

Program Review

**A.A.S. Medical Laboratory Technology**

**College of Health Professions**

**November 2008**



**MARSHALL UNIVERSITY**

Program Review  
Marshall University

Date: November 2008

Program: Associate of Applied Science in Medical Laboratory Technology  
Degree and Title

Date of Last Review: 2003

### Recommendation

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

Recommendation

Code (#):

- 1. Continuation of the program at the current level of activity; or
- 2. Continuation of the program 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. 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. Continuation of the program at the current level of activity, with the designation as a program of excellence (See Series 11 Statement from the Policy Commission); or
- 5. Discontinuance of the program (Procedures outlined in HEPC Administrative Bulletin 23).

**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.)

Recommendation: \_\_\_\_\_ Signature of person preparing the report: \_\_\_\_\_ Date: \_\_\_\_\_

Recommendation: \_\_\_\_\_ Signature of Program Chair: \_\_\_\_\_ Date: \_\_\_\_\_

Recommendation: \_\_\_\_\_ Signature of Academic Dean: \_\_\_\_\_ Date: \_\_\_\_\_

Recommendation: \_\_\_\_\_ Signature of Chair, Academic Planning Committee: (Baccalaureate pgms only) \_\_\_\_\_ Date: \_\_\_\_\_

Recommendation: \_\_\_\_\_ Signature of President, Faculty Senate/ Chair, Graduate Council: \_\_\_\_\_ Date: \_\_\_\_\_

Recommendation: \_\_\_\_\_ Signature of the Provost and Senior Vice President for Academic Affairs: \_\_\_\_\_ Date: \_\_\_\_\_

Recommendation: \_\_\_\_\_ Signature of the President: \_\_\_\_\_ Date: \_\_\_\_\_

Recommendation: \_\_\_\_\_ Signature of Chair, Board of Governors: \_\_\_\_\_ 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:

The Department of Clinical Lab Sciences (CLS) provides a vitally important service to the regional healthcare system. The graduates of the program are highly skilled and are a vital resource in supporting diagnostic procedures critical to accurate interpretation of medical symptoms. The CLS department provides a career ladder to support development of professionals for laboratory settings. Starting with the 2 year Associates degree in Medical Laboratory Technician (MLT) progressing to the Bachelor of Science in Medical Technology (MT) students have the opportunity to develop both the knowledge base and technical skills necessary for a successful career. This Program Review is for the degree in Medical Laboratory Technology.

The MLT degree is the entry level for CLS professionals. The Associate degree training provides a foundation required for practice in the lab setting. Students learn scientific principals and diagnostic procedures in the classroom and teaching lab to prepare them for their clinical rotations. Clinical experiences occur in regional health care facilities that have large clinical laboratories. CLS relies on the relationship with these facilities to maintain this program.

Staffing in clinical laboratories is a vital resource for the MLT program. When staffing declines, some clinical sites respond by reducing the number of MLT students that they are willing to accept for clinical rotations. The logical consequence of this response is fewer graduates that will lead to even greater problems with staffing. The Program Director has been successful in negotiating sufficient placements for students, but this external issue has the potential to impact enrollment levels.

The MLT program requires a higher level of foundation science courses than many 2 year programs. The academic rigor of the basic science courses in the program is challenging to some students and retention is an ongoing focus of the program. Increased support at the university level for students to succeed in basic science courses would be helpful to MLT students.

CLS is in the third year searching for a qualified faculty member. This field has a 20% shortage of faculty nationwide, particularly faculty with doctoral degrees. The department has one senior full professor, one 4<sup>th</sup> year assistant professor and one temporary faculty member. Success in hiring additional permanent faculty will be an important factor for the department.

CLS has efforts underway to increase enrollment in the MLT program. Discussions are underway with MCTC to develop an articulation agreement with the 1 year laboratory assistant program. This relationship will add to the number of students in the second year of the MLT program and will expand the number of MLT graduates to help in staffing regional healthcare facilities.

The MLT program is an important resource for the region and the faculty are successful in graduating qualified practitioners. This program requires in-depth training in clinical sites and a close partnership with clinical facilities. I recommend the program for continuation at the current level.

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Signature of the Dean

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Date

## Marshall University Program Review

Program: A.A.S. in Medical Laboratory Technology

College: College of Health Professions

Date of Last Review: 2003

### I PROGRAM DESCRIPTION

The Associate Degree in Medical Laboratory Technology (MLT) and the Bachelor's Degree in Medical Technology (MT) 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.

Certified medical laboratory technicians (MLTs) are prepared to perform approximately 90% of the routine diagnostic work in a clinical laboratory. They typically work under the supervision of a medical technologist. They collect blood samples and do a wide variety of blood and urine tests using microscopy, spectrophotometry, electron counters and other laboratory instruments. MLTs also perform crossmatch testing for blood transfusion, culture pathogenic bacteria, and perform blood clotting tests. Besides working in hospital laboratories, medical laboratory technicians are employed in doctor's offices, clinics, and industry. Certified MLTs are in great demand.

The clinical laboratory consists of six general areas: hematology and hemostasis, clinical chemistry, clinical microbiology, blood banking, clinical immunology, and body fluids. Results produced by MLTs in these areas provide physicians 80% of the objective information necessary to evaluate a patient's health. Currently there are over 1000 different analyses that can be performed on human blood and body fluids. Although most areas are automated, the MLT needs to be able to determine that the information obtained by the instrumentation correlates with the patient diagnosis as well as other related diagnostic tests.

Students take an initial course in each area. The Clinical Immunohematology course includes Clinical Immunology while the Clinical Chemistry course includes body fluids studies. Each of these courses include both lecture and laboratory components. In CLS 255, Clinical Laboratory Problems, all six general areas are discussed and as well as correlations between certain disease states and their affects on tests in all areas. Students also participate in presentations on current problems and publications in the clinical laboratory field.

Upon completion of the university didactic portion of the MLT program, the MLT student spends 15 weeks in a clinical facility utilizing all information learned from the university CLS courses. During this clinical practicum experience, students learn how to use the latest instrumentation and methods in the field. The clinical practicum experience is a one on one learning environment with clinical faculty employed by each clinical site.

## **II ACCREDITATION INFORMATION**

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

Address: 5600 N River Rd  
Suite 720  
Rosemont, IL 60018

- B** In April 2006, The MLT program was granted a regular five year accreditation (see attached copy of letter conferring accreditation).
- C** Accreditation status: Regular
- D** See attached scanned copy of the NAACLS Accreditation Report.
- E** In April 2006, the MLT program at Marshall University was granted regular accreditation for five years. There were no deficiencies noted during the site visit.
- F** The most recent Self Study report is available upon request.

### III PROGRAM STATEMENT on Adequacy, Viability, Necessity and Consistency with University/College Mission

#### A. ADEQUACY

##### 1. Curriculum:

The MLT degree includes 6 hours of English, 10 hours of chemistry, 8 hours of biology, 3-4 hours of College Algebra, 3 hours of Psychology, 3 hours of Speech and Communication and 32 hours of Clinical Laboratory Science courses. The total number of hours required for the associate degree is 72-73 depending on the College Algebra course taken. Students are not accepted into the MLT program until at least 24 hours of prerequisite courses have been completed. Once the student is admitted, the CLS courses are taken in sequence. All students who successfully complete the didactic CLS courses are then eligible for the clinical rotation portion of the degree requirements **(See Appendix I)**.

##### 2. Faculty:

Currently there are two full time and one temporary full time faculty members in the Clinical Laboratory Sciences Department. One faculty member is tenured and holds the rank of full professor; one faculty member is on the tenure-track and holds the rank of assistant professor; one faculty member is temporary full time and holds the rank of instructor.

The two full time faculty members have attended state, regional, and/or national professional meetings within the past year; the temporary faculty member has 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 the national certifying agency for the profession.

The two full time faculty members have participated in providing publications to professional literature in the field, including articles and textbook chapters. Professor Fike has given presentations at the state and regional levels within the past two years and also volunteers to serve on a professional consumer response team that answers questions that individuals have regarding the results of laboratory tests. Assistant Professor Perry is scheduled to give presentations at upcoming state and regional professional meetings in Fall 2008 and is currently pursuing a doctorate degree in education **(See Appendix II for Detailed Faculty Data Sheets)**.

### 3. **Students:**

#### a. Entrance Standards:

Entry into the Medical Laboratory Technician (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. An applicant for the MLT program must have earned an overall GPA of 2.0 and completed at least 18 credit hours of general education courses with a minimum 2.5 GPA, including a "C" or better in BSC 227, CHM 211, CHM 213 and MTH 127 or equivalent courses. Applicants who have the above qualifications and who have completed 24 credit hours or more in the MLT curriculum including CLS 100 (Introduction to Health Professions), receive preference for admission.

Students apply for admission by completing and submitting a curriculum review form, two letters of reference and a letter of application to the MLT Program Director between March 1 and May 31 for admission to the fall semester of the current year. Late applications are considered as class size permits. Curriculum review forms and sample letters of application are available in the CLS department or on the department website.

The MLT program admission committee reviews letters of application, college level coursework and letters of reference. Qualified applicants are selected primarily by GPA on courses in the MLT curriculum. Applicants who expect to complete admission requirements before fall classes begin may be admitted conditionally. The committee selects students to fill available class spaces, and then develops a ranked waiting list if applicable. Class sizes are currently limited to 15 students per year due to space and clinical placement site availability. Letters are mailed to all applicants by July 10 notifying them of the admission committee decision. Accepted students who are not properly registered or who are absent during the first week of regular classes without prior approval of the MLT Program Director can lose their space to a wait-listed student.

