



Medical Laboratory Technician AAS Program

New Program Proposal

State Submission

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WESTERN DAKOTA TECHNICAL INSTITUTE (WDT)

Medical Laboratory Technician AAS Program

New Program Proposal

EXECUTIVE SUMMARY

Western Dakota Technical Institute requests approval to create an Associate of Applied Science degree in Medical Laboratory Technician. This program would prepare students for the increasing number of career opportunities in the medical laboratory technician field. WDT would continue to offer its Diploma program in Phlebotomy to provide students with multiple options. The Phlebotomy program curriculum would be the first year of the proposed Medical Laboratory Technician program. Students would complete both and leave WDT with both a diploma and an AAS degree, giving them an advantage as they enter the workforce.

WDT requests permission to begin offering the four-semester, two-year program in spring 2016.

Labor market information for the state indicates that the demand for workers in these fields is strong now and in the future. Through 2022, the number of workers in SOC Code 29-2012 (Medical and Clinical Laboratory Technicians) will grow by 17.6 percent in South Dakota and 30 percent nationally. Through the same time period, the number of workers in SOC Code 31-9097 (Phlebotomists) will grow by 11.4 percent in South Dakota and 27 percent nationally.

IDENTIFICATION AND DESCRIPTION OF THE PROGRAM

An increase in the aging population will lead to a greater need to diagnose medical conditions, such as cancer or type 2 diabetes, through laboratory procedures. Medical laboratory technicians will be in demand to use and maintain the equipment needed for diagnosis and treatment.

In addition, federal health legislation will increase the number of patients who have access to health insurance, increasing patient access to medical care. As a result, demand for the services of laboratory personnel will grow.

This program has been designed to prepare students for those opportunities. Students will complete classes in phlebotomy, anatomy and physiology, medical terminology, hematology, chemistry, immunohematology, serology, and more.

Graduates of the program will be able to accomplish the typical duties of a Medical Laboratory Technician, including:

- Analyze body fluids, such as blood, urine, and tissue samples, and record normal or abnormal findings

- Study blood samples for use in transfusions by identifying the number of cells, the cell morphology or the blood group, blood type, and compatibility with other blood types
- Operate sophisticated laboratory equipment, such as microscopes and cell counters
- Use automated equipment and computerized instruments capable of performing a number of tests at the same time
- Log data from medical tests and enter results into a patient's medical record
- Discuss results and findings of laboratory tests and procedures with physicians
- Supervise or train medical laboratory technicians

OBJECTIVES AND PURPOSE OF THE PROGRAM

The primary objective of the Medical Laboratory Technician program is to prepare students with the necessary skills to be successful in this important and growing field. The program will articulate appropriate high school credits whenever possible, and there could be dual enrollment possibilities for high school students.

The Medical Laboratory Technician graduate will be able to:

- Practice laboratory safety and regulatory compliance
- Collect and process biological specimens for analysis
- Monitor and evaluate quality control in the laboratory
- Apply modern clinical methodologies including problem solving and troubleshooting according to predetermined criteria
- Apply laboratory results to diagnosis of clinical conditions and/or diseases
- Demonstrate competency to perform a full range of testing in the contemporary medical laboratory encompassing pre-analytical, analytical, and post-analytical components of laboratory services, including hematology, chemistry, microbiology, urinalysis, body fluids, molecular diagnostics, phlebotomy, and immunohematology
- Demonstrate proficiency to problem-solve, troubleshoot, and interpret results, and use statistical approaches when evaluating data
- Model professional conduct, respecting the feelings and needs of others, protecting the confidence of patient information, and not allowing personal concerns and biases to interfere with the welfare of patients

METHODS OF ATTAINING THE OBJECTIVES OF THE PROGRAM

WDT will provide students with instruction in classroom and lab settings on the WDT campus. The classroom and lab instruction will be augmented with guest speakers and other experiences that will prepare students for the workforce.

As with all WDT programs, a variety of services and support will be available to Medical Laboratory Technician students. This includes expanded tutoring and office hours provided by full-time program faculty and at WDT's Student Success Center. Access to current technical reference materials and resources is available through the WDT Library.

