Master of Science
In
Medical Laboratory Sciences

Program Preview Packet
I. **Program Mission Statement**: The Department of Medical Laboratory Sciences of Tarleton State University exists to provide competent clinical laboratory scientists to serve the health care provider demands in the North Central Texas Region. The Department shall serve as a source of continuing education for faculty, alumni, and staff members of affiliated institutions. The Department shall provide a stimulating, rewarding, working and learning environment both academically and socially for faculty and students. The Department shall serve as a resource network for the laboratory health care community.

II. **Program Goals**:
- Operate a fully accredited Molecular Diagnostic Scientist program as evidenced by NAACLS Accreditation status.
- Educate competent Medical Diagnostic Scientists as evidenced by performance on national certification exams, employer satisfaction and student satisfaction survey.
- Educate competent Laboratory Management candidates for increasing levels of management responsibilities in their employment and professional environment.

III. **Admission Criteria**:
Requirements for Acceptance into the Master of Science (MS) in Medical Laboratory Science (MLS) Program:
1. All students must first be accepted into the Graduate School prior to being accepted into the MS in MLS. Applications may be filled out online.
2. Students must apply to the Department of Medical Laboratory Sciences to the MS in MLS degree. Requirements for transcripts and recommendations are listed on the website.
3. Once we have received approval of a student’s acceptance into the Graduate School and we have received the departmental application, fee and all supporting required documents (transcripts and recommendations) our acceptance committee will meet to make a decision. We cannot make an acceptance decision without the required documents.

Admission to the Molecular Diagnostics non-thesis track of the Master of Science in Medical Laboratory Sciences requires the completion of one of the following options:
1. Professional certification in one of the following areas:
   - MLS/MT (ASCP)
   - HTL (ASCP)
   - CT (ASCP)
   - CG (ASCP)
   - ASCP Specialist (SM, SC, SH or SBB)
2. B.S. in Biology, Biochemistry, Molecular Biology, Microbiology or a related field with a minimum 16 credit hours in biology (including microbiology, immunology, molecular biology), 16 credit hours in chemistry (including 8 hours in inorganic chemistry and 8 hours of organic chemistry or 4 hours organic chemistry and 4 hours biochemistry)

IV. **Essential Functions**: Students enrolling in and graduating from a Medical Laboratory Science program must meet the essential function requirements of the academic program and the profession. Essential Functions are the non-academic standards that a student must be able to master to participate successfully in the MLS program and become employable. Examples of this program's essential functions are provided below. If you are not sure that you will be able to meet these essential functions, please consult with the Division Director for further information and to discuss your individual situation including accommodations needed.

**Essential Visual and Observation Skills**:
- Observe laboratory demonstrations in which biological samples (i.e., body fluids, culture materials, tissue sections, and cellular specimens) are tested for their biochemical hematological, immunological, microbiological, and histochemical components
- Characterize the color, odor, clarity, and viscosity of biological samples, reagents, or chemical reaction products
- Utilize a clinical grade binocular microscope to discriminate among line structural and color (hue, shading, and intensity) differences of microscopic specimens
- Read and comprehend text, numbers, and graphs displayed in print and on a video monitor
- Recognize alarms
Essential Motor and Mobility Requirements:

- perform laboratory testing adhering to existing laboratory safety standards
- perform moderately taxing continuous physical work, often requiring prolonged sitting and/or standing, over several hours
- travel to assigned clinical laboratory practicum sites
- reach laboratory bench tops and shelves, patients lying in hospital beds or patients seated in specimen collection furniture
- grasp, hold, transport, utilize specimens, reagents, hazardous chemicals and equipment in a safe manner as needed to perform laboratory testing
- obtain patient specimens in a timely, safe, and professional manner (e.g. perform phlebotomy)
- use laboratory equipment (e.g. pipettes, inoculating loops, test tubes) and instruments to perform laboratory procedures according to established laboratory guidelines
- use a computer keyboard to operate laboratory instruments and to calculate, record, evaluate, and transmit laboratory information
- troubleshoot and correct basic equipment malfunctions