## b. Entrance Abilities:

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 he/she is 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", greater than 90% go on to complete the entire MLT program. **Table 1** outlines average ACT and SAT scores as well as average high school GPAs of new freshmen students applying to the program.

**Table 1: New Freshmen**

Year	ACT Composite	SAT Verbal	SAT Math	HS GPA
Fall 2003	23.8 *(6)	540.0 *(3)	473.3 *(3)	3.70
Fall 2004	21.8 *(8)	505.0 *(2)	550.0 *(2)	3.28
Fall 2005	21.6 *(8)	NA	NA	3.31
Fall 2006	22.7 *(4)	490.0 *(1)	580.0 *(1)	3.46
Fall 2007	21.8 *(4)	533.3 *(3)	443.3 *(3)	3.26

The MLT program also admits transfer students. **Table 2** outlines the average ACT scores, as well as high school and college GPAs.

\*\*Denotes a student who had a transfer credit GPA of 1.61 at the time of admission, however, this student had recently graduated in May 2006 with a Biology degree from Marshall University and met the science course GPA entrance requirements for MLT program admission.

**Table 2: New Transfers**

Year	ACT Composite	SAT Verbal	SAT Math	HS GPA	College GPA
Fall 2003	22.0 *(1)	NA	NA	NA	3.09
Fall 2004	18.5 *(2)	NA	NA	3.27	2.73

Fall 2005	21.3 *(3)	NA	NA	3.10	2.68
Fall 2006	15.0 *(1)	NA	NA	3.07	1.61**
Fall 2007	NA	NA	NA	NA	NA

c. Exit Abilities:

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. The overall five year (2003-2007) pass rate is 67.6% for only 23 students, compared to the national average of 72% for this same period for 10,012 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 Technology. Students that 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.

**Table 3** displays average GPA for the five year period graduating with an Associate in Applied Science in Medical Laboratory Technology; the overall five year average was 3.02. The graduation numbers below do not accurately reflect the number of students who finish the program per year. Some students who plan on continuing to the bachelor's program in Medical Technology do not apply for Associate Degree graduation.

**Table 3: Average GPA**

	2003-4	2004-5	2005-6	2006-7	2007-8
Average GPA	3.05	3.29	2.80	2.96	3.10
# Graduates	9	3	6	5	8

There is a 100% job placement rate for all MLT graduates seeking employment in the clinical laboratory, and most find jobs in the tri-state area. Students generally are employed within a month of graduation, and many are hired as

laboratory technicians in training during their clinical practicum in the hospital. According to the U.S. Department of Labor Bureau of Labor Statistics Occupational Outlook Handbook for 2008-2009, MLT jobs are projected to have higher than average employment growth and excellent job opportunities. From 2006 to 2016 the demand is expected to increase 14%.

#### **4. Resources:**

##### **a. Financial:**

The CLS department budget is supported entirely through university allocations and student fees. It is difficult to determine the exact funds used in the MLT program since funds are combined for the MLT and MT programs. More introductory wet laboratory experiences are conducted at the MLT level as compared to the MT level that require increased purchase of supplies. The department budget has not been increased since the programs became university based. The current budget is approximately \$13,000 and the CLS department does not have a secretary, but does get administrative support from an administrative assistant in the Dean's office who is shared with two other College of Health Professions Departments.

If the MLT program was eliminated, and the MT program was kept, there would be no financial savings. The introductory CLS courses would still have to be taught which would require the same number of faculty. The MLT program at Marshall is unique in that it provides the first two years of education resulting in an associate degree in the 2+2 career ladder program. Many programs across the country market a 2+2 career ladder program, but this is generally for the Bachelor Degree only, with the final two years of the degree concentrating on Clinical Laboratory Science courses. With the MLT program, the sophomore year consists of the introductory year CLS courses resulting in an associate degree. The additional two years for the bachelor degree in Medical Technology consist of the junior year advanced general science courses, and the senior year advanced CLS courses.

The MLT to MT career ladder at Marshall provides excellent accessibility to higher education. Students have the opportunity to obtain an associate's degree and begin

working as an MLT, while at the same time, pursuing a bachelor's degree through the same department with a seamless transfer of credits. This is a very appealing aspect of the program to many of the students in the tri-state and surrounding areas because 50-60% of students in the program work as an MLT while pursuing the bachelor's degree in Medical Technology.

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 four in West Virginia and its linked MT program one of only three programs in the state. Both the MLT and MT 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 MT 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.

Marshall's MLT program is not limited to servicing the local area. Due to MLT program closures in Ohio, Holzer Medical Center in Gallipolis, Ohio and Pleasant Valley Hospital in Point Pleasant, WV now serve as clinical affiliates for our MLT students in efforts to try to recruit some of them as potential employees for their facilities.

**b. Facilities:**

The Clinical Laboratory Sciences Department is located on the third floor of the Science Building. There is one student laboratory/lecture room that is currently adequate for fifteen students; all student lecture and laboratory experiments take place in this room for both MLT and MT programs. The

department has obtained several laboratory instruments used in the courses that are also stored in the classroom. There are two laboratory preparation rooms off of the main lecture/laboratory classroom which are adequate for the storage and preparation of laboratory exercises. The classroom is equipped with a computer with internet access as well as a projector for faculty and student presentations. For courses that have larger enrollment numbers such as the Introductory CLS 100 course, larger class spaces in Prichard and Harris Hall have been utilized. Satellite equipped classroom facilities are also available in Prichard Hall.

The CLS department has two free standing faculty offices and one office that contains the student resource area, copier, supplies and an adjoined department chair office. Each faculty office is equipped with a computer with internet access.

The John Deaver Drinko Library provides adequate library resources for MLT students. Students in the MLT program are required to access journal articles in the field as part of course requirements and access through medical/health databases is adequate. The CLS department also contains a small collection of journal articles that students can utilize for their studies.

## 5. **Assessment Information:**

- a. **Principal Goals:** The Department of Clinical Laboratory Sciences MLT program has four primary goals: 1) prepare graduates with attitudes, knowledge, and skills that prepare them for career entry into the clinical laboratory workforce as Medical Laboratory Technicians (MLT), 2) prepare graduates to continue learning advanced technical knowledge about human health and disease, 3) prepare graduates with knowledge and experience necessary for national certification as a MLT, and 4) prepare graduates with the basis for continuing their undergraduate education in the medical technology bachelor of science degree program. See the attached **Chart I Assessment Summary**.
  
- b. **Improvements in Program Quality:** 1) Based on data from the daily performance student evaluations and discussion with our clinical advisory committee, these evaluations were

revised in 2007-08 to better reflect student performance in each rotation section. The evaluation forms were also streamlined to aid the clinical instructor to be able to more accurately assess each individual student.

2) Student Web CT knowledge based examination content was revised in 2006 and 2007 to better reflect current clinical and didactic information needed to aid in better outcomes for national certification examination scores.

3) Steps are currently being taken to advise students to take the national certification examination as soon after graduation as possible; possibilities are being explored regarding implementing this as a program 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.

- c. **Graduate and Employer Satisfaction:** All students who apply for graduation for an AAS in Medical Technology are given a graduate survey; however, the response rate has not been high. From the very few respondents, they 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.
- d. **Office of Assessment Summary Reports:** Previous summary reports from the past five years are attached.

## 6. Previous Reviews:

The previous program review recommended that the AAS in Medical Laboratory Technology continue at the current level. There were no deficiencies or recommendations from the committee.

## 7. Strengths/Weaknesses:

### Strengths:

- The CLS MLT program has small class sizes that allow for optimal interaction between students and faculty in the department. Typically, class sizes range from 8 to 15, 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 number of clinical affiliates for the MLT program has increased over the past five years with the addition of Pleasant Valley Hospital in Point Pleasant, WV and Holzer Medical Center in Gallipolis, OH. An increased number of affiliates have given 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 they enrich their courses with. 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 wheel chair. 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.

### Weaknesses:

- 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.

## B. VIABILITY

### 1. **Articulation Agreements:**

There are no articulation agreements for the MLT program at this time; however, negotiations are currently underway with the Clinical Assistant Program at Marshall Community and Technical College to develop a career ladder program for their students into the Marshall University MLT program. It is predicted that this articulation agreement will provide an additional 3-5 students per year to the MLT program.

### 2. **Off-Campus/Distance Delivery Classes:**

During Fall 2007, CLS 100, Introduction to Health Professions was offered at the Point Pleasant MOVC site to generate enrollment from the Point Pleasant area in the MLT program. Discussions with the laboratory director from Pleasant Valley Hospital regarding the high degree of interest by phlebotomists in the MLT program initiated this off-campus course offering. Unfortunately, only one person enrolled in the course, and then later dropped.

### 3. **Service Courses:**

Currently, CLS 100, Introduction to Health Professions, is a course that can be taken by non-CLS majors at the MLT level. In addition to MLT students, other pre-health professions students can take this course. Guest lectures are given by the Dietetics and Communications Disorders Departments, as well as the School of Cytotechnology.

