

**Marshall University**  
**2010-2011 Undergraduate Assessment Report**  
**Medical Technology (MT)/Medical Laboratory Science (MLS)**

**I. Program's Mission**

The mission of the Clinical Laboratory Sciences Department is to provide competent laboratory professionals who are qualified to staff healthcare facilities and thus furnish the highest quality of patient care to our local and regional servicing area. The primary area serviced with our graduates is the Huntington tri-state area and other underserved areas of West Virginia, Ohio and Kentucky. These clinical laboratory professionals, utilizing state of the art equipment, provide the highest quality laboratory test results that provide 70-80% of the objective data needed for physicians to make accurate patient diagnoses. The Clinical Laboratory Sciences Department provides continuing clinical medical education for the region as required by professional organizations and healthcare facilities. In addition, it is an ongoing mission of the department to implement innovative programs to meet the dynamic needs of the medical community.

Part of the mission of Marshall University is to educate health personnel for the state of West Virginia and the Tri-State region. The MT/MLS program is providing health care providers. As previously mentioned, most MT/MLS 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 MT graduates.

**Program Goals:**

*Instructional Goals*

1. Prepare graduates with attitudes, knowledge, and skills that prepare them for career entry into the clinical laboratory workforce as a Medical Laboratory Scientist (MLS).
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 MLS.
4. Prepare graduates with the basis for continuing their undergraduate education in the medical technology Bachelor of Science degree program.

*Curriculum and Accreditation Goals*

1. The MT/MLS Program will maintain accreditation by the National Accrediting Agency for Clinical for Clinical Laboratory Sciences (NAACLS).

2. Faculty in the MT/MLS program will continuously develop their general and professional knowledge and teaching skills through formal continuing education and personal study.
3. Faculty of the MT/MLS program will continuously improve the MT/MLS program curriculum to meet the changing needs of students, accreditation agencies, and prospective employer.
4. Faculty of the MT program will provide opportunities for clinical faculty to develop teaching and evaluation skills in the clinical practicum setting.

#### *Student Learning Goals*

1. Require each student to have demonstrated at least minimum levels of proficient performance and knowledge of each clinical specialty studied in the pre-clinical portions of the program including advanced clinical hematology, clinical chemistry, clinical immunohematology and clinical microbiology as well as laboratory instrumentation and laboratory supervision courses.
2. Require each student to complete a senior capstone experience to learn introductory research methods to further prepare the student for entry level careers in Medical Technology.
3. Participation in MT/MLS graduate interview as part of assessment day activities each Spring.

#### *Faculty Development Goals*

1. The MT/MLS program faculty will maintain a continuing record of their personal academic coursework, professional continuing education or other educational activities undertaken.
2. The MT/MLS program clinical Program faculty will encourage continuing education activities of the clinical (Hospital based) instructors, and review such records for the MT/MLS Program accreditation file.
3. MT/MLS program faculty will meet annually for the purpose of improving course content, instructional effectiveness and overall curriculum.
4. MT/MLS program faculty will review multiple sources of information regarding performance of students, graduates, faculty and clinical facilities used by students will be evaluated and used to improve course content and overall curriculum.
5. MT/MLS program faculty will track and evaluate the performance by successive class graduates taking national certifying examinations to identify program strengths and weaknesses.
6. MT/MLS program faculty will strive to maintain high levels of instruction and instructional outcomes at affiliated hospital laboratories during the clinical practicum phase of the program.

7. MT/MLS program faculty will make curriculum and instructional changes to improve the program in response to information gathered as part of the assessment process.

