

Marshall University
2001-02 Undergraduate Program Assessment Report
Medical Laboratory Technician (MLT) A.D. Program

1. Assessment Activities:

A. Program Goals: Program goals were updated and revised for clarity by CLS faculty during the reporting period. The revisions more clearly state current practice and do not redirect or change the goals of the MLT program. A copy of the revised goals is attached.

B. Outcomes/ Data Collection:

1. **Recruitment and admissions outcomes:** The program assessed academic preparation of 2001-02 program applicants. The program evaluated the spring clinical biochemistry section for Dietetics for content and applicability.
2. **Preclinical outcomes:** The program assessed the adequacy of student preparation in the general education curriculum and adequacy of each pre-clinical CLS course as preparation for the clinical practicum course sequence through assessment of questionnaires and student performance records and of performance on a knowledge test in the CLS 255 course. That course included a WebCT-based knowledge test of student pre-clinical knowledge achievement in the specialty content areas.
3. **Clinical practicum outcomes:** The program assessed direct measurements of student knowledge and performance in the clinical setting using records of student performance on knowledge and practical evaluation instruments for individual courses. Course grades are entirely based on student performance on practical performance examinations, daily performance evaluations, and online knowledge examinations.
4. **Graduate outcomes:** The program informally assessed graduate satisfaction with the MLT program overall, graduate employment, and employer satisfaction.
5. **Program faculty and faculty at clinical facilities:** The program assessed written student evaluations of courses and faculty instruction. Departmental forms for student evaluation of clinical instruction were collected and assessed. The CLS faculty also assessed effectiveness of communication with and among clinical affiliates.
6. **Program Review & Planning:** CLS faculty assessed program curriculum and course content coordination in CLS department courses. Results were used as the basis for content or policy change. Recommendations for change resulted in execution of specific policies and plans.
7. **BOT Initiative 3 Compliance:** CLS faculty assessed overall program graduate performance on the ASCP Board of Registry MLT Certification Examination. Individual graduate performance, overall pass rate, and mean specialty area scores are routinely compared to national performance figures. Reports of certification examinations from the agencies routinely arrive at the end of the third quarter of the year, in early October. This causes inevitable conflicts regarding including such data in the annual assessment report, due October 1.

The state of West Virginia requires that laboratory workers be licensed. Criteria for licensure is certification by one of the nationally recognized professional certifying agencies such as the Board of Registry of the ASCP. All MLT graduates of the Marshall MLT program are eligible for the certification examinations.

C. Results of MLT Program Assessment Efforts: Recruitment and admissions outcome assessments 2001-02:

Component / Course / Program Level					
Student Outcome	Person or Office Responsible	Assessment Tool or Approach	Standards/Benchmark	Results/Analysis	Action Taken
MLT class admitted for 2002-03	CLS Admissions Committee	Admissions review of applications	Minimum 4 Maximum 11 Students	15 applicants 13 accepted Exceeded Expectation	Plans were initiated for locating additional clinical site rotations.

Result assessment: A larger than optimal class was admitted for the upcoming year 2002-03, since it exceeds the number that can currently be supported by existing clinical affiliates. College and program officials need to immediately plan to locate more clinical rotation positions.

1. Preclinical outcome assessments 2001-02:

Component / Course / Program Level					
Student Outcome	Person or Office Responsible	Assessment Tool or Approach	Standards/Benchmark	Results/Analysis	Action Taken
Student retention rate 2001-02 Class Preclinical	CLS Dept Faculty, Admissions Committee	Comparison of enrollment numbers in preclinical classes	8 students 85% – 100% retained after 2 semesters	6 began sequence 2 continuing 4 completed 100% retained Met expectation	Reviewed program admissions process.
2001-02 Preclinical student achievement	CLS Dept Faculty	Student performance in CLS 110, 200, 210, 220, &255	100% retained students earn Minimum C	7 students \geq C all pre-clinical CLS courses	None required

Result assessment: Class size in 2001-02 was 6 students. Four of these completed the program and graduated in August, 2002, but two others plan to complete the program in fall, 2002.