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

### 4. **Program Course Enrollment:**

Although the enrollment number may appear low compared to other university programs, the enrollment numbers for the MLT program are comparable with other similar programs across the country. Currently, there are fifteen students enrolled in the MLT program, which is the largest class size in ten years for the program. 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. An additional 3-5 students to the MLT program per year is also projected through the articulation agreement that is currently in negotiations with the Marshall Community and Technical College Clinical Assistant program.

**Appendix V** provides a summary of all courses taken in the MLT program over the past five years.

#### **5. Program Enrollment:**

As evidenced in Appendix VI, the students that 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 Technology (MT) 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 also do not plan to work in the profession until the completion of the Bachelor in Medical Technology program.

A summary of program enrollment is provided in **Appendix VI**.

#### **6. Enrollment Projections:**

According to the U.S. Department of Labor Bureau of Labor Statistics Occupational Outlook Handbook for 2008-2009, MLT jobs are projected to have a faster than average employment growth providing excellent job opportunities. From 2006 to 2016 there is also a projected 14% increase in demand for Medical Laboratory Technicians nationwide. 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 15 students enrolled in the Fall 2008 MLT class, the largest class size for the program in almost fifteen years. It is a goal of the MLT

program to have between 12 and 15 students every year over the next five years.

### C. NECESSITY:

1. **Advisory Committee:** (Self Study Report, pg 44) The advisory committee for the MLT program is composed of the Marshall University MLT program faculty members and clinical faculty members from all of the clinical sites. Currently there are eight clinical facilities that are used for the clinical education in the MLT program. There are one to ten clinical faculty members at any given facility. The committee meets once per academic year on Marshall University 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 rotations, examination content and passage rates and other student issues are discussed and as well as possible solutions to problems. If there are any curriculum changes, this is discussed and the clinical faculty has an opportunity for input.

2. **Graduates:**

The number of graduates that are employed at the MLT level varies since at least 50% of the students continue their education for the bachelor's degree in Medical Technology. All students that graduate with an MLT and seek employment find employment within one month. 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. Many of the MLT graduates who continue on to the bachelor's degree seek part-time employment while attaining the bachelor's degree and most local area hospitals are very accommodating in work schedules to allow MLT students to continue to the MT bachelor's degree.

According to the U.S. Department of Labor Bureau, the median national salary for MLTs in May 2007 was \$36,110; in May 2006, the median national salary was \$32,840. Due to predicted shortages, salaries are expected to continue to rise.

### **3. Job Placement:**

There is a 100% job placement rate for students graduating from the MLT program that seek employment in the field. Many local hospitals, as well 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.

#### **D. CONSISTENCY WITH UNIVERSITY MISSION:**

(Self Study Report, pgs 1-4) Part of the mission of Marshall University is to educate health personnel for the state of West Virginia and the Tri-State region. The MLT program is providing health care providers. As previously mentioned, most MLT graduates practice in the Tri-State region. Since the majority of the graduates received the clinical component of their education at local area hospitals, often these hospital vacancies are filled by Marshall University MLT graduates.

The Clinical Laboratory Science Department MLT Program does not have any unique relationships with other departments at Marshall. There are some shared courses that are taken with the nursing, dietetics, and communication disorders students including pre-requisites of human anatomy, human physiology, microbiology and general chemistry. The courses in the College of Health Professions are specific to their disciplines. With the advent of bioterrorism, there is cross discipline work being done for some healthcare providers; the first responders for some bioterrorist acts would be the healthcare providers. There would be interaction between nursing students and clinical laboratory students in this aspect. With microbes being released into the air, water or food sources, the MLT would be a first responder in helping to identify the agent and what antibiotics may help. All other areas of the laboratory would also help in diagnosing disease progression in other types of bioterrorism such as chemical or radiation.

## Appendix I Required/Elective Course Work in the Program

Degree Program: AAS in Medical Laboratory Technology

Person responsible for the report: Jennifer D. Perry MS  
MT(ASCP)

<b>Courses Required in Major (By Course Number and Title)</b>	<b>Total Required Hours</b>	<b>Elective Credit Required by the Major (By Course Number and Title)</b>	<b>Elective Hours</b>	<b>Related Fields Courses Required</b>	<b>Total Related Hours</b>
CLS 100 Introduction to Health Professions	1	ENG 101 English Composition I	3	BSC 227 Human Anatomy	4
CLS 110 Clinical Hematology	4	ENG 102 English Composition II	3	BSC 228 Human Physiology	4
CLS 200 Clinical Biochemistry	4	CMM 103 Fundamentals of Speech Communication	3	MTH 127 or MTH 130 College Algebra	3-4
CLS 210 Clinical Immunohematology	4	UNI 101 New Student Seminar	1	CHM 211 Principles of Chemistry I	3
CLS 220 Clinical Microbiology	4	PSY 201 General Psychology	3	CHM 217 Chemistry Lab I	2
CLS 255 Clinical Laboratory Problems	3	Electives (BSC 250 suggested as one; MTH 122 suggested if students continuing to BS in Medical Technology Program)	6	CHM 212 Principles of Chemistry II	3
CLS 270 Clinical Practicum Hematology	3			CHM 218 Chemistry Lab II	2
CLS 271 Clinical Practicum Clinical Chemistry	3				
CLS 272 Clinical Practicum Blood Bank	3				
CLS 273 Clinical Practicum Microbiology	3				
<b>Total Hours</b>	<b>32</b>		<b>19</b>		<b>21-22</b>

*Expand table as needed.*

Professional society that may have influenced the program offering and/or requirements:

- American Society for Clinical Pathology (ASCP)
- American Society for Clinical Laboratory Sciences (ASCLS)
- National Accrediting Agency for Clinical Laboratory Sciences (NAACLS)

(No more than **two** pages; Minimum type 8 point Arial)

## Appendix II Faculty Data Sheet

(for the period of this review)

Name: Dorothy J. Fike Rank: Professor

Status (Check one): Full-time  Part-time  Adjunct  Current MU Faculty: Yes  No

Highest Degree Earned: Master of Science Date Degree Received: August 1972

Conferred by: Cleveland State University

Area of Specialization: Biology (Research in Immunology)

MT(ASCP) American Society of Clinical Pathology  
CLS(NCA) National Credentialing Agency for  
Clinical Laboratory Science

Professional Registration/Licensure SBB(ASCP) Agency: American Society of Clinical Pathology

Years non-teaching experience 9.5

Years of employment other than Marshall 26

Years of employment at Marshall 13.5

Years of employment in higher education 29

Years in service at Marshall during this period of review 13.5

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)

Year/Semester	Alpha Des. & No.	Title	Enrollment
2006/Fall	CLS 100	Introduction to Health Professions – taught 66% of course – team taught with Jennifer Perry	14
2006/Fall	CLS 110	Clinical Hematology	9
2006/Fall	CLS 285	Independent Study	1
2006/Fall	CLS 410	Advanced Hematology and Blood Bank	4
2006/Fall	CLS 460	Laboratory Management and Supervision	5
2007/Spring	CLS 210	Clinical Immunohematology	8
2007/Spring	CLS 310	Clinical Immunology and Molecular Diagnostics	4
2007/Spring	CLS 466	Diagnostic Physiology	4
2007/Spring	CLS 472 and 473	Advanced Clinical Practicum Hematology, Chemistry, Immunohematology, Microbiology – Coordinator for these	4
2007/Fall	CLS 100	Introduction to Health Professions	18
2007/Fall	CLS 110	Clinical Hematology	7
2007/Fall	CLS 410	Advanced Hematology and Blood Bank	3
2007/Fall	CLS 460	Laboratory Management and Supervision	5
2008/Spring	CLS 210	Clinical Immunohematology	7
2008/Spring	CLS 310	Clinical Immunology and Molecular Diagnostics	3

2008/Spring	CLS 466	Diagnostic Physiology	3
2008/Spring	CLS 472 and 473	Advanced Clinical Practicum Hematology, Chemistry, Immunohematology, Microbiology – Coordinator for these	3

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

- 1) If your degree is not in your area of current assignment, please explain.

Not-applicable

**(For each of the following sections, list only events during the period of this review and begin with the most recent activities.)**

- 2) Activities that have enhanced your teaching and or research.

How to use Effective Learning Environments to Motivate and Engage Students, MU (8/15/07)

Preceptor Training: What's My Role? , MU (4/5/07)

WAC re-certification workshop March 2007

Online Course Pedagogy, MU 10/29/06

Critical Thinking, MU (8/16/06)

- 3) Discipline-related books/papers published (provide a full citation).

Comeaux and Fike Instructor's Guide Clinical Laboratory Hematology (Shirlyn B. McKenzie) 2003 Prentice Hall.

- 4) Papers presented at state, regional, national, or international conferences.

Not applicable

- 5) 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 Organizations:**

American Society for Clinical Laboratory Science (ASCLS) – member of national scientific assemblies & receive Hematology request for consensus regarding educational & practice procedures

American Society of Clinical Pathologists (ASCP)

**Meeting Attendance:**

Clinical Laboratory Educator's Conference, Savannah, Georgia – February 2008

WVCLMA, WVSCLS, WVSSAMT Annual Meeting, Flatwoods, WV - October 2007

ASCLS Annual Meeting, San Diego, CA – July 2007

Clinical Laboratory Educator's Conference, Louisville, Kentucky – February 2007

Northeast Laboratory Conference, Portland, Maine – October 2006

WVCLMA, WVSCLS, WVSSAMT Annual Meeting, Flatwoods, WV – October 2006

ASCLS Annual Meeting – July 2006

WVCLMA, WVSCLS, WVSSAMT Annual Meeting, Flatwoods, WV – October 2005

ASCLS Annual Meeting – July 2005

WVCLMA, WVSCLS, WVSSAMT Annual Meeting, Flatwoods, WV – October 2004

ASCLS Annual Meeting, Los Angeles, CA – July 2004

ASCLS Annual Meeting, Philadelphia, PA – July 2003

- 6) Externally funded research grants and contracts you received.

