Dean

5600 N. River Road, Suite 720, Rosemont, IL 60018
Tel: 773.714.8380  FAX 773.714.8386  Email: naacslsinfo@naacsls.org  www.naacsls.org
NAACLS BOARD OF DIRECTORS' ACCREDITATION AWARD

The Medical Laboratory Technician Program of Marshall University in Huntington, WV, is awarded Continuing Accreditation for seven (7) years.

Jennifer D. Perry, MS, BS, MT(ASCP) is recognized as Program Director.

<table>
<thead>
<tr>
<th>Location</th>
<th>City</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabell Huntington Hospital</td>
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<tr>
<td>St. Mary's Medical Center</td>
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<tr>
<td>Charleston Area Medical Center</td>
<td>Charleston, WV</td>
</tr>
<tr>
<td>VA Medical Center</td>
<td>Huntington, WV</td>
</tr>
<tr>
<td>Thomas Memorial Hospital</td>
<td>South Charleston, WV</td>
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<tr>
<td>Kings Daughters Medical Center</td>
<td>Ashland, KY</td>
</tr>
<tr>
<td>Pleasant Valley Hospital</td>
<td>Point Pleasant, WV</td>
</tr>
<tr>
<td>Holzer Medical Center</td>
<td>Gallipolis, OH</td>
</tr>
</tbody>
</table>

Peggy Simpson, MS, MT(ASCP)  
President, NAACLS Board of Directors

Dianne M. Cearlock, PhD  
Chief Executive Officer

April 7, 2011
SITE VISIT REPORT
Clinical Laboratory Technician/Medical Laboratory Technician

Name of Program: Marshall University -- MLT-AD

City, State: Huntington, WV

Program Director: 25702

If visiting a consortium program, please list what participating entities are visited: ☑NA

<table>
<thead>
<tr>
<th>Participating Entity</th>
<th>City/State</th>
<th>Consortium Education Coordinator</th>
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<tbody>
<tr>
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</table>

I. SPONSORSHIP

CLINICAL AFFILIATES: ☑ None

<table>
<thead>
<tr>
<th>Affiliate Name</th>
<th>City/State</th>
<th>Current Signed Agreement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cabell Huntington Hospital</td>
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ACADEMIC AFFILIATES: ☑ None

<table>
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</table>

COMMENTS:
CLT/MLT Site Visit Report

1. The sponsoring institution (or at least one participating entity in the case of a consortium or joint venture) is accredited by recognized regional and/or national agencies.
   - Yes [ ]
   - No [ ]

   The clinical and/or academic affiliates are accredited by recognized regional and/or national agencies.
   - Yes [ ]
   - No [ ]
   - NA [ ]

   All provisions of the agreement(s) are active (current) with written documentation of the following items:
   - NA [ ]

   A. General:
      1. Reason for agreement
         - Yes [ ]
         - No [ ]
      2. Responsibilities of the academic facility
         - Yes [ ]
         - No [ ]
      3. Responsibilities of the clinical facility
         - Yes [ ]
         - No [ ]
      4. Joint responsibilities
         - Yes [ ]
         - No [ ]

   B. Specific:
      1. Supervisory responsibilities for the students
         - Yes [ ]
         - No [ ]
      2. Student professional liability coverage
         - Yes [ ]
         - No [ ]
      3. Student health and safety policies
         - Yes [ ]
         - No [ ]
      4. Provision for renewal
         - Yes [ ]
         - No [ ]
      5. Termination clause providing for program completion of enrolled students
         - Yes [ ]
         - No [ ]

   COMMENTS:

2. The educational program is established in a:
   - College or University [ ]
   - Hospital or medical center [ ]
   - Medical laboratory [ ]
   - Consortium or Joint Venture [ ]
   - Other institution that meets comparable standards for education in clinical laboratory sciences [ ]

   COMMENTS:

3. The sponsor (and participating entities, in cases of consortia) assumes primary responsibility for:
   - Planning curriculum [ ]
   - Selecting course content [ ]
   - Coordinating classroom teaching [ ]
   - Coordinating applied education [ ]
   - Appointing faculty to the program [ ]
   - Receiving and processing applications for admission [ ]
   - Granting the associate degree or certificate [ ]