The Medical Laboratory Technician program will work closely with an industry advisory committee composed of representatives who are from potential employers and others in the field. The advisory committee will approve the curriculum, discuss and recommend equipment purchases, and assist in forming partnerships to help WDT with innovative curriculum, internships, and presentations.

As indicated in the letters of support that accompany this proposal, industry is supportive of this program proposal even though there are other Medical Laboratory Technician programs in the state. Those programs are not supplying enough graduates to meet the growing demand for skilled workers in the field. Future employers of program graduates have stated this program is necessary because they want employees who have skills in this growing area of importance. This program will meet that need. In addition, the program’s general education courses will provide students with the math, English, and communication skills employers are seeking.

POPULATION SERVED BY THE PROGRAM

The Medical Laboratory Technician program will be available to all interested individuals who successfully meet the WDT admissions criteria established for the program. The program will be open to full-time and part-time students. All applicants must be high school graduates and take an admissions test to establish reading, writing, and math abilities. No restriction will be made regarding race, creed, gender or age. The program will draw students primarily from South Dakota. The opportunities for employment in the field will be primarily in western South Dakota.

The program also will appeal to people already in the workforce who have experience in related fields such as Phlebotomy and are interested in career advancement. That is a key factor in the program’s design. Former graduates of WDT’s Phlebotomy program will be able to transfer their credits into this new program.

PROJECTED THREE-YEAR BUDGET

This program will be staffed by a full-time instructor and a contracted program director. Adjunct instructors with industry experience may be used to teach some courses. The projected budget is as follows:

Expenses	Year One	Year Two	Year Three
Instructors	\$77,000	\$80,350	\$83,867
Equipment	\$25,000	\$20,000	\$20,000
Supplies	\$15,000	\$15,000	\$15,000

PROGRAM COMPETENCIES AND ENTRY AND EXIT POINTS

Entry point: Fall or Spring Semester

Exit point: After completion of all coursework

Job titles: See Appendix A

STATEMENT OF NON-DUPLICATION

Western Dakota Tech is proposing this program to meet regional industry needs for graduates prepared for the growing number of Medical Laboratory Technician job opportunities. While there are related programs in South Dakota, they are not meeting the needs of industry in the western South Dakota region. Currently, Lake Area Tech and Mitchell Tech offer Medical Laboratory Technician programs. In Fall 2014, 42 and 18 students were enrolled in those programs respectfully. The 2012-2013 placement rates for graduates from each program was 100 percent. Those placement rates show more graduates are needed. Business and industry representatives in WDT's service area report problems finding skilled, qualified workers for the growing number of Medical Laboratory Technician positions available. This program will help fill those needs.

CURRICULUM DESIGN

See Appendix B for Curriculum Sequence.

WAGE FACTOR

See Appendix A

SUGGESTED CIP CODE

51.1004 Clinical/Medical Laboratory Technician. A program that prepares individuals, under the supervision of clinical laboratory scientists/medical technologists, to perform routine medical laboratory procedures and tests and to apply preset strategies to record and analyze data. Includes instruction in general laboratory procedures and skills; laboratory mathematics; medical computer applications; interpersonal and communications skills; and the basic principles of hematology, medical microbiology, immunohematology, immunology, clinical chemistry, and urinalysis.

APPENDIX

- A. Wage factor and job titles
- B. Curriculum Outline
- C. Letters of Support

APPENDIX A

South Dakota Employment Projections 2012-2022 and Wage Data for Related Occupations

SOC Code	Occupational Title	2012 Workers	2022 Workers	Numeric Change	Percent Change	Average Annual Demand for Workers
29-2012	Medical and Clinical Laboratory Technicians	370	435	65	17.6%	16
31-9097	Phlebotomists	220	245	25	11.4%	7