Essential Intellectual Requirements:

- comprehend, measure, calculate, reason, integrate, analyze, evaluate, correlate, problem-solve and compare
- recognize abnormal, laboratory results (e.g. patient and QC) and take appropriate action
- demonstrate critical-thinking and judgment skills appropriate to a given situation
- independently prepare papers, prepare laboratory reports, and take paper, computer, and laboratory practical examinations within given time constraints

Essential Communication Requirements:

- read and understand technical and professional materials (i.e. textbooks, journal articles, handbooks, and instruction manuals)
- follow oral and written instructions independently
- Clearly instruct patients regarding specimen collection
- demonstrate sensitivity, confidentiality and respect when speaking with patients
- communicate clearly, accurately and tactfully with faculty members, student colleagues, staff and other health care professionals
- receive and comprehend lecture material at a rapid pace

Essential Behavioral Requirements:

- organize work and perform multiple tasks within given time constraints and under stressful conditions while maintaining the ability to communicate clearly
- be able to manage the use of time and he able to systematize actions in order to complete professional and technical tasks within realistic constraints
- possess the emotional health necessary to effectively apply knowledge and exercise appropriate Judgment
- be able to provide professional and technical services while experiencing the stresses of task- related uncertainty (i.e., ambiguous test order, ambivalent test interpretation), emergent demands (i.e. "stat" test order), and distracting environment (i.e., high noise levels, crowding, complex visual stimuli)
- be flexible and creative and adapt to professional and technical change
- Recognize potentially hazardous materials, equipment, and situations and proceed safely in order to minimize risk of injury to patients, self, and nearby individuals
- adapt to working with unpleasant biological
- Support and promote the activities of fellow students and of health care professionals. Promotion of peers helps furnish a team approach to learning, task completion, problem solving, and patient care.
- Be honest, compassionate, ethical, and responsible. The student must be forthright about errors of uncertainty. The student must be able to critically evaluate her or his own performance, accept and act on constructive criticism, and look for ways to improve (i.e., participate in enriched educational activities)
- show respect for individuals of different age, ethnic background, religion, and/or sexual orientation
- exercise independent judgment and accept responsibility for own work
- accept appropriate supervision and constructive criticism
- Exhibit professional and respectful behavior in interactions with teachers, supervisors, University and Hospital personnel, patients and fellow students, and follow the Tarleton State University Code of Student Conduct.
V. **Tuition Rates** — Texas A&M University System, State of Texas tuition rates for 2019-2020 are currently $229.81 per semester hour. Building use and lab fees are also charged. Non-Resident and International tuition rates are $651.81 per semester hour. New rates may apply for 2020-2021 academic year. Tuition and Fees can be found on the Tarleton website at [http://www.tarleton.edu/FINADMINWEB/business/texanbillpay.html](http://www.tarleton.edu/FINADMINWEB/business/texanbillpay.html)

*Spring and Fall tuition may be paid in installments. (50% down and two 24% installments) (VISA, MASTERCARD, DISCOVER cards are accepted). Tuition and fees are estimated and subject to change.

**Refunds**

Students who have paid fees in full and withdraw from the University will receive refunds for tuition, student services fee, academic advising & support fee, computer processing fee, health service fee, endowment scholarship fee, student center facility fee, excessive hours fee, international education fee, instructional equipment fee, records fee, off-campus course fee, intercollegiate athletics fee, international student program fee, distance education degree program course fee, library access fee, recreational sports fee, repeated courses fee, field assignment fee, agricultural facilities fee, and laboratory fees. Students paying on an installment basis and who withdraw from the University will be required to pay the balance of fees due. The refund schedule is as follows:

### Session Length 10 Weeks or Greater

<table>
<thead>
<tr>
<th>Session</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Prior to first class day</td>
<td>100%</td>
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<tr>
<td>During first five class days</td>
<td>80%</td>
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<tr>
<td>During second five class days</td>
<td>70%</td>
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<tr>
<td>During third five class days</td>
<td>50%</td>
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<tr>
<td>During fourth five class days</td>
<td>25%</td>
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<tr>
<td>After fourth five class days</td>
<td>0%</td>
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Refund

### Session Length Greater than 5 Weeks and Less than 10 weeks

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<tr>
<th>Session</th>
<th>Percentage</th>
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<tbody>
<tr>
<td>Prior to 1st class day</td>
<td>100%</td>
</tr>
<tr>
<td>During first, second, or third class day</td>
<td>80%</td>
</tr>
<tr>
<td>During fourth, fifth, or sixth class day</td>
<td>50%</td>
</tr>
<tr>
<td>After sixth class day</td>
<td>0%</td>
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Refund

### Session Length 5 Weeks or Less

<table>
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<tbody>
<tr>
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<td>100%</td>
</tr>
<tr>
<td>During first class day</td>
<td>80%</td>
</tr>
<tr>
<td>During second class day</td>
<td>50%</td>
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<tr>
<td>After second class day</td>
<td>0%</td>
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Refund

**Withdrawing From All Courses at the University**

Effective Withdrawal Date is the date the withdrawal is reported to and recorded in the Registrar’s Office.
VI. **Books and Manuals** – Books will be identified with the individual course syllabus. Manuals may be required as referenced by the course syllabus.

VII. **General Liability Insurance** – is required and is provided by a group plan for $16.00 per year, paid at orientation.

VIII. **Medical Insurance** - is strongly recommended. Some clinical sites may require proof of medical insurance coverage.

IX. **Financial Aid and Scholarships** are available. It is best to begin application and processing as soon as possible. For Financial Aid questions, please call 254-968-9070; for Scholarship questions please call 254-968-9922.

X. **Credit Hours** Tarleton State University awards 36 hours for the MS-MLS program. Official transcripts from all colleges and/or universities are required. See catalog for complete description of courses.

XI. **International Students** are required to supply a letter from a sponsor and a letter from parent or guardian as outlined in the university catalog. These requirements must be met within two weeks of the initial letter of offer for a position in the Medical Laboratory Science Program. The admission fee is $130.00 (non-refundable). Tuition is set at $554.25 per credit hour plus applicable fees.

**International Students Admission Requirements** - TOEFL SCORE of 550, Health insurance, Fiduciary statement of sponsorship, Complete set of official transcripts from an approved university with the required evaluation, a valid in-status I-20, copy of passport and I-94. Please contact Ms. Karen Schecht at (254)968-9632 for additional information.

XII. **Stephenville Campus Services** Despite the 1 ½ hour drive MLS students should understand that the following services are still available to them.

- **Teaching and Learning Center** - Study and note taking tips are available at the teaching and learning center. In addition, this center also arranges for tutors. If students would like to avail themselves to these services they should contact the student coordinator.

- **Student Disability Services** - Students with disabilities may request appropriate accommodation by contacting the Director of Student Disability Services in the Mathematics Building Room 201, at (254)968-9400.

- **Identification Badges** - Students will be issued a TSU identification card during the first week of the program.

XIII. **Richard C. Schaffer Building**

- **Computer Lab** - The R.C. Schaffer MLS Building contains a multi-media computer laboratory equipped with twenty computers. These are available for student use. On occasion these computers will be reserved for classes and testing. The computers are cable linked commonly used applications software is preinstalled for student use.

- **Laboratories** - The student laboratories in the Schaffer Building are reserved for classes at all times. Six separate teaching and research laboratories are housed in the R.C. Schaffer Building. The laboratories are designated as Hematology, Chemistry, Microbiology, Immunology-Blood Bank, Histology, and Molecular Diagnostics, and are equipped for student use.