Not applicable

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

-“What can I Do with My Degree”, Tenth Annual Joint Meeting, WVCLMA, WVSCLS and WVSSAMT, October 19, 2007, Flatwoods, WV

-“Beyond Lupus – Other Autoimmune Diseases”, Northeast Laboratory Conference, Portland, Maine, October 19, 2006

-“Red Cell Antigens: What Function Do They Really Have?”, Northeast Laboratory Conference, Portland, Maine, October 18, 2006

-Hypersensitivity Reactions”, Ninth Annual Joint Meeting, WVCLMA, WVSCLS and WVSSAMT, Flatwoods, WV, October 11, 2006

-“What can I Do with My Degree”, Ninth Annual Joint Meeting, WVCLMA, WVSCLS and WVSSAMT, Flatwoods, WV, October 11, 2006

-“Beyond Lupus – Other Autoimmune Diseases”, Eighth Annual Joint Meeting, WVCLMA, WVSCLS and WVSSAMT, Flatwoods, WV, October 14, 2005

-Red Cell Antigens: What Function Do They Really Have?”, Seventh Joint Meeting, WVCLMA, WVSCLS and WVSSAMT, Flatwoods, WV, October 15, 2004

“Wet vs. Dry: Teaching Blood Bank Problem Solving Techniques” ASCLS Annual Meeting, Los Angeles, CA, July 2004

-Blood Bank Case Studies”, ASCLS Annual Meeting, Philadelphia, PA, July 2003

- 8) Community service as defined in the *Greenbook*.

Faculty Affairs Committee

Chair of International Committee

General Education Committee

(No more than **two** pages; Minimum type 8 point Arial)

## Appendix II Faculty Data Sheet

(for the period of this review)

Name: Jennifer D. Perry Rank: Assistant Professor

Status (Check one): Full-time  Part-time  Adjunct  Current MU Faculty: Yes  No

Highest Degree Earned: Master of Science Date Degree Received: May 1999

Conferred by: Marshall University

Area of Specialization: Health Care Administration

Professional Registration/Licensure MT 195611/MLT 47319 Agency: ASCP

Years non-teaching experience 12  
Years of employment other than Marshall 12  
Years of employment at Marshall 3  
Years of employment in higher education 3  
Years in service at Marshall during this period of review 3

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)*

Year/Semester	Alpha Des. & No.	Title	Enrollment
2006/Fall	CLS 200	Clinical Biochemistry Lecture	9
2006/Fall	CLS 100	Introduction to Health Professions – team taught with Professor Dorothy Fike – taught approx. 33% of course	14
2006/Fall	CLS 421	Advanced Clinical Chemistry and Microbiology	4
2006/Fall	CLS 464	Laboratory Instrumentation	4
2006/Fall	CLS 270, 271, 272, 273	Clinical Practicum Hematology, Chemistry, Immunohematology, Microbiology – Coordinator for these	1
2007/Spring	CLS 200	Clinical Biochemistry Lecture	13
2007/Spring	CLS 220	Clinical Microbiology Lecture	8
2007/Spring	CLS 255	Clinical Laboratory Problems	8
2007/Spring	CLS 468	Clinical Laboratory Research	4
2007/Spring	CLS 499	Senior Seminar	4
2007/Summer	CLS 270, 271, 272, 273	Clinical Practicum Hematology, Chemistry, Immunohematology, Microbiology – Coordinator for these	6
2007/Fall	CLS 200	Clinical Biochemistry Lecture	7
2007/Fall	CLS 421	Advanced Clinical Chemistry and Microbiology Lecture	3
2007/Fall	CLS 464	Laboratory Instrumentation	3
2007/Fall	CLS 270, 271, 272, 273	Clinical Practicum Hematology, Chemistry, Immunohematology, Microbiology – Coordinator for these	2
2008/Spring	CLS 200	Clinical Biochemistry	7
2008/Spring	CLS 255	Clinical Laboratory Problems	7

2008/Spring	CLS 468	Clinical Laboratory Research	3
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**NOTE: Part-time adjunct faculty do not need to fill in the remainder of this document.**

1) If your degree is not in your area of current assignment, please explain.

- Not applicable

**(For each of the following sections, list only events during the period of this review and begin with the most recent activities.)**

2) Activities that have enhanced your teaching and or research – attendance at the following meetings/workshops:

- *CBAR and the Chronic Care Model*, Marshall University (4/21/08)
- *How to Use Effective Learning Environments to Motivate and Engage Students*, Marshall University, (8/15/07)
- *Preceptor Training: What's My Role?*, Marshall University (4/5/07)
- *Common Myths About Assessment*, Marshall University (4/4/07)
- *RealTime PCR*, Webcast, Marshall University (11/2/06)
- *Online Course Pedagogy*, Marshall University (10/29/06)
- *Selecting the Right BNP for Your Institution*, Audioconference, Marshall University (10/11/06)
- *Critical Thinking*, Marshall University (8/16/06)
- *Postanalytic Laboratory Errors: Cases, Concepts, and Interventions*, Webcast, Marshall University (12/15/05)
- *Grantmanship for New Researchers*, Marshall University (9/16/05)

3) Discipline-related books/papers published (provide a full citation).

- Perry, Jennifer D. MS, BSMT (ASCP) and Jean M. Chappell, MS, BSMT, "Vital Skills for Leaders", *Advance for Administrators of the Laboratory*, Vol. 16, Issue 3, p 26, March 2007.

4) Papers presented at state, regional, national, or international conferences.

- Not applicable

5) 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.

**Educational Pursuits:**

- Currently pursuing Doctorate in Education Leadership with an emphasis in Higher Education Administration

**Professional Organizations:**

- American Society for Clinical Laboratory Science (ASCLS) – Board of Directors for WV Chapter – 2007-2008
- American Society of Clinical Pathologists (ASCP) – MLT and MT member
- American Association of Clinical Chemists (AACC) – 2002 member
- Clinical Laboratory Management Association (CLMA) – Board of Directors for State Chapter 2003-2005; WV state meeting Exhibitor Chairperson, 2004-2007; WV state meeting planning committee 2004-present

**Meeting Attendance:**

- Clinical Laboratory Educator's Conference, Savannah, Georgia – February 2008
- WVCLMA, WVSCLS, WVSSAMT Annual Meeting, Flatwoods, WV – October 2007
- Clinical Laboratory Educator's Conference, Louisville, Kentucky – February 2007
- WVCLMA, WVSCLS, WVSSAMT Annual Meeting, Flatwoods, WV – October 2006
- WVCLMA, WVSCLS, WVSSAMT Annual Meeting, Flatwoods, WV – October 2005

6) Externally funded research grants and contracts you received.

- Huntington Clinical Foundation - \$4891.00 – "Lipid Point of Care Testing Workshops as an Educational Tool for Marshall University College of Health Professions Students, April 2006

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

- "Good" and "Bad" Cholesterol – an Interactive Learning Workshop – presentation – College of Health Professions Go Red for Heart Health Activities, February 2007.

8) Community service as defined in the *Greenbook*.

- Marshall University Booth Scholars Selection Committee – Sept. 2005 – April 2006
- CLS Department Scholarship Committee – Sept. 2005 – present
- College of Health Professions Curriculum Committee – January 2006 – present
- Wear Red For Heart Health Committee – January 2006 – present
- Marshall University Faculty Senate – 2006 – present
- Marshall University SCORES Committee – August 2006 – present
- College of Health Professions Faculty Organization Secretary – 2006 -2008
- CLS Faculty Search Committee – member 2007; chair 2007-2008
- MCTC Clinical Assistant Faculty Search Committee – May 2007 – August 2007
- College of Health Professions Online Learning Committee – August 2007 – present
- Marshall University Graduate College Doctoral Seminar Planning Committee – March 2008 - present

(No more than **two** pages; Minimum type 8 point Arial)

## Appendix II Faculty Data Sheet

(for the period of this review)

Name: Thomas M. Stevens Rank: Clinical Instructor

Status (Check one): Full-time  Part-time  Adjunct  Current MU Faculty: Yes  No

Highest Degree Earned: Bachelors of Science Date Degree Received: December 2006

Conferred by: Marshall University

Area of Specialization: Medical Technology

Professional Registration/Licensure 04153412 Agency: ASCP

Years non-teaching experience	<u>8</u>
Years of employment other than Marshall	<u>8</u>
Years of employment at Marshall	<u>1.5</u>
Years of employment in higher education	<u>1.5</u>
Years in service at Marshall during this period of review	<u>1.5</u>

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)*

Year/Semester	Alpha Des. & No.	Title	Enrollment
Spring 2007	CLS 200	Clinical Biochemistry LAB	13
Fall 2007	CLS 200	Clinical Biochemistry LAB	7
Fall 2007	CLS 421	Advanced Microbiology/Chemistry LAB	3
Fall 2007	CLS 110	Clinical Hematology Lab (50% team taught)	7
Spring 2008	CLS 220	Clinical Microbiology	7
Spring 2008	CLS 200	Clinical Biochemistry Lab	7