   COMMENTS:
CLT/MLT Site Visit Report

3A. The sponsor (and participating entities, in cases of consortia) is responsible for providing assurance that the activities assigned to students in the clinical setting are educational. □ YES □ NO □ NA

COMMENTS:

3B. There is documented, active, ongoing communication between the sponsor (and participating entities, in cases of consortia) and the affiliate(s) to:

- Exchange information □ YES □ NO
- Coordinate the program □ YES □ NO

COMMENTS:

II. RESOURCES

4. Personnel resources of the program support the number of students admitted. □ YES □ NO

The instructor to student ratio is adequate to achieve the program goals. □ YES □ NO

COMMENTS:

5. Financial resources are adequate for the continued operation of the educational program. □ YES □ NO

The budget is institutionally approved, OR there is a written statement of continued financial support for the educational program from an executive officer of the sponsor (and participating entities, in cases of consortia). □ YES □ NO

COMMENTS:

6A. The classrooms/lecture areas are adequate.
- The administrative offices are adequate. □ YES □ NO
- The student laboratories are adequate. □ YES □ NO □ NA
- The clinical facilities are adequate. □ YES □ NO □ NA

Student laboratories are equipped for safety. Clinical facilities are equipped for safety. (Only required if the facility is not accredited by JCAHO, and/or CAP, and/or COLA) □ YES □ NO □ NA

COMMENTS:

6B.
CLT/MLT Site Visit Report

<table>
<thead>
<tr>
<th>Student Laboratories</th>
<th>Clinical Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>□ NA</td>
<td>□ NA</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>YES</td>
<td>NO</td>
</tr>
</tbody>
</table>

Students have access to modern equipment and supplies.

Students have experience with modern equipment and supplies.

COMMENTS:

6C. Students have access to information resources containing current editions of books, periodicals and other reference materials in contemporary formats related to all content areas of the curriculum. ⨿YES □ NO

COMMENTS:

6D. Adequate instructional resources are available to facilitate each student's attainment of entry level competencies. ⨿YES □ NO

COMMENTS:

6E. Students have access to and experience with contemporary computer technology. ⨿YES □ NO

COMMENTS:

III. STUDENTS

7. Applicants and/or students are provided with a clear description of the program and its content. ⨿YES □ NO

Announcements accurately reflect the program offered. ⨿YES □ NO

Current publications include:

A. Program mission statement ⨿YES □ NO
B. Program goals and competencies ⨿YES □ NO
C. Course objectives ⨿YES □ NO
D. Applied education assignments ⨿YES □ NO □ NA
E. Admission criteria both academic and non-academic ⨿YES □ NO
F. A list of course descriptions ⨿YES □ NO
G. Names and academic rank or title of Program Director.
CLT/MLT Site Visit Report

and faculty
H. Tuition and fees with refund policy
I. Causes for dismissal
J. Rules and regulations, including appeal procedures
K. A listing of clinical facilities
L. Essential functions
M. Policies and procedures when applied
   experience cannot be guaranteed

COMMENTS:

8. Admissions policies and procedures are in accordance
   with the clearly defined and published practices of the
   institution.

   Academic standards and essential functions required for
   admission to the program are:
   Clearly defined
   Published
   Provided to prospective students
   Evidenced by signature page
   Made available to the public

   COMMENTS:

9. Rules and regulations governing acceptable personal
   and academic conduct for all academic and clinical
   settings are:
   Clearly defined
   Provided to students upon entering the program

   COMMENTS:

10. Student records are maintained according to any governmental
    regulations and the regulations of any other accrediting agencies
    for:
    Admissions
    Evaluation
    Counseling or advising sessions

    Individual grades and credits for courses are recorded and
    permanently maintained by the sponsor (and participating
    entities, in cases of consortia).