- **Lounge Facilities** - Both indoor and outdoor lounge facilities are housed in the R.C. Schaffer Building for student use. Drink and snack machines and indoor and outdoor dining tables are available.

XIV. **Fort Worth Campus**

- **Library** – The Rickett’s Library is located at the Fort Worth Campus. This annex houses volumes and publications pertinent to the medical laboratory science. In addition there are a variety of video and computer software available for use in the library. Additional library resources are available through the Tarleton State University library system.
XV. **Baylor All-Saints Health System Campus** The Schaffer Medical Laboratory Sciences Building of Tarleton State University is built on the grounds of the Baylor All Saints Health System Campus in Fort Worth, Texas. Privileges extended to you as a member of this campus are described below.

**Security & Parking -** Parking and security for the building are provided by Baylor All Saints Health Systems. There are no fees associated with these benefits. Every student **MUST** have a parking decal on their vehicle at all times. Information about parking is given at orientation.

XVI. **Physical Examinations and Immunizations -** Students will be provided a medical form which requires physical examination, and immunization update documentation for DTaP, MMR, PPD tuberculosis screen and Varicella. In addition students are strongly encouraged to begin immunization to Hepatitis B. This immunization is available to students at the student health center at a cost of approximately $100 for the series of three shots. Alternately, Tarrant County Public Health Department offers immunizations. Student will be responsible for scheduling their HEP B immunizations at the appropriate intervals and providing a copy of the immunizations record for their student file.

The completed physical examination form must be completed and in the students file on the first class day. If the form is not turned in than the student will not be able to stay until it is received.

XVII. **Criminal Background Check and Drug-Screen Testing Policy -** Because clinical hospital sites may be required to have criminal background checks and drug-screen testing on security-sensitive employees and students, MLS students may be required to have Criminal Background Check and Drug Screen Testing prior to their clinical rotation.

Tarleton State University, acting as a agent of our specific clinical hospital sites, will hold background and drug testing results, and forward to hospital officials at the students clinical sites.

**Students who are not willing to undergo Criminal Background Check and Drug Testing WILL NOT BE ELIGIBLE to enter the Master of Science in Medical Laboratory Science Program.**

Students will be required to pay for the cost of the background checks and drug testing. (Cost estimate $100)

XVIII. **CPR Certification:** CPR Certification may be required for attendance at clinical sites. Students will be responsible for the cost of the certification. (Approximately $50 - $75)

XIX. **Service Work Policy:** Students are not allowed to perform Service Work. If students are employed by their clinical facility, they may not engage in employment activities during their scheduled credit clinical practicum.

XX. **Clinical Assignment:** Upon completion of the lecture and laboratory courses, the student is eligible for a laboratory rotation. Students who successfully complete the lecture and laboratory courses are guaranteed a clinical site.

Student Assignment to a Clinical Affiliate is based upon:
Faculty, Clinical Coordinator, and Program Director evaluation of the student's needs

Some clinical facilities require international students to have a Green Card. If a student is an international student and does not have a Green Card, he/she may not be eligible to go to practicum at all clinical sites.

The final decision for student placement rests with officials of the program. All clinical sites may not be available at any given semester. Rotation of laboratory sections is arranged by the hospital Education Coordinator, the Program Director, and the Clinical Coordinator.
XXI. **Outcomes for NAACLS Programs:**

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<thead>
<tr>
<th>Program</th>
<th>Certification Pass Rate</th>
<th>Employment/Further Education Rate</th>
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<tbody>
<tr>
<td>Diagnostic Molecular Science</td>
<td>100% (4/4)</td>
<td>100% (2/2)</td>
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XXII. **Career Entry Competencies:**

1. Students should possess adequate theoretical knowledge in the areas of either: Molecular Diagnostics or Laboratory Management depending on a student’s emphasis.

2. Students should possess adequate practical clinical skills in the areas of: Molecular Diagnostics or Laboratory Management depending on a student’s emphasis.