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

- 1) If your degree is not in your area of current assignment, please explain.  
- **Not applicable**

**(For each of the following sections, list only events during the period of this review and begin with the most recent activities.)**

- 2) Activities that have enhanced your teaching and or research.  
- **Mycology – Fungal media Research Project , Marshall University & St. Mary's Medical Center, Spring 2006**
- 3) Discipline-related books/papers published (provide a full citation).  
- **Not applicable**
- 4) Papers presented at state, regional, national, or international conferences.  
- **Not applicable**

- 5) 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 Organizations:**
- **American Society for Clinical Laboratory Science (ASCLS)**
  - **American Society of Clinical Pathologists (ASCP) – MLT and MT member**
  - **American Heart Association (CPR)**
- 6) Externally funded research grants and contracts you received.
- **Not applicable**
- 7) Awards/honors (including invitations to speak in your area of expertise) or special recognition.
- **Mary S. George Memorial Scholarship, Marshall University, May 2006**
  - **Research Scholars Award, Marshall University, May 2006**
- 8) Community service as defined in the *Greenbook*.
- **Not applicable**

## Appendix IV Service Courses

Course Number	Course Name	Year 1 2003 - 2004			Year 2 2004 - 2005			Year 3 2005 - 2006			Year 4 2006 - 2007			Year 5 2007 - 2008		
		Su	Fa	Sp	Su	Fa	Sp	Su	Fa	Sp	Su	Fa	Sp	Su	Fa	Sp
(e.g. 101)																
CLS 100	Introduction to Health Professions		12			30			29			15			19	
CLS 200	Clinical Biochemistry			8			5			11			13			7

*Expand table as needed.*

## Appendix V Program Course Enrollment

Course Number (e.g. 215*)	Course Name	Required/ Elective	Year 1 2003-2004			Year 2 2004-2005			Year 3 2005-2006			Year 4 2006-2007			Year 5 2007-2008		
			Su	Fa	Sp	Su	Fa	Sp	Su	Fa	Sp	Su	Fa	Sp	Su	Fa	Sp
CLS 270	Clinical Practicum Hematology	R	6	5		3			4	2		8	1		6	2	
CLS 271	Clinical Practicum Clinical Chemistry	R	6	5		3			4	2		8	1		6	2	
CLS 272	Clinical Practicum Blood Bank	R	6	5		3			4	2		8	1		6	2	
CLS 273	Clinical Practicum Microbiology	R	6	5		3			4	2		8	1		6	2	
CLS 100	Introduction to Health Professions	R		12			30			29			15			19	
CLS 110	Clinical Hematology	R		2			6			12			7			7	
CLS 200	Clinical Biochemistry	R		2			6			12			7			7	
CLS 210	Clinical Immunohematology	R			2			6			10			8			7
CLS 220	Clinical Microbiology	R			2			6			10			8			7
CLS 255	Clinical Laboratory Problems	R			2			6			10			8			7
CLS 285	Independent Study	R											1				

(Note: If you listed courses in Appendix IV, do not list them again in this appendix.)

\* Indicate all courses other than the service courses here. Please include all special topics courses offered as well as independent studies. When listing Independent studies, please list the **number of independent study students enrolled**, but **DO NOT** include individual names or the titles of the independent studies.

*Expand table as needed.*

## Appendix VI Program Enrollment

Students	Year 1 2003-2004	Year 2 2004-2005	Year 3 2005-2006	Year 4 2006-2007	Year 5 2007-2008
New Students Admitted (Pre-CLS)	10	12	14	8	6
New Students Admitted (AAS in MLT)			2		
Pre – Clinical Laboratory Science Majors	25	26	22	11	15
AAS in Medical Laboratory Technology Majors	4	6	14	10	10
<b>Grand Total of Students Enrolled in the Program</b>	29	32	36	21	25
<b>Graduates of the program</b>	9	3	6 (9 completed program)	5 (8 completed program)	8

\*If known. This information is not completely accurate at this time, as students often do not declare a second major until the junior evaluation or the student has her/his primary major in another college.

\*\*On occasion you may have a student enrolled in your program who is declaring your program as a 3<sup>rd</sup> major.

\*\*\*If known. This information is not completely accurate at this time, as students often do not declare minors until the junior evaluation or senior application for graduation.

**Chart I Assessment Summary  
Marshall University  
Assessment of Student Outcomes: Component/Course/Program Level  
5 year summary**

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

<b>Component/Course/Program Level</b>				
<b>Student Learning Outcomes</b>	<b>Assessment Measures (Tools)</b>	<b>Standards/Benchmark</b>	<b>Results/Analysis</b>	<b>Action Taken</b>
<i>Pre-clinical Outcome:</i> The student will demonstrate knowledge, skills and competencies that prepare them for entry into clinical practicum	Review of individual course grades in CLS 110, 200, 210 and 220 courses for Fall 2006 and Spring 2007	100% of students must achieve a minimum of 70% in all CLS courses in order to be eligible for clinical rotations	2005 – 75% (n=12); 2 did not for academic reasons, and 1 did not for health reasons 2006 – 88.9% (n=9) 2007 – 100%	Congruency of course objectives given to students and examination materials reviewed by faculty annually to aid in students successfully achieving this outcome
<i>Clinical Practicum Outcome:</i> The student will analyze and interpret clinical data to prepare them for entry into the workforce as a Medical Laboratory Technician	Practical examinations in each Clinical rotation section (CLS 270, 271, 272, 273) during Fall and Summer Hospital Clinical Rotation Practicum Experiences	100% of students must achieve a minimum of 70% on all practical examinations in all sections	2005 – 100% (n=9) 2006 – 85.7% (n=7) 2007 – 100% (n=7)	Content of practical examination materials reviewed annually by the Clinical Advisory Committee and Program director to aid student in successfully achieving this outcome

<i>Clinical Practicum Outcome, cont.</i>	WebCT final examination for each clinical rotation course	100% of students have a maximum of three attempts to achieve a minimum score of 70% on each Web CT final examination at the end of each clinical rotation	2005 – 100% (n=9) 2006 – 85.7% (n=7) 2007 – 100% (n=7)	Content of MLT Web CT examination reviewed by faculty and updated on an annual basis to aid students in successfully achieving this outcome
	Daily Performance Evaluations	100% of students must achieve a minimum of 70% on the evaluation for each clinical rotation section. This assessment student clinical characteristics such as adaptability, application of knowledge, completion of assignments, cooperation, and communication skills.	2005 – 100% (n=9) 2006 – 100% (n=7) 2007 – 100% (n=7)	The Daily Performance Evaluations were reviewed by the Clinical Advisory Committee and Program Director and revised in 2008 to more clearly define student learning outcomes in this area
<i>Post-Graduation Outcome</i> – The student will exercise the knowledge, skills and competencies gained through both didactic and clinical components of the MLT program that are necessary to pass the national registration examination	American Society of Clinical Pathology (ASCP) National Medical Laboratory Technician (MLT) Board of Registry Examination	80% of students pass national certification year annually	2003 – 100% (n=3) 2004 – 67% (n=6) 2005 – 75% (n=3) 2006 – 33% (n=3) 2007 – 63% (n=8)	Given the extremely small number of students taking the examination, the passage rates are greatly affected by any student that fails. Overall for the five year period, the MU passage rate was 67.6% with the 23 students; compared to the national average for the same period of 72% for 10,012 test takers

# NAACLS

National Accrediting Agency  
for Clinical Laboratory Sciences

A NON-PROFIT ORGANIZATION

April 7, 2006

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

Dear President Kopp:

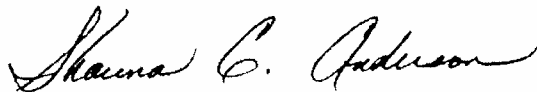
Enclosed is the NAACLS Board of Directors' official accreditation award for your Clinical Laboratory Technician/Medical Laboratory Technician program from the April 6, 2006 meeting.

The Board of Directors' award is based on the continuing accreditation review process that included a site visit of your program on December 7-8, 2005.

Accreditation for your program will continue until April 30, 2011. As a result, your program will commence renewal of accreditation with submission of the Self-Study Report on June 4, 2010, and the scheduling of a site visit during Fall 2010. 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,



Shauna Anderson, PhD, MT(ASCP)C, CLS(NCA)  
President, NAACLS Board of Directors

cc: Dorothy J. Fike, MS, MT(ASCP)SBB, CLS(NCA), Program Director  
Shortie McKinney, EdD, Dean

## NAACLS BOARD OF DIRECTORS' ACCREDITATION AWARD

The Clinical Laboratory Technician/Medical Laboratory Technician Program of **Marshall University** in **Huntington, West Virginia**, is awarded Continuing Accreditation for **five (5) years**.

Dorothy J. Fike, MS, MT (ASCP) SBB, CLS(NCA), is recognized as the Program Director.

The following institutions are recognized as clinical affiliates of the program:

	Charleston Area Medical Center	Huntington, WV
	Huntington VA Medical Center	Huntington, WV
	St. Mary's Medical Center	Huntington, WV
	Cabell Huntington Hospital	Huntington, WV



Shauna Anderson, PhD, MT(ASCP)C, CLS(NCA)  
President, NAACLS Board of Directors



Olive M. Kimball, PhD, EdD  
Chief Executive Officer

April 6, 2006



National Accrediting Agency  
for Clinical Laboratory Sciences

A NON-PROFIT ORGANIZATION

February 17, 2006

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

Dear President Kopp:

Enclosed is the Clinical Laboratory Sciences Programs Review Committee (CLSPRC) recommendation to the NAACLS Board of Directors concerning your Clinical Laboratory Technician/Medical Laboratory Technician program's accreditation as decided at the February 2, 2006, meeting of the CLSPRC.