    COMMENTS:
CLT/MLT Site Visit Report

11. Students are informed of, and have access to the usual student health care services of the sponsoring institution. ☑YES ☐NO

The health and safety of students, faculty and patients associated with the educational activities are adequately safeguarded. ☑YES ☐NO

Emergency medical care is available for students while they are in attendance. ☑YES ☐NO

COMMENTS:

12. Guidance is available:

To assist students in understanding and observing program policies and practices ☑YES ☐NO
For advising on professional and career issues ☑YES ☐NO
For providing counseling or referral for personal and financial problems that may interfere with progress in the program ☑YES ☐NO

Confidentiality and impartiality are maintained in dealing with student problems. ☑YES ☐NO

COMMENTS:

13. Appeals procedures:

Are distributed to students upon entering the program. ☑YES ☐NO
Include provisions for academic types of grievances. ☑YES ☐NO
Include provisions for non-academic types of grievances. ☑YES ☐NO
Include a mechanism for neutral evaluation that ensures due process and fair disposition. ☑YES ☐NO

COMMENTS:

IV. OPERATIONAL POLICIES

14A. Programmatic announcements accurately reflect the program offered. ☑YES ☐NO

Programmatic announcements include NAACLS' name, address and telephone number. ☑YES ☐NO

COMMENTS: Page 12 of the University catalog needs updating to reflect NAACLS' new address; all other announcements are accurate.

14B. Student recruitment and admission policies are non-discriminatory. ☑YES ☐NO
CLT/MLT Site Visit Report

COMMENTS:

14C. Faculty recruitment and employment practices are non-discriminatory.
BOX YES □ NO

COMMENTS:

14D. Academic credits and costs are accurately stated, published and made known to all applicants.
BOX YES □ NO

COMMENTS:

14E. Policies and procedures for student withdrawal are published and made known to all applicants.
BOX YES □ NO

Policies and procedures for refunds of tuition and fees are published and made known to all applicants.
BOX YES □ NO □ NA

COMMENTS:

14F. If more than one level of clinical laboratory science program is offered by the sponsor, the sponsor demonstrates that each program is being conducted to assure appropriate instruction for the students at different educational levels.
BOX YES □ NO □ NA

COMMENTS: Yes for the MLT level, however, for some MLS courses, the objectives are not at the appropriate taxonomic level.

14G. The program culminates in an associate degree or a certificate.
BOX YES □ NO

Granting of the degree/certificate is not contingent upon the students passing any type of external certification or licensure examination.
BOX YES □ NO

Academic standards for the program are acceptable to the institution that grants the degree.
BOX YES □ NO □ NA

COMMENTS:

14H. Records of formal student complaints and resolution are maintained.
BOX YES □ NO

COMMENTS:

14I. Program evaluation information is available to NAACLS.
BOX YES □ NO

COMMENTS:
V. PROGRAM EVALUATION

15. The program has a documented, formal evaluation plan for continually and systematically reviewing the effectiveness of the program. □YES □NO

COMMENTS:

16. Outcomes measures from the last three active years are:
   - documented □YES □NO
   - analyzed □YES □NO
   - used in program evaluation □YES □NO

COMMENTS:

17. A review of graduation rates is:
   - documented □YES □NO
   - analyzed □YES □NO
   - used in program evaluation □YES □NO

A review of employment rates is:
   - documented □YES □NO □NA
   - analyzed □YES □NO □NA
   - used in program evaluation □YES □NO □NA

COMMENTS:

18. The results of program evaluations are:
   - Documented □YES □NO □NA
   - Reflected in ongoing curriculum development and program modification □YES □NO □NA
   - Followed by an analysis of the effectiveness of any changes implemented □YES □NO □NA

COMMENTS:

19. Administrative. No information is needed.
VI. Unique Standards

Resources

20A1. Program Director Faculty Fact Sheet is complete.

COMMENTS:

20A2. The Program Director is responsible for program:

- Organization
- Administration
- Periodic review
- Planning
- Development
- Evaluation
- General effectiveness

The program director has input into budget preparation.