2. Clinical Practicum outcome assessments 2001-02:

Component / Course / Program Level					
Student Outcome	Person or Office Responsible	Assessment Tool or Approach	Standards/Benchmark	Results/Analysis	Action Taken
Completion rate summer Clinical Practicum 2002	Director, CLS Programs	Student performance records	100% success rate	4 students began summer 2002 4 students completed 100% Met expectation.	Review and update Clinical Practicum Policies
Enrollment rate for fall clinical practicum 2002, for continuing students	Director, CLS Programs	Review of Fall Enrollment records	All remaining students from pre-clinical program register for fall clinical practicum	2 students planned fall clinical practicum 2 students registered for fall clinical practicum	Provide coordination as needed.
Student preparation for clinical sequence by pre-clinical courses	Director, CLS Programs, program faculty	Student records, reports prepared by clinical faculty	No significant deficiencies identified	No significant deficiencies identified. Met Expectation	Continue to develop pre-clinical courses by interaction between clinical instructors and content coordinators for each clinical area.
Student achievement of performance objectives of Clinical Practicum	Director, CLS Programs, clinical instructors	Student practical performance records for objectives in CLS 270, 271, 272, 272	100% meet minimum practical performance requirements in each clinical section rotations	All 4 students met required performance levels in each clinical section rotations	Continue to develop practical performance exercises with clinical faculty
Student achievement of knowledge objectives of Clinical Practicum	Director, CLS Programs, clinical instructors	Student knowledge test records for objectives in CLS 270, 271, 272, 272	100% meet minimum knowledge requirements on knowledge quizzes in all clinical rotations	100% passed each of 6 knowledge quizzes with minimum 70% score.	Continue to develop study questions and quiz content to keep them valid and current

Result assessment: All students who completed the MLT pre-clinical sequence during the reporting period were sufficiently prepared to succeed in the less structured clinical laboratory environment of clinical practicum at hospital laboratory affiliates. Student achieved at least minimum levels of competence on practical performance examinations in each clinical area and scored above the minimum on knowledge examinations in each clinical subject.

3. Graduate and employer outcome assessments 2001-02:

Component / Course / Program Level					
Student Outcome	Person or Office Responsible	Assessment Tool or Approach	Standards/Benchmark	Results/Analysis	Action Taken
Student Evaluation of Clinical Practicum	Director, CLS Programs, CLS Faculty	Faculty review of questionnaires submitted by MLT students	Students moderately Satisfied	Students generally satisfied, but requested improved study questions, knowledge content examinations, and grade sheets.	Study questions and test items revised for next rotation. Some grade sheets were revised.
Graduate Satisfaction with overall program	Director, CLS Programs, CLS Faculty	Informal discussions with graduates by department faculty	Moderate level of satisfaction	Graduates moderately satisfied, but indicated a need for more clarity and consistency in written program and course instructions and policies.	Revision of written practicum handbook is underway.
Employer Satisfaction		Interviews with lab managers, testimonials, retention	Moderate level of satisfaction	Employers report high level of satisfaction.	An objective employer satisfaction mechanism is needed

Result assessment: Of the 8 students originally admitted to the 2001-02 MLT class, 2 dropped out during the first semester, 4 graduated with the associate degree in medical laboratory technology, and 2 continue and expect to graduate in Dec. 2002.

All four students who completed the MLT program in August 2002 have continued their education in medical technology bachelor's degree program. Two of these graduates are also employed part-time in clinical laboratories.

4. Program faculty and faculty at clinical facilities 2001-02:

Component / Course / Program Level					
Student Outcome	Person or Office Responsible	Assessment Tool or Approach	Standards/Benchmark	Results/Analysis	Action Taken
Maintain Number of. Rotation slots to meet or exceed enrollment needs.	Dean, College of Nursing and Health Professions; Director, CLS Programs, CLS Faculty	Active affiliation count and complete clinical rotation position count	Rotation slots equal or exceed 100% of current enrollment	Sufficient rotation slots existed during 2001-2002.	Review anticipated need for rotation slots for 2002-03.
Faculty Assessment	Student Questionnaires	Students satisfied	Strengths and weakness evaluated by CLS faculty	Faculty identified and conferred on strengths and weaknesses of CLS instruction.	Faculty reviewed classroom instructional effectiveness.
Faculty Development	Documented continuing education activities	Continual Improvement	3 of 3 faculty participate in continuing education activity annually.	2 of 3 faculty actively involved in continuing education through attendance at national professional meetings and graduate study. The third faculty member attended only locally-offered CE activities.	Opportunities for professional CE should be made available to all faculty.
Clinical Faculty Development	CLS Dept. faculty	Continual Improvement	Annual meeting with educational component for clinical faculty.	The November 2001 meeting of clinical faculty included a component on adult education.	Plan educational component for 2002 meeting.
MLT Professional Curriculum Assessment	Committee Review	Continual Improvement	Committee satisfied overall with professional curriculum	.Committee recognized problem in knowledge assessment	Knowledge assessment on WebCT needs improvement
Published associate degree in MLT Curriculum Assessment	Dean, College of Nursing & Health Professions, Director CLS Programs, CLS faculty Review	Continual Improvement	Committee satisfied overall	Faculty and students satisfied	Update Webpage and prepare catalog revisions for 2002-03