The CLSPRC recommendation is based on the continuing accreditation review process that included a site visit of your program on December 7-8, 2005.

Provided that the Board of Directors concurs with the CLSPRC recommendation, accreditation for your program will continue until April 30, 2011. As a result, your program will commence the continuing accreditation process with submission of the Self-Study Report on June 4, 2010, and the scheduling of a site visit during Fall 2010. We provide this information to assist you in your program's administrative and financial planning.

This letter does not represent a formal accreditation award by NAACLS. NAACLS will notify you of that award after the next Board of Directors Meeting in April 2006.

Sincerely,

A handwritten signature in black ink that reads "John H. Landis".

John H. Landis, MS, MT(ASCP)  
Chair, CLSPRC

cc: Dorothy J. Fike, MS, MT(ASCP)SBB, CLS(NCA), Program Director  
Shortie McKinney, EdD, Dean

8410 W. Bryn Mawr Avenue, Suite 670, Chicago, IL 60631-3415

Tele: 773.714.8880 Fax: 773.714.8886 Email: [naacinfo@naacils.org](mailto:naacinfo@naacils.org) [www.naacils.org](http://www.naacils.org)

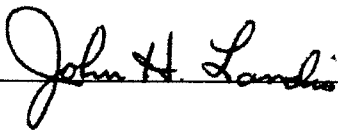
**THE FOLLOWING IS THE CLSPRC RECOMMENDATION FOR YOUR PROGRAM AS IT MAY APPEAR IN THE BOARD OF DIRECTORS' OFFICIAL ACCREDITATION AWARD:**

The Clinical Laboratory Technician/Medical Laboratory Technician Program of **Marshall University in Huntington, West Virginia**, is recommended for Continuing Accreditation for **five (5) years**.

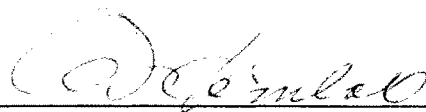
Dorothy J. Fike, MS, MT (ASCP) SBB, CLS(NCA), is recognized as the Program Director.

The following institutions are recognized as clinical affiliates of the program:

	Charleston Area Medical Center	Huntington, WV
	Huntington VA Medical Center	Huntington, WV
	St. Mary's Medical Center	Huntington, WV
	Cabell Huntington Hospital	Huntington, WV



John H. Landis, MS, MT(ASCP)  
Chair, CLSPRC



Olive M. Kimball, PhD, EdD  
Chief Executive Officer

February 2, 2006

# NAACLS

National Accrediting Agency  
for Clinical Laboratory Sciences

A NON-PROFIT ORGANIZATION

December 22, 2005

Dorothy J. Fike, MS, MT(ASCP)SBB, CLS(NCA)  
Program Director  
Marshall University  
Clinical Laboratory Science Department  
1 John Marshall Drive  
Huntington, WV 25755-2530

Dear Ms. Fike,

Enclosed is the Site Visit Report for your CLS/MT and CLT/MLT programs, which were received on December 22, 2005. We encourage you to share this report with members of your administration. **Please review this report carefully and respond in writing to any errors or misunderstandings.** It is necessary that your response and any additional documentation needed for clarification be received by **January 9, 2006**. This will allow your program to be considered at the February 2-3, 2006 meeting of the Clinical Laboratory Sciences Programs Review Committee (CLSPRC). **Even if there are no corrections, we must have your concurrence in writing.**

There are two remaining steps in the process before an official accreditation action is transmitted back to you:

1. The CLSPRC will review your program and formulate a recommendation. The committee will advise you of its recommendation in March 2006.
2. This recommendation will be received and acted upon by the Board of Directors at its April 6-7, 2006 meeting, with notification of your accreditation award sent to you in May 2006.

Please note that no recommendations are official until acted upon by the Board of Directors.

Also enclosed with this letter is an evaluation questionnaire, which we ask that you complete and return to NAACLS. This form is not considered a response to the Site Visit Report. The questionnaire is designed to evaluate two objectives of a site visit,

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12/22/05  
Page 2

namely, assessing the quality of educational programs and making recommendations for improvement where needed.

Please e-mail confirmation of receipt to Edward Rotchford at [erotchford@naacfs.org](mailto:erotchford@naacfs.org). We appreciate your cooperation and hope that the site visit process was beneficial to you.

Sincerely,



Edward Rotchford  
Program Coordinator - Program Services

cc: Gwen James-Oriaikhi, Program Coordinator - Program Services

Enclosures · Site Visit Report · Post Site Visit Evaluation Form



**CLS/MT Site Visit Report (2001 Standards)**

1. The sponsoring institution 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                      | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| 2. Responsibilities of the academic facility | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| 3. Responsibilities of the clinical facility | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| 4. Joint responsibilities                    | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

B. Specific:

- |   |   |  |
|---|---|--|
| 1. Supervisory responsibilities for the students                            | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            |
| 2. Student professional liability coverage                                  | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            |
| 3. Student health and safety policies                                       | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            |
| 4. Provision for renewal  | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            |
| 5. Termination clause providing for program completion of enrolled students | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO |

COMMENTS: \*\*The site visit team reviewed all agreements as well as the concerns listed in the paper review. The program officials determined that the four affiliates listed are the current affiliates being used by the program. It is anticipated that others will be added in the near future. In reviewing the agreements, it was determined that the Cabell Huntington Hospital agreement is signed only by Marshall University representatives. Additionally, the agreements with Cabell Huntington Hospital, Charleston Medical Center, and St. Mary's Medical Center do not contain a termination clause. Administrative changes have created the confusion of the paper reviewer; The university has a new President and Dean of the College of Health Professions; during this transition, the College of Health Professions became the new title for the former College of Nursing and Health Professions.

2. The education program is established in a:
- College or University
  - Hospital or Medical Center
  - Medical Laboratory
  - Medical school
  - Other institution or consortium that meets comparable standards for education in clinical laboratory sciences

COMMENTS:

3. The sponsoring institution assumes primary responsibility for:
- |                          |   |                             |
|--------------------------|---|-----------------------------|
| Planning curriculum      | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| Selecting course content | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

**CLS/MT Site Visit Report (2001 Standards)**

- Coordinating classroom teaching
- Coordinating applied education
- Appointing faculty to the program
- Receiving and processing applications for admission
- Granting the baccalaureate or higher degree or certificate

YES  NO  
 YES  NO  
 YES  NO  
 YES  NO  
 YES  NO

COMMENTS:

- 3A. The sponsoring institution 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 sponsoring institution and the affiliate(s) to:
- Exchange information
  - Coordinate the program

YES  NO  NA  
 YES  NO

COMMENTS:

**II. RESOURCES**

4. Personnel resources of the program support the number of students admitted.
- The instructor to student ratio is adequate to achieve the program goals.

YES  NO  
 YES  NO

COMMENTS:

- 5A1. Program Director Faculty Fact Sheet is complete.

YES  NO

COMMENTS:

- 5A2. The Program Director is responsible for program:
- Organization
  - Administration
  - Periodic review
  - Planning
  - Development
  - Evaluation
  - General effectiveness

YES  NO  
 YES  NO  
 YES  NO  
 YES  NO  
 YES  NO  
 YES  NO  
 YES  NO

- The program director has input into budget preparation.

YES  NO

CLS/MT Site Visit Report (2001 Standards)

COMMENTS: \*\* Dean Shortie McKinney confirmed that the Program Director has input into budget preparation and management of funds allocated for the program. Although the program has experienced reduction in allocated funds due to budget shortfalls, the administration has been supportive of program needs. Recently funding for faculty during the summer for the Program Director and faculty (on 9 months contract) was provided. There was evidence on site that the Program Director is involved in budget preparation.

- 5A3. 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:

YES  NO  
 YES  NO

YES  NO  
April, 2003

- 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

YES  NO  
 YES  NO  
 YES  NO  
 YES  NO  
 YES  NO  
 YES  NO

COMMENTS:

The program director has knowledge of education and administration.

YES  NO

The program director has knowledge of current accreditation and certification procedures.

YES  NO

COMMENTS:

- 5A4. The program director has a faculty appointment at the sponsoring institution or at each affiliated academic institution.

YES  NO

- 5B1. There is an advisory committee from the community of interest who have knowledge of clinical laboratory science education.

YES  NO

COMMENTS:

- 5B2. Advisory committee meeting minutes verify that it has input into any aspects of the program/curriculum that relate to its current relevancy and effectiveness.