South Dakota Wage Estimates for SD, Rapid City, and West					Percentile				
AREA	SOC CODE	Occupation	Workers	Avg. Wage	10 th	25 th	50 th	75 th	90 th
Statewide	29-2012	Medical and Clinical Laboratory Technicians	380	\$16.98	\$11.67	\$14.13	\$16.95	\$19.72	\$22.55
Rapid City MSA	29-2012	Medical and Clinical Laboratory Technicians	40	\$17.92	\$12.25	\$14.61	\$18.49	\$21.26	\$22.91
West	29-2012	Medical and Clinical Laboratory Technicians	10	\$18.63	\$13.31	\$15.40	\$17.90	\$21.00	\$24.82
Statewide	31-9097	Phlebotomists	190	\$12.66	\$10.13	\$11.03	\$12.53	\$14.08	\$15.33
Rapid City MSA	31-9097	Phlebotomists	N/A	N/A	N/A	N/A	N/A	N/A	N/A
West	31-9097	Phlebotomists	N/A	N/A	N/A	N/A	N/A	N/A	N/A

United States Employment Projections 2012-2022 and Wage Data for Related Occupations

SOC	Occupational Title	2012 Base Number of Jobs	2022 Projected Number of Jobs	Percent Change	Average Annual Demand
29-2012	Medical and Clinical Laboratory Technicians	161,500	209,400	30%	4,790
31-9097	Phlebotomists	101,300	128,400	27%	2,710

Wage Estimates for United States				Percentile				
SOC CODE	Occupation	May 2013 Workers	Avg. Wage	10th	25th	50th	75th	90th
29-2012	Medical and Clinical Laboratory Technicians	157,080	\$19.35	\$12.12	\$14.71	\$18.26	\$23.00	\$28.32
31-9097	Phlebotomists	108,210	\$15.10	\$10.46	\$12.27	\$14.50	\$17.44	\$20.77

APPENDIX B

First Semester		Credits
HC114	Anatomy & Physiology for the Health Professions	3
HC135	Medical Law and Ethics	2
HC213	Medical Terminology I	3
PH103	Phlebotomy Principles and Practices	3
PH125	Phlebotomy Principles and Practices Lab	2
MATH100	Elementary Algebra or higher	3
TOTAL CREDITS		16
Second Semester		Credits
HC205	Professionalism in Healthcare	1
PH105	Laboratory Assistant Techniques Lab	1
PH126	Laboratory Assistant Techniques	2
PH151	Phlebotomy/Laboratory Assistant Capstone	1
PH160	Phlebotomy/Laboratory Assistant Clinicals	3
ENGL101 or ENGL201	Composition or Technical Writing	3
CIS105	Microcomputer Software Applications I	3
PSYC103	Human Relations in the Workplace	3
TOTAL CREDITS		17
Third Semester		Credits
MLT220	Introduction to Hematology	2
MLT222	Hematology II	3
MLT230	Immunology/Immunochemistry	3
MLT240	Urinalysis	2
MLT250	Clinical Microbiology	3
SOC100	Introduction to Sociology	3
TOTAL CREDITS		16
Fourth Semester		Credits
MLT255	Parasitology/Mycology	3
MLT260	Introduction to Clinical Chemistry	2
MLT265	Medical Lab Tech Clinical I	5
MLT270	Medical Lab Tech Clinical II	5
TOTAL CREDITS		15

APPENDIX C



Rapid City Regional Hospital
353 Fairmont Boulevard
Rapid City, SD, 57701
Phone: 605-755-8080

May 26, 2015

Steve Buchholz
Dean of Accreditation and Advancement
Western Dakota Tech
800 Mickelson Drive
Rapid City, SD 57703

RE: Medical Laboratory Technician (MLT) Program

Dear Mr. Buchholz,

I am writing this letter in support of your plan for a new Associate's of Applied Science degree in Medical Laboratory Technician (MLT) program at Western Dakota Tech.

Rapid City Regional Hospital is an accredited laboratory and we strive to hire the very best applicant. Healthcare organizations are finding it increasingly difficult to recruit and hire qualified laboratory applicants. Therefore, we feel that a new MLT program will result in an expanded applicant pool of those dedicated to serving the local communities of the state of South Dakota.

An Associate's Degree is the minimum requirement in the Laboratory Health Science profession in order to work and report patient results. Expanding degree offerings at Western Dakota Tech to include an Associate's of Applied Science for Medical Laboratory Technician will lead to an increase in the number of qualified applicants and expand the qualified workforce.