3. Students should be able to apply theoretical knowledge to clinical skills and situations for level of responsibility.

4. Students should be able to recognize erroneous or incongruous results and take appropriate action at the entry level of competency.

5. Students should possess adequate entry level instrumentation skills, including computer skills, and be able to troubleshoot automated instruments.

6. Students should be able to perform tests from a written procedure and efficiently organize their work at an entry level.

7. Students should be able to perform an adequate quantity of work (workload units) at a high level of quality. (Internal/External Quality Assurance) at an entry level of competency.

8. Students should be able to perform, monitor and interpret standard quality control procedures.

9. Students should display professional attributes as evidenced by motivation, dependability, self-confidence, integrity, punctuality and ability to work well with others.

10. Students should be responsible members of the health care team striving for growth through continuing education and developing potential for future careers in management, education and laboratory science by applying principles of these disciplines and evaluating new procedures, instruments and techniques available to the medical laboratory sciences.

XXIII. **List of Clinical Affiliates:** Quest Diagnostics, ProPath Labs, Medical City Dallas, etc.
Academic Guidelines: Every student enrolled in the College of Graduate Studies is required to maintain a high level of performance and comply fully with the policies of the institution. The College reserves the right to suspend any graduate student who does not maintain satisfactory academic standing or fails to conform to University regulations.

Students who have achieved admission are expected to maintain a minimum 3.0 GPA on work completed at Tarleton. If in a particular semester a student's cumulative GPA or overall GPA falls below the 3.0 GPA minimum, he/she will be given notice of unsatisfactory academic performance. The student must attain a 3.0 cumulative GPA during her or his next period of enrollment; failure to do so will result in suspension for one long semester or the summer term. A student must maintain at least a 3.0 grade point average every semester upon returning from the suspension. A graduate student is allowed one suspension. If poor academic performance results in a second suspension, the student will be permanently dismissed from the university. A student's cumulative GPA is calculated based on coursework attempted at Tarleton State University and a student's overall GPA is calculated based on coursework attempted at Tarleton State University plus any applicable transfer coursework. At the end of any grading period, if a student's overall GPA falls below 2.0 he/she will be automatically suspended. Students who have been admitted on Academic Warning must achieve a 3.0 GPA or greater their first semester of enrollment. If requirements are not met, admission will be rescinded, and students will be placed on Academic Suspension. Post-baccalaureate students are subject to the academic progress policies applicable to undergraduates at Tarleton State University. Academic deficiencies of students in this category will be calculated according to the current undergraduate probation/suspension policy, however, undergraduate courses taken in conjunction with graduate courses will be used to determine academic standing. Graduate students who are on first-time suspension must reapply (including the $30 application fee) to the College of Graduate Studies for reinstatement.

Academic Guidelines specific to the MS MLS department:

Students must maintain a GPA of at least 3.0 in the following courses:
- MDLS 5331 Molecular & Cellular Pathology
- MDLS 5220 Medical Genetics
- MDLS 5450 Molecular Diagnostics Techniques I
- MDLS 5451 Molecular Diagnostics Techniques II

Student Supply List

- Gloves – your size & type (nitrile/non-powdered) are suggested
- Sharpie – heavyweight (black)
- Calculator – with log function
- Materials needed to take notes and keep them organized
- Flash drive to store files
- White dress lab coat (NOT JACKET)
- Disposable lab coats (purchased at orientation) (For Techniques courses)
  - Cost of lab coats is $8.50 / lab coat + tax
- Eye goggles (purchased from department)
  - Cost of goggles is $4.00 /goggle + tax
Contact Information

Tarleton State University Department of Medical Laboratory Sciences and Public Health

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The Tarleton State University Medical Laboratory Science (MS MLS) is fully accredited by NAACLS, the National Accrediting Agency for Clinical Laboratory Sciences.

NAACLS
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