COMMENTS:

20A3. The program director's qualifications are:

- Nationally certified clinical laboratory scientist/medical technologist
- Master's or doctoral degree
- At least three years of experience in clinical laboratory science education
- Date approved by NAACLS:

Experiences in clinical laboratory science education include:

- Teaching courses
- Conducting and managing learning experiences
- Evaluating student achievement
- Providing input into curriculum development
- Formulating policies and procedures
- Evaluating program effectiveness

COMMENTS:

The program director has knowledge of education methods and administration.

The program director has knowledge of current accreditation and certification procedures.
CLT/MLT Site Visit Report

COMMENTS:

20A4. The program director has a faculty appointment at the sponsoring institution or at each affiliated academic institution. ☒YES ☐NO

COMMENTS:

20B1. There is an advisory committee from the community of interest that has knowledge of clinical laboratory science education. ☒YES ☐NO

COMMENTS:

20B2. Advisory committee meeting minutes verify that the committee has input into any aspects of the program/curriculum that relate to its current relevancy and effectiveness. ☒YES ☐NO

COMMENTS:

21A. Faculty responsibilities include participation in:
- Teaching courses ☒YES ☐NO
- Supervising applied laboratory learning experiences ☒YES ☐NO
- Evaluating student achievement ☒YES ☐NO
- Developing curriculum ☒YES ☐NO
- Formulating policies and procedures ☒YES ☐NO
- Evaluating program effectiveness ☒YES ☐NO

COMMENTS:

21B. Faculty demonstrate adequate knowledge and proficiency in their content areas. ☒YES ☐NO

Faculty demonstrate the ability to teach effectively at the appropriate level. ☒YES ☐NO

COMMENTS:

21C. There is documentation of ongoing professional development to fulfill the instructional responsibilities of:
- Didactic faculty ☒YES ☐NO
- Clinical faculty ☒YES ☐NO

COMMENTS:
CLT/MLT Site Visit Report

21D1. If a participating entity of a consortium program, the consortium education coordinator is responsible for:

- Coordinating classroom teaching and applied education □ YES □ NO □ NA
- Evaluating program effectiveness □ YES □ NO □ NA
- Appropriate communications with the Program Director □ YES □ NO □ NA

21D2. If a participating entity of a consortium program, the consortium education coordinator's qualifications are:

- Nationally recognized certification equivalent to that required of program director □ YES □ NO □ NA
- Academic degree appropriate to program level □ YES □ NO □ NA
- At least one year of experience in clinical laboratory science education □ YES □ NO □ NA

III. CURRICULUM

22A. Instruction:

- Follows a planned curriculum or sequence of courses □ YES □ NO
- Includes applied (clinical/laboratory) education □ YES □ NO
- Includes course schedules □ YES □ NO
- Includes clinical significance and correlation □ YES □ NO
- Has clearly written program goals and competencies □ YES □ NO
- Has syllabi which include individual course goals and behavioral objectives □ YES □ NO

Course objectives show progression to the level consistent with entry into the profession. □ YES □ NO

Applied courses are taught in a clinically equipped student laboratory on the college campus, in an affiliated clinical facility, or in both facilities sufficient for developing basic skills, understanding principles, and mastering the procedures involved. □ YES □ NO
## CLT/MLT Site Visit Report

### Cognitive Objectives

<table>
<thead>
<tr>
<th>Cognitive Objectives</th>
<th>Are Present</th>
<th>At the Appropriate Taxonomic Level</th>
<th>Contain Measurable Action Verbs and Outcomes</th>
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<tbody>
<tr>
<td>Hematology</td>
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<td>❌</td>
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<tr>
<td>Hemostasis</td>
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<td>Chemistry</td>
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<td>Microbiology:</td>
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<tr>
<td>Bacteriology</td>
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<td>Urinalysis/Body Fluids/Microscopy</td>
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<td>❌</td>
<td>❌</td>
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<tr>
<td>Immunology/Serology</td>
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<td>Immunohematology</td>
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<td>❌</td>
<td>❌</td>
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<tr>
<td>Phlebotomy</td>
<td>✔</td>
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### Psychomotor Objectives

<table>
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<tr>
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<th>Are Present</th>
<th>At the Appropriate Taxonomic Level</th>
<th>Contain Measurable Action Verbs and Outcomes</th>
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<tr>
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<tr>
<td>Phlebotomy</td>
<td>✔</td>
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</table>

Affective objectives are present.  