Regional Health would consider providing sites for clinical placement for the MLT program. We look forward to developing a professional relationship with Western Dakota Tech and fully support the advancement of this program.

Regards,

A handwritten signature in black ink, appearing to read "Jodi Kor".

Jodi Kor MBA, MT (ASCP)
Assistant Director, Laboratory
Rapid City Regional Hospital



June 4, 2015

Western Dakota Technical Institute
800 Mickelson Drive
Rapid City, SD 57703

RE: Medical Laboratory Technician Program

To Whom It May Concern:

I am writing this letter in support of Western Dakota Technical Institute's (WDT's) consideration regarding adding a Medical Laboratory Technician Program to their curriculum in Rapid City, SD. The need for accredited programs producing certified Medical Laboratory Technicians not only in South Dakota but throughout the United States is at a critical stage. While the majority of Medical Technologists and Technicians are reaching retirement age and the number of programs is decreasing, the volume of work continues to rise. The need for Medical Laboratory Technicians is critical and will continue to increase.

The introduction of this field of study to WDT's available programs will aid South and North Dakota and the surrounding areas. Recent studies have shown that 70% of healthcare decisions are driven by clinical laboratory results. Increased numbers of certified laboratorians who produce reliable and accurate laboratory test results will aid medical providers in their diagnosis and care of patients.

Thank you for your consideration of this program.

Sincerely,

Autumn Hatch MT(ASCP), MBA
Laboratory Supervisor – Rapid City, SD
Laboratory Corporation of America
605.716.7485



DEPARTMENT OF HEALTH AND HUMAN SERVICES Public Health Service

Rapid City IHS Service Unit
3200 Canyon Lake Drive
Rapid City, SD 57702

June 1, 2015

Mark Wilson
Western Dakota Tech
800 Mickelson Dr
Rapid City SD 57703

Dear Mark:

During the spring 2013 advisory board meeting for your Phlebotomy program, I and other board members recommended WDT pursue an Associate of Applied Science degree in Medical Laboratory Technology (MLT).

You have an excellent Phlebotomy program with very good placement. I believe the opportunities for MLT's will be more abundant, as they are more versatile than the phlebotomist. The MLT is needed in smaller facilities like Phillip or Faith, which may not have the patient load to hire a phlebotomist or a complicated testing profile that would require a medical technologist with a four year degree.

RCRH has been a clinical site for the Medical Technologist (4 year degree) for many years. Two years ago, their program was discontinued. That program helped the area fill open positions with laboratory personnel. Presently MT's outnumber MLT'S in Western South Dakota. This will not be the case in the future due to an aging population that is nearing retirement. I am set to lose half of my staff in the next 5-10 years.

The industry would like to see the ratio of MLTs to MTs much higher, especially now with the uncertainty of the healthcare business. Healthcare doesn't want or need to pay the higher MT wages to do testing, when MLTs are perfectly capable of running tests.

I want to express my support for the MLT program. There is a growing need for MLTs in the area, and a local program would help us fill current and expected future openings with trained, skilled workers from Western Dakota Tech. While I realize there are other programs in the state, they are not meeting the needs of employers in western South Dakota.

We have accepted 1 or 2 students each year from MTI for their clinical rotations for over 30 years. Less than 25% have been employed in Western South Dakota. Typically the students are from Eastern South Dakota and they return there to begin their careers.

The demand for healthcare of all types is increasing as the population ages, and we need competent technicians in our labs doing work that is critical to the delivery of effective healthcare.

This program is important to the industry, and we would support the program in multiple ways:

- Assist in the design of the curriculum that will provide the skills students need
- Host students for clinical rotations
- Serve on the program's advisory board to make sure the program stays up-to-date

I appreciate the opportunity to be involved with the Phlebotomy program, and I look forward to doing the same with Medical Lab Tech. Let me know if there is anything I can do to help start this important, and needed, addition to WDT and our community.

Sincerely,

Kelly Thomas BS. MT (ASCP), CLS (NCA)
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