Result assessment: The MLT program faculty is experienced, dedicated, and competent. Faculty members are interested in improving their professional development and in maintaining a high quality program. Due dates for faculty content coordinators were clarified regarding handbook information and web quizzes.

5. Assessment of Program Review & Planning:

Component / Course / Program Level					
Student Outcome	Person or Office Responsible	Assessment Tool or Approach	Standards/Benchmark	Results/Analysis	Action Taken
Multi-level participation in program review and planning	CONHP Dean and Associate Dean, CLS Faculty, Clinical Faculty	Ongoing joint annual meeting structure, with meeting minutes. Ongoing faculty discussions.	Regular meetings of program faculty Faculty meetings with CONHP associate dean. Dept chair meetings with college dean.	CLS faculty meet weekly. CONHP dean and MLT program director met at least monthly. Communication between CONHP dean and CLS Dept faculty is ongoing. Joint meeting with clinical faculty occurs annually.	Continue multi-level meeting structure, scheduling for upcoming year.
Department actively promotes clinical affiliate participation in program review and planning	CLS Faculty, Clinical Faculty	CLS Program Review & Planning Committee meeting with meeting minutes	At least one meeting per year of departmental review and planning committee Periodic meetings between content coordinators and clinical faculty who work in content areas.	CLS Program Review & Planning Committee met in November, 2001. Content coordinators met occasionally with their clinical counterparts	There is a need to develop more contact between content coordinators and their clinical counterparts.
Department structure actively promotes faculty participation in program review and planning	Director, CLS Programs, CLS Faculty	Ongoing departmental faculty meetings with minutes	Weekly meetings of CLS faculty during school year.	MLT program faculty met at least monthly during regular school year to discuss student progress and program development CLS faculty are actively involved in ongoing discussion of program review and planning.	Continue weekly faculty meetings

Result assessment: Program review and planning needs to promote more active communication with clinical faculty and medical advisor(s). Program structure otherwise promotes continuing program review and planning.

6.

7. Assessment of 2001-02 MLT Program Graduate Scores on ASCP BOR Examination:

Component / Course / Program Level					
Student Outcome	Person or Office Responsible	Assessment Tool or Approach	Standards/Benchmark	Results/Analysis	Action Taken
Previous graduate Pass Rate, First time BOR MLT Examination, graduates before 2002, during reporting period	Board of Registry Program reports	≥ National Mean Pass Rate	100% Program 73% National	1 graduate took the test 1 passed	None necessary
Previous graduate scores on content areas on BOR MLT examination, first-time examinees, 2001-02 class during reporting period	Director, CLS Programs CLS Faculty	Evaluate graduate scores on subspecialty areas	Program average scores at or above national mean scaled scores for all specialties	Scores in all specialty areas greatly exceed national mean scores.	None necessary
First time Pass Rate, BOR MLT Examination, 2001-02 class during reporting period	Board of Registry Program reports	≥ National Mean Pass Rate	100% Program 76% National	No data available	Wait for program report from Board of Registry
Scores on content areas on BOR MLT examination, first-time examinees, 2001-02 class during reporting period	Director, CLS Programs CLS Faculty	Evaluate graduate scores on subspecialty areas	Program average scores at or above national mean scaled scores for all specialties	No data available	Wait for program report from Board of Registry

Result assessment: August 2002 graduates either 1) did not yet take the MLT certification examination, 2) took the examination, but results are not yet available, or 3) do not plan to take the MLT examination at all, but plan to complete the bachelor's degree MT program. Board of Registry reports are due in mid-October.

2. Plans for the current year:

A. Plans for the 2001-02:

The MLT program faculty will assess changes implemented for improving knowledge base assessment quizzes in all clinical areas. The program will assess effectiveness of efforts to increase numbers of available clinical practicum sites by 2003-04, and to continually improve on-campus, preclinical instruction. The MLT program faculty will assess its success in equipping a simulated clinical laboratory on campus and begin integrating its use into the curriculum. Plans also include improving graduate exit and employer assessments by conducting them through the office of institutional research .