**Comments:** *MLT Behavioral/Affective objectives are present in all syllabi.*
CLT/MLT Site Visit Report

22B. Instructional Areas

1. Methodologies for all major areas currently practiced by a modern clinical laboratory, including problem solving and troubleshooting techniques.

   The curriculum includes principles of:

<table>
<thead>
<tr>
<th></th>
<th>Objectives Present</th>
<th>Evaluations Present</th>
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<tbody>
<tr>
<td></td>
<td>Y  N</td>
<td>Y  N</td>
</tr>
<tr>
<td>2. Collecting, processing, and analyzing biological specimens and other substances</td>
<td>✗</td>
<td></td>
</tr>
<tr>
<td>3. Laboratory result use in diagnosis and treatment</td>
<td>✗</td>
<td></td>
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<tr>
<td>4. Communications sufficient to serve the needs of patients and the public</td>
<td>✗</td>
<td></td>
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<tr>
<td>5. Technical training sufficient to orient new employees</td>
<td>✗</td>
<td></td>
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<tr>
<td>6. Quality assessment in the laboratory</td>
<td>✗</td>
<td></td>
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<tr>
<td>7. Laboratory safety and regulatory compliance</td>
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<td></td>
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<tr>
<td>8. Information processing in the clinical laboratory</td>
<td>✗</td>
<td></td>
</tr>
<tr>
<td>9. Ethical and professional conduct</td>
<td>✗</td>
<td></td>
</tr>
<tr>
<td>10. Significance of continued professional development</td>
<td>✗</td>
<td></td>
</tr>
</tbody>
</table>

COMMENTS:

22C. Learning Experiences:

   Experiences are educational and balanced so that entry level competencies can be achieved. [YES NO]

   Instruction provides properly sequenced learning experiences. [YES NO]

   Learning experiences include appropriate:

<table>
<thead>
<tr>
<th>Instructional material</th>
<th>Classroom presentations</th>
<th>Discussions</th>
<th>Demonstrations</th>
<th>Laboratory sessions</th>
<th>Supervised practice and experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>[YES NO]</td>
<td>[YES NO]</td>
<td>[YES NO]</td>
<td>[YES NO]</td>
<td>[YES NO]</td>
<td>[YES NO]</td>
</tr>
</tbody>
</table>

   Experiences at different clinical sites are comparable and appropriate to enable all students to achieve entry level competencies. [YES NO NA]

   Objectives are present for learning experiences outside normally scheduled hours. [YES NO NA]

   Policies and processes by which students may perform
CLT/MLT Site Visit Report

service work are:
  Published ☑YES ☐NO
  Distributed to students ☑YES ☐NO
  Distributed to clinical affiliates ☑YES ☐NO

After demonstrating proficiency, students may be permitted to perform procedures under qualified supervision. ☑YES ☐NO

Service work by students in clinical settings outside of academic hours is non-compulsory. ☑YES ☐NO

COMMENTS:

22D. Evaluations:

Written criteria for passing, failing and progression in the program are:

Established ☑YES ☐NO
  Given to each student at the time of entry into the program ☑YES ☐NO

<table>
<thead>
<tr>
<th>Evaluation of Cognitive Objectives</th>
<th>Evaluations are Present</th>
<th>Test items correlate with written objectives and competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Hematology</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>Hemostasis</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>Chemistry</td>
<td>☑</td>
<td>☐</td>
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<tr>
<td>Microbiology:</td>
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<td>Bacteriology</td>
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<td>Mycology</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>Parasitology</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>Urinalysis/Body Fluids/Microscopy</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>Immunology/Serology</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>Immunohematology</td>
<td>☑</td>
<td>☐</td>
</tr>
<tr>
<td>Phlebotomy</td>
<td>☑</td>
<td>☐</td>
</tr>
</tbody>
</table>
CLT/MLT Site Visit Report