YES  NO

**CLS/MT Site Visit Report (2001 Standards)**

**COMMENTS:**

- 6A. Faculty responsibilities include participation in:
- |   |   |                             |
|---|---|-----------------------------|
| Teaching courses                                    | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| Supervising applied laboratory learning experiences | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| Evaluating student achievement                      | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| Developing curriculum                               | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| Formulating policy and procedures                   | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |
| Evaluating program effectiveness                    | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO |

**COMMENTS:** \*\*Numerous Clinical Fact Shets were not complete. This information is identified under Standard 6C and again in the Areas of Concern at the end of the repor.t

- 6B. Faculty demonstrate adequate knowledge and proficiency in their content areas.
- Faculty demonstrate the ability to teach effectively at the appropriate level.
- YES  NO
- YES  NO

**COMMENTS:**

- 6C. There is documentation of ongoing professional development to fulfill the instructional responsibilities of:
- |                  |   |  |
|------------------|---|--|
| Didactic faculty | <input checked="" type="checkbox"/> YES | <input type="checkbox"/> NO            |
| Clinical faculty | <input type="checkbox"/> YES            | <input checked="" type="checkbox"/> NO |

**COMMENTS:**

\*\* Numerous Clinical Fact Sheets at the four affiliates lack documentation of all required information. The Missing information is identified below:

**St. Marys Medical Center:**

- Kathy Gaskins: Certification number
- Tammy Graham: Principal functions in the educational program
- Linda Crowe: Certification number
- Lilnda Lima: Principal functions in the educational program

**Huntington VA Medical Center:**

- Teri Ruley: Certification number
- Rebecca Clarkman: Certification number; year certified
- Mildred Porter: Certification number

CLS/MT Site Visit Report (2001 Standards)

Charleston Area Medical Center:

- Betty Shade: Certification number
- Christine Florence: Certification number
- Steve Bean: Certification number
- Donna Bane: Certification number; year certified
- Misty O'Connor: Certified by; certification number; year certified
- Shawn Farren: Proportion of time; certified by; certification number; year certified; continuing education
- Theresa Dillon: Certification number; continuing education\*
- \*This information may be on the back of the original sheet submitted but not photocopied to review materials
- Rosemary Bailey: Certification number; continuing education
- Patima Patel: Continuing education; certification number
- Amanda Williams: Certification number; continuing education
- Lester Workman: Certification number; continuing education
- Kathy Coleman: Certification number; continuing education
- David Martin: Certified by; certification number; year certified, continuing education
- Barbara Jean Sparks: Certification number; continuing education
- Melinda Taylor: Proportion of time; certified by; certification number; year certified, continuing education
- Charity Thompson: Certification number; continuing education
- Kellie Davis: Certification number

Cabel Huntington Hospital:

- Judy Blevins: Certification number; continuing education
- Drenda Eagle: Certification number
- Peggy Neil: Certification number; principal functions, continuing education

7. 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 sponsoring institution.  YES  NO

COMMENTS:

\*\* Although there have been budget restrictions during recent years, site visitors find the financial resources to be adequate.

8A. The classrooms/lecture areas are adequate.  YES  NO  
 The administrative offices are adequate.  YES  NO

**CLS/MT Site Visit Report (2001 Standards)**

The clinical facilities are adequate.  
The student laboratories are adequate.

YES  NO  NA  
 YES  NO  NA

Student laboratories are equipped for safety.  
Clinical facilities are equipped for safety.

YES  NO  NA  
 YES  NO  NA

COMMENTS: \*\* Clinical space in the affiliates is adequate to support student learning. St. Mary's Medical Center was visited and found to provide excellent training opportunities. Students expressed satisfaction with the clinical experiences received at the various affiliates as well.

8B.

Students have access to modern equipment and supplies.

Students have experience with modern equipment and supplies.

<u>Student Laboratories</u>		<u>Clinical Facilities</u>	
	<input type="checkbox"/> NA		<input type="checkbox"/> NA
YES	NO	YES	NO
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

COMMENTS:

8C. 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:

8D. Adequate instructional resources are available to facilitate each student's attainment of entry level competencies.

YES  NO

COMMENTS:

8E. Students have access to and experience with contemporary computer technology.

YES  NO

COMMENTS: Marshall University has excellent student computer facilities which are accessible 24 hours a day.

**III CURRICULUM**

CLS/MT Site Visit Report (2001 Standards)

9A. Instruction:

- Follows a planned curriculum or sequence of courses that documents a structured curriculum
- Includes applied (clinical/laboratory) education
- Includes course schedules
- Includes clinical significance and correlation
- Has clearly written program goals and competencies
- Has syllabi which include individual course goals and behavioral objectives.

YES  NO  
 YES  NO  
 YES  NO  
 YES  NO  
 YES  NO

YES  NO

Course objectives show progression to the level consistent with entry into the profession.

YES  NO

Cognitive Objectives	Are present?		At the appropriate taxonomic level?		Contain measurable action verbs and outcomes?	
	YES	NO	YES	NO	YES	NO
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hematology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hemostasis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chemistry	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Microbiology:						
Bacteriology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Mycology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parasitology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Virology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Urinalysis/Body Fluids/Microscopy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Molecular Diagnostics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Immunology/Serology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Immunochemistry	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Management Principles	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Education Techniques	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Phlebotomy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Psychomotor Objectives	Are present?		At the appropriate taxonomic level?		Contain measurable action verbs and outcomes?	
	YES	NO	YES	NO	YES	NO
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hematology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hemostasis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

**CLS/MT Site Visit Report (2001 Standards)**

Chemistry	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Microbiology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Urinalysis/Body Fluids/Microscopy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Molecular Diagnostics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Immunology/Serology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Immunohematology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Phlebotomy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Affective objectives are present

YES  NO

**9B. Instructional Areas:**

1. Scientific content includes the following areas:

- Anatomy/physiology
- Immunology
- Genetics/molecular biology
- Microbiology
- Organic/biochemistry
- Statistics

- YES  NO
- YES  NO
- YES  NO
- YES  NO
- YES  NO
- YES  NO

2. Each area of the curriculum includes pre-analytical, analytical, and post analytical components of laboratory services.

YES  NO

The curriculum includes:

- Principles and methodologies
- Performance of assays
- Problem-solving/Troubleshooting
- Interpretation of clinical procedures and results
- Statistical approaches to data evaluation
- Continuous assessment of laboratory services

- YES  NO
- YES  NO
- YES  NO
- YES  NO
- YES  NO
- YES  NO

The curriculum also includes:

- 3. Principles and practices of quality assurance/quality improvement
- 4. Application of safety and governmental regulations and standards
- 5. Principles of interpersonal and interdisciplinary communication and team-building skills
- 6. Principles and applications of ethics and professionalism
- 7. Education techniques and terminology
- 8. Knowledge of research design/practice
- 9. Concepts and principles of laboratory operations include:

- YES  NO
- YES  NO
- YES  NO
- YES  NO
- YES  NO
- YES  NO
- YES  NO

CLS/MT Site Visit Report (2001 Standards)

- a. critical pathways and clinical decision making
- b. performance improvement
- c. dynamics of healthcare delivery systems as they affect laboratory service
- d. human resource management
- e. financial management

YES  NO  
 YES  NO

YES  NO  
 YES  NO  
 YES  NO

9C. 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:  
Instructional material  
Classroom presentations  
Discussions  
Demonstrations  
Laboratory sessions  
Supervised practice and experience

YES  NO  
 YES  NO  
 YES  NO  
 YES  NO  
 YES  NO  
 YES  NO

Experiences at different clinical sites are comparable and appropriate to enable all students to achieve entry level competencies.

YES  NO  NA

Policies and processes by which students may perform service work are:  
Published  
Distributed to students  
Distributed to clinical affiliates

YES  NO  
 YES  NO  
 YES  NO

After demonstrating proficiency, students may be permitted to perform procedures under qualified supervision.

YES  NO

Objectives are present for any learning experiences outside of normally scheduled hours.

YES  NO  NA

Service work by students in clinical settings outside of academic hours is non-compulsory.

YES  NO

COMMENTS: \*\* Affective objectives were reviewed on site and considered satisfactory.

**CLS/MT Site Visit Report (2001 Standards)**

Also, clinical rotation schedules were reviewed and students were interviewed to evaluate clinical schedules, especially for evidence of delineation of the two levels of learning and progression. Site visitors were satisfied that the two levels are distinct.

**9D. Evaluations:**

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

Documented

YES  NO

Given to each student at the time of entry into the program

YES  NO

Evaluation of Cognitive Objectives	Evaluations are present?		Test items correlate with written objectives and competencies?	
	YES	NO	YES	NO
Hematology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hemostasis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chemistry	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Microbiology:				
Bacteriology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Mycology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Parasitology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Virology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Urinalysis/Body Fluids/Microscopy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Molecular Diagnostics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Immunology/Serology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Immunochemistry	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Management Principles	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Education Technique	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Phlebotomy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Evaluation of Psychomotor Objectives	Evaluations are present?	Test items correlate with written
--------------------------------------	--------------------------	-----------------------------------

CLS/MT Site Visit Report (2001 Standards)

			objectives and competencies?	
	YES	NO	YES	NO
Hematology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Hemostasis	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Chemistry	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Microbiology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Urinalysis/Body Fluids/Microscopy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Molecular Diagnostics	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Immunology/Serology	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Immunochemistry	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Phlebotomy	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

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

YES  NO

YES  NO

Affective evaluations are present and correlate with written  
 objectives.

YES  NO

COMMENTS: Written and practical exams in all areas were reviewed on site and deemed appropriate.

IV. STUDENTS

10. 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
- B. program goals and competencies
- C. course objectives
- D. applied education assignments
- E. admission criteria both academic and non-academic
- F. a list of course descriptions
- G. names and academic rank or title of Program Director 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

YES  NO

YES  NO

YES  NO

YES  NO  NA

YES  NO

YES  NO

YES  NO

YES  NO

YES  NO

YES  NO

YES  NO  NA

CLS/MT Site Visit Report (2001 Standards)

L. essential functions

M. policies and procedures when applied  
experience cannot be guaranteed

YES  NO

YES  NO  NA

COMMENTS: \*\* The Program Mission statement is published on the website and will be included in future new student publications.