**II. Program's Student Learning Outcomes**

Refer to the attached chart

**III. Assessment Activities**

Refer to the attached chart

**A. Learning Outcomes/Assessment Activities:**

<b>Student Outcome</b>	<b>Person or Office Responsible</b>	<b>Assessment Tool or Approach</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	CLS Faculty	Review of individual course grades in CLS 400, 410, 420, 430, 460, and 499 courses for Fall 2010	Students must achieve a minimum of 70% in all CLS courses in order to be eligible for clinical rotations	6 students entered the pre-clinical courses and successfully achieved the minimum performance standard for eligibility for advanced clinical rotation.	
<i>Clinical Practicum Outcome:</i> The student will demonstrate knowledge, skills and competencies to prepare them for entry into the workforce as a Medical Technologist/Medical Laboratory Scientist.	CLS Faculty/Clinical Faculty at hospital sites	Instrumentation Projects completion as part of practicum experience	Students must achieve a minimum of 70% in this instrumentation course	6 students of 6 students achieved above minimum standards	
	Clinical Faculty at hospital sites	Practical Exams in each Clinical Section (CLS 472 and CLS 473) in Spring 2011	Minimum of 70% on all practical exams in all sections	6 of 6 students achieved above minimum standards.	
	Clinical Faculty at hospital sites MT/MLS Clinical Coordinator	Final Examinations (case study based) in each clinical section	Students have two attempts to achieve a minimum score of 70% on each final examination at the end of each clinical rotation	6 of 6 students achieved above minimum standards.	
	CLS Faculty	Molecular Diagnostics Workshop/Seminar	Students must participate in a day long hands-on molecular diagnostics workshop as part of NAACLS accreditation requirements for graduation from the BS in MT/MLS program; a rubric for tasks that students must participate in is provided at the start of the workshop		

	Clinical Faculty at hospital sites	Performance Evaluation	Evaluation of supervising clinical instructor in such areas as quality and quantity of work, application of knowledge, demonstrations of initiative, interpersonal relationships, communication, dependability and integrity, judgment and analytical ability	6 of 6 students achieved above minimum standards on evaluations.	
	American Society of Clinical Pathology Board of Registry	National Medical Technologist/Medical Laboratory Scientist Exam	100% passage of exam on first attempt	Results from July 1, 2010 to June 30, 2011: 1 students took the exam and 1 passed, giving a 100% pass rate for the program. The national pass rate for this period was 83%.	Students are encouraged to take the registry examination as quickly after graduation as possible to ensure better passage rates, however, students do not always choose to do so. Students can work as an MT in a laboratory in many areas with only the bachelor's degree and not the registry examination. The low number of students taking the registry examination also obviously affects our pass rate. During this Fall 2011, the BSMT courses were begun online to generate more interest in

					<p>students continuing on to the BS MT degree. Most students who go through our AAS MLT program choose to go to work full time and this makes it very difficult for them to return to a traditional classroom setting to continue the BSMT degree. We currently now have 11 students in the MT program, which is a substantial increase from previous years.</p>
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**I. Overview of changes implemented in your program this past year based on results and planned action specified in last year's report:**

The MT/MLS clinical rotation was re-evaluated by the faculty to ensure that they were more reflective of the level of training for a Medical Technologist/Medical Laboratory Scientist. During this Fall 2010, the MT portion of our 2 + 2 career ladder program was launched as an online program. Students will also have the option of taking a comprehensive examination to obtain advanced standing for the CLS 272 and 273 BSMT courses, except for the Molecular Diagnostics clinical practicum experience that all students must complete, regardless of test scores. The Molecular Diagnostics Workshop was implemented during the Spring 2011 semester, as well as the instrumentation course moved to the clinical rotation sites to give students a better experience in working with more modern instrumentation.

**II. Specify any changes/modifications made to your program based specifically on data obtained during Assessment Day Activities:**

Senior exit interviews are always conducted during Assessment Day, and information obtained during these interviews was used to re-evaluate content of clinical rotation experiences. Since the program has now moved entirely online, we will need to develop another way of obtaining student assessment data, as many of our students do not live in this geographic area.

**III. Assistance Needed:**

The help of the Office of Assessment may be requested to aid in designing a valid assessment tools for our online MT/MLS students.