<table>
<thead>
<tr>
<th>Evaluation of Psychomotor Objectives</th>
<th>Evaluations are Present</th>
<th>Correlate with written objectives and competencies</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>YES</td>
<td>NO</td>
</tr>
<tr>
<td>Hematology</td>
<td>✔️</td>
<td>✗</td>
</tr>
<tr>
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<td>Chemistry</td>
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<td>Microbiology</td>
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<td>✗</td>
</tr>
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Evaluation systems are employed frequently enough to:

- Provide students and faculty with timely indications of a student's academic standing and progress
- Serve as a reliable indicator of the effectiveness of instruction and course design

Affective evaluations are present and correlate with written objectives.

COMMENTS:

(Standards adopted: 2001)
(Changes Approved: April 2009)
(Revised: June 2009)
Summary Page

Important Notice:
The site visit team does not have the authority to speak on behalf of nor bind NAACLS regarding a program's compliance with the Standards, nor can they predict accreditation actions. These responsibilities rest solely with the NAACLS Board of Directors, which has the exclusive right to determine whether or not accreditation is to be granted or continued.

NOTE: This page is compiled on the basis of information supplied to the site visit team by the program director and other officials. NAACLS makes no representation as to its accuracy. The responsibility for accuracy of the information provided to the team rests solely with the program director and other officials.

Areas of Strength:
Both past and current students felt as though the program prepared them well (Program preparedness). The Advisory committee showed a strong commitment to the program and the university. The program has both experienced and seasoned faculty, and the accessibility of the MLT program director to the students and the affiliates is impeccable.

Concerns noted by the Paper Reviewer: (List and detail by the appropriate Standards number)

<table>
<thead>
<tr>
<th>Standard #</th>
<th>Concern</th>
<th>Action Taken by the site visit team</th>
</tr>
</thead>
<tbody>
<tr>
<td>22A</td>
<td>Behavioral objectives were not specifically listed on the syllabus for the sample unit.</td>
<td>The Site visit team was able to verify that Behavioral objectives were present in all disciplines.</td>
</tr>
</tbody>
</table>

Concerns of the Site Visit Team: (List and detail by the appropriate Standards number)

<table>
<thead>
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**SIGNATURE PAGE**

***Please complete and attach as the last page of the Site Visit Report***

Please print or type the following information.

Name of Program: *Marshall University -- MLT(AD)*

City, State: Huntington, WV

<table>
<thead>
<tr>
<th>Program Level:</th>
<th>MLT-AD</th>
<th>Date: October 14, 2010</th>
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<tbody>
<tr>
<td>I. Team Coordinator:</td>
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<td></td>
</tr>
<tr>
<td>Name/Title:</td>
<td>Jimmy L. Boyd MS, MHS, CLS(NCA)</td>
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</tr>
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<td>501-882-8814</td>
<td>Email: <a href="mailto:jlboyd@asub.edu">jlboyd@asub.edu</a></td>
</tr>
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<td>Signature:</td>
<td>Date: 10/14/2010</td>
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II. Team Member: I concur with the Site Visit Report ☑ Yes ☐ No

| Name/Title: | Maribeth Flaws, PhD, SM(ASCP)SI | |
| Institution: | Rush University | |
| Address: | 800 S Paulina | |
| City/State/Zip: | Chicago IL 60612 | |
| Telephone: | 312-942-2115 | Email: Maribeth_L_Flaws@rush.edu |
| Signature: | Date: 10-14-10 |

III. Educator Generalist: I concur with the Site Visit Report ☐ Yes ☐ No

| Name/Title: | | |
| Institution: | | |
| Address: | | |
| City/State/Zip: | | |
| Telephone: | | Email: |
| Signature: | Date: |

*If a team member does not concur with the report, a minority report describing disagreements is needed. (See Volunteer Manual)*
**SIGNATURE PAGE**

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City, State:

**Huntington, WV**

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