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

YES  NO

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

YES  NO

YES  NO

YES  NO

YES  NO

YES  NO

COMMENTS:

12. 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

YES  NO

YES  NO

COMMENTS:

13. Student records are maintained according to federal and state regulations for:

Admissions

Evaluation

Counseling or advising sessions

YES  NO

YES  NO

YES  NO

Individual grades and credits for courses are recorded and permanently maintained by the sponsoring institution.

YES  NO

COMMENTS:

14. 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

**CLS/MT Site Visit Report (2001 Standards)**

Emergency medical care is available for students while they are in attendance.

YES  NO

COMMENTS:

15. Guidance is available:  
To assist students in understanding and observing program policies and practices  
For advising on professional and career issues  
For providing counseling or referral for personal and financial problems that may interfere with progress in the program

YES  NO  
 YES  NO

YES  NO

Confidentiality and impartiality are maintained in dealing with student problems.

YES  NO

COMMENTS:

16. Appeals procedures:  
Are distributed to students upon entering the program.  
Include provisions for academic types of grievances.  
Include provisions for non-academic types of grievances.  
Include a mechanism for neutral evaluation that ensures due process and fair disposition.

YES  NO  
 YES  NO

YES  NO

YES  NO

COMMENTS: \*\* Provisions for non-academic grievances were addressed in the response to the paper reviewl.

**V. OPERATIONAL POLICIES**

- 17A. Programmatic announcements accurately reflect the program offered.

YES  NO

Programmatic announcements include NAACLS' name, address and telephone number.

YES  NO

COMMENTS:

- 17B. Student recruitment and admission policies are non-discriminatory.

YES  NO

COMMENTS:

- 17C. Faculty recruitment and employment practices are non-discriminatory.

YES  NO

CLS/MT Site Visit Report (2001 Standards)

COMMENTS:

- 17D. Academic credits and costs are accurately stated, published and made known to all applicants.

YES  NO

COMMENTS:

- 17E. Policies and procedures for student withdrawal are published and made known to all applicants.

YES  NO

Policies and procedures for refunds of tuition and fees are published and made known to all applicants.

YES  NO  NA

COMMENTS:

- 17F. If more than one level of clinical laboratory science program is offered by the same institution, the sponsoring institution demonstrates that each program is being conducted to assure appropriate instruction for the students at different educational levels.

YES  NO  NA

COMMENTS: \*\*Review of all materials determined that instruction at each level is appropriate.

- 17G. The program culminates in a baccalaureate degree or higher, or a certificate.

YES  NO

Granting of the degree/certificate **IS NOT** contingent upon the students passing any type of external certification or licensure examination.

YES  NO

Academic standards for the program are acceptable to the institution that grants the degree.

YES  NO  NA

COMMENTS:

- 17H. Records of formal student complaints and resolution are maintained.

YES  NO

COMMENTS:

- 17I. Program evaluation information is available to NAACLS.

YES  NO

COMMENTS:

CLS/MT Site Visit Report (2001 Standards)

VI. PROGRAM EVALUATION

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

COMMENTS: \*\* No additional certification exam results were available on site. Site visitors talked with a representative group of students about the exam. Several had not taken the CLT/MLT exam but planned to take the CLS/MT exam upon completion of that phase of the program.

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

COMMENTS:

20. A review of graduation rates is: NA
- documented YES NO  
analyzed YES NO  
used in the program evaluation YES NO

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

COMMENTS:

21. The results of program evaluations are: NA
- documented YES NO  
reflected in ongoing curriculum development and YES NO  
program modification YES NO  
followed by an analysis of the effectiveness of any YES NO  
changes implemented

COMMENTS:

(November 2003)

## 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:**

- \* The CLS/MT and CLT/MLT programs at Marshall University have a dedicated faculty, a very supportive administration, and clinical affiliates which recognize the value that these two programs provide to the service area and beyond.
- \* There are excellent instructional facilities and student support services on campus.
- \* Students and graduates are well satisfied with the Marshall University programs.

### **Areas of Concern:** (List and detail by the appropriate Standards number)

Standard 1: The affiliation agreement with Cabell Huntington Hospital is not appropriately signed; only Marshall University representatives' signatures were on the agreement submitted. Additionally, only the agreement from the Huntington VA Medical Center contains a termination clause. Cabell Huntington Medical Center, Charleston Area Medical Center and St. Mary's Medical Center agreements do not contain a termination clause.

Standard 6C:

There were numerous Clinical Fact Sheets from clinical faculty in the four affiliates that are lacking documentation of required information. Missing information is identified below:

St. Marys Medical Center:

Kathy Gaskins: Certification number  
Tammy Graham: Principal functions in the educational program  
Linda Crowe: Certification number  
Lilnda Lima: Principal functions in the educational program

Huntington VA Medical Center:

Teri Ruley: Certification number  
Rebecca Clarkman: Certification number; year certified  
Mildred Porter: Certification number

Charleston Area Medical Center:

Betty Shade: Certification number  
Christine Florence: Certification number  
Steve Bean: Certification number  
Donna Bane: Certification number; year certified  
Misty O'Connor: Certified by; certification number; year certified  
Shawn Farren: Proportion of time; certified by; certification number; year certified;  
continuing education

Theresa Dillon: Certification number; continuing education\*  
\*This information may be on the back of the original sheet submitted but not photocopied to review materials

Rosemary Bailey: Certification number; continuing education  
Patima Patel: Continuing education; certification number  
Amanda Williams: Certification number; continuing education  
Lester Workman: Certification number; continuing education  
Kathy Coleman: Certification number; continuing education  
David Martin: Certified by; certification number; year certified, continuing education  
Barbara Jean Sparks: Certification number; continuing education  
Melinda Taylor: Proportion of time; certified by; certification number; year certified,  
education  
Charity Thompson: Certification number; continuing education  
Kellie Davis: Certification number

continuing

Cabel Huntington Hospital:

Judy Blevins: Certification number; continuing education

Drenda Eagle: Certification number

Peggy Neil: Certification number; principal functions, continuing education

Please comment on any **special circumstances** not previously mentioned:

None

## SIGNATURE PAGE

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

Please print or type the following information.

City, State: Huntington, WV

Name of Program: Marshall University

Date: December 8, 2005

Program Level: CLS?MT

<b>I. Team Coordinator:</b>	
Name/Title:	Mary Jean Rutherford, M Ed., MT(ASCP), SC
Institution:	Arkansas State University (retired), CLS/MT Program
Address:	145 Ashley St
City/State/Zip:	Tupelo, MS 38801
Telephone:	662-844-5719
	Email: <u>rutherford145@comcast.net</u>
Signature:	Date: <u>Dec. 8, 2005</u>
<b>II. Team Member:</b>	I concur with the Site Visit Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Name/Title:	Nisi Zell, MT(ASCP), SH, CLS?NCA, EDS
Institution:	Coastal Georgia Community College
Address:	3700 Altama Avenue
City/State/Zip:	Brunswick, GA 31520
Telephone:	912-264-7382 or 912-262-3340
	Email:
Signature:	Date: <u>Dec. 8, 2005</u>
<b>III. Educator Generalist:</b>	I concur with the Site Visit Report <input type="checkbox"/> Yes <input type="checkbox"/> 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**

\*\*\*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

City, State: Huntington, WV

Program Level: CLS/MT

Date: 12-8-05

<b>I. Team</b>	
<b>Coordinator:</b>	
Name/Title:	<u>Mary Jean Rutherford, MEd, MT(ASCP) SC.</u>
Institution:	<u>Arkansas State University (Retired)</u>
Address:	<u>145 Ashley St</u>
City/State/Zip:	<u>Tupelo MS 38801</u>
Telephone:	<u>662-844-5719</u> Email: <u>rutherford145@comcast.net</u>
Signature:	<u>Mary Jean Rutherford</u> Date: <u>12/8/05</u>
<b>II. Team Member:</b>	I concur with the Site Visit Report <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Name/Title:	<u>Nisi Zell, EdS, CLS(NCA), MT(ASCP) SH</u>
Institution:	<u>Coastal Georgia Community College</u>
Address:	<u>3700 Altama Ave</u>
City/State/Zip:	<u>Brunswick GA 31520</u>
Telephone:	<u>912-264-7382</u> Email: <u>nzell@cgcc.edu</u>
Signature:	<u>Nisi Zell</u> Date: <u>12/8/2005</u>
<b>III. Educator Generalist:</b>	I concur with the Site Visit Report <input type="checkbox"/> Yes <input type="checkbox"/> 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

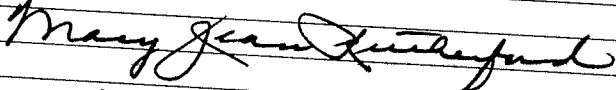
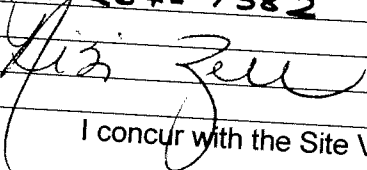
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**If a team member does not concur with the report, a minority report describing disagreements is needed. (See Volunteer Manual)**