The MLT program faculty will continue outreach activities in acquiring additional clinical rotation sites to meet the current need and the needs of Chinese students in 2003-05.

3. Assistance needed:

The MLT program needs an objective exit satisfaction assessments of students who complete the MLT program. Some of these students do not apply for graduation with the associate degree, but these should also be polled. The program also needs an objective survey of employer satisfaction conducted by an independent entity such as the MU assessment program.

4. The one most important thing the MLT Program learned through this process:

The unexpected increase in students seeking this program has tested the department's ability to respond with necessary clinical practicum rotation sites to meet the increased demand.

5. Goals: MU Medical Laboratory Technician (MLT) A. D. Program

A. Overall Instructional goals

1. Prepare graduates with attitudes, knowledge, and skills for career entry into the clinical laboratory workforce as a Medical Laboratory Technicians (MLT) / Clinical Laboratory Technicians (CLT)..
2. Prepare graduates to continue learning advanced technical knowledge about the laboratory evaluation of human health and disease.
3. Prepare graduates with knowledge and experience necessary for achieving national certification as a MLT / CLT.
4. Prepare graduates with the basis for continuing their undergraduate education in the medical technology bachelor of science degree program.

B. MLT Program Curriculum, Instruction, and Accreditation.

1. The MLT program will maintain accreditation by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS).
2. Faculty members of the MLT program will continuously develop their general and professional knowledge and teaching skills through formal continuing education and personal study.
3. Faculty of the MLT program will continuously improve the MLT program curriculum to meet the changing needs of students, accreditation agencies, and prospective employers.
4. Faculty of the MLT program will provide opportunities for clinical faculty to develop teaching and evaluation skills in the clinical practicum setting.

C. Goals for Student Learning

1. Each student admitted to the MLT program will be prepared with knowledge, skills, and capabilities to succeed in the program. Evidence for this will be found on student transcripts, indicating each student has achieved at least grades of "C," demonstrating minimum levels of knowledge in prerequisite college level mathematics, human biology, and principles of chemistry before admission to the MLT program.
2. Each student who completes the pre-clinical professional CLS courses will be prepared with knowledge, skills, and capabilities to succeed in the clinical practicum phase of study and performance. Evidence for such preparation is that each student will have demonstrated at least minimum levels of proficient performance and knowledge of each clinical specialty studied in the pre-clinical portions of the program. Facts in evidence will be that the student will have earned grades of "C" or better in clinical hematology, clinical chemistry, clinical immunohematology, clinical microbiology, and clinical laboratory problems courses. Grades of "C" are defined in each course as reflections of at least minimum levels of knowledge and skill for continuing to the next level in the CLS curriculum.
3. Each student who completes the clinical practicum sequence of CLS courses will be prepared with knowledge, skills, and capabilities to

succeed in the workplace and to pass national certification examinations. Evidence of this would be that each student has demonstrated at least minimum levels of proficient performance and knowledge in each clinical subspecialty rotation during the clinical practicum portion of the MLT program.

4. Each MLT student will retain sufficient knowledge and skills from each CLS department course as the student progresses to the next level of the program. Evidence for this is student performance on repeated measures of knowledge and skill as each student progresses through pre-clinical to clinical settings. Policies help insure this by requiring each student to maintain continual, successful progress each academic term toward the associate degree in medical laboratory technology.
5. All students who successfully complete the MLT curriculum will be qualified for national certification examinations offered by the American Society of Clinical Pathologists (ASCP) Board of Registry and by the National Credentialing Agency for Clinical Laboratory Sciences (NCA). Evidence of this will be graduate pass rate on national certification examinations and graduate scores on the clinical specialty subparts of those examinations.

D. Faculty Development

1. Program faculty will maintain a continuing record of their personal academic coursework, professional continuing education, or other educational activities undertaken.
2. Program clinical Program faculty will encourage continuing education activities of clinical (hospital based) instructors, and review such records for the MLT Program accreditation file.
3. MLT program faculty will meet at monthly during the academic year for the purpose of improving course content, instructional effectiveness, and overall curriculum.
4. Program faculty will review multiple sources of information regarding performance of students, graduates, faculty, and clinical facilities by students will be evaluated and used to improve course content and overall curriculum.
5. Program faculty will track and evaluate the performance by successive class of graduates taking national board examinations to identify program strengths and weaknesses.
6. 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. Program faculty will make curriculum and instructional changes to improve the program in response to information gathered.