MEDICAL LABORATORY TECHNOLOGY PROGRAM

Admissions Procedures and Information
Dear Applicant:

Thank you for your interest in the Associate of Applied Science degree in Medical Laboratory Technology (MLT). This packet includes information on the profession, admission requirements and procedures, and the Medical Laboratory Technology curriculum.

The mission of the Medical Laboratory Technology Program of Tidewater Community College is to be an exemplary program graduating highly qualified individuals to fill the employment needs of clinical laboratories. The Program is committed to serving students and the medical laboratory community through guidance, excellent academic instruction, and professional training utilizing traditional and innovative means. The faculty of the Medical Laboratory Technology Program is committed to preparing competent Medical Laboratory Technicians in the knowledge, skills, and professional characteristics as required by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), the American Society for Clinical Pathology (ASCP), and community shareholders.

Admission to the program requires that students complete an application to TCC and a Health Professions Program application. These applications are available on TCC’s website and in the Welcome and Entry Center, Bayside Building of the Virginia Beach Campus. The application deadline to the Medical Laboratory Technology Program is May 15 for fall admission.

This information packet includes information about the courses in the Medical Laboratory Technology Program that I hope you will find helpful. If you have questions or are interested in entering the program, I encourage you to attend our Medical Laboratory Technology and Phlebotomy Open House on the third Thursday of each month (except December) on the Virginia Beach Campus, Regional Health Professions Center from 4 p.m. to 5 p.m.

Information on grants, loans, and scholarships is available from the Financial Aid Office by calling 757-822-1688. If you are eligible for Veterans educational benefits, please call the Center for Military and Veterans Education (CMVE) and they will assist you with your application. The CMVE can be reached by calling 757-822-7645.

Please note: Information in this packet is subject to change. Students should check periodically to see if materials have been updated. Prospective students are hereby notified that certain medical facilities require both criminal/sex offender background checks as well as drug screens prior to being authorized to attend clinical practicum. The cost of the background check and urine drug screen is the responsibility of the student.

Tidewater Community College maintains and promotes equal opportunity without regard to ethnicity, color, gender, age (except where gender or age is a bona fide occupational qualification), religion, handicap, national origin, or other non-merit factors. Disclosure of social security number, age, gender, and ethnicity is optional.

Once again, thank you for your interest in our program. Please contact me with any further questions or concerns by either phone or email address listed below.

Sincerely,

Angela R. Bell

Angela R. Bell, MS, MT(ASCP)SM, DLM
Director, Medical Laboratory Technology/Phlebotomy Technician Program
Phone: 757-822-7276
Email: abell@tcc.edu
Website: www.tcc.edu/healthprofessions
Program Summary

Description of the Profession
Medical Laboratory Technicians (MLT) are health care professionals that work under the supervision of a physician or medical technologist (MT) by performing routine clinical laboratory tests for the diagnosis, treatment, and prevention of disease. Medical laboratory technicians analyze body fluids such as: blood, urine, sputum, stool, and cerebrospinal fluid using chemical, hematological, immunologic, microscopic, and bacteriological diagnostic methods. The results of these tests assist doctors in verifying cause of illness, making medical decisions and determining treatment options.

Medical Laboratory Technicians are skilled in all areas of the clinical laboratory and able to perform routine clinical laboratory tests in clinical biochemistry, hematology, coagulation, microbiology, bacteriology, virology, parasitology, mycology, immunology, immunohematology, and molecular diagnostics. They perform simple and highly complex laboratory tests utilizing automated equipment, computers, and precision instruments.

In addition, Medical Laboratory Technicians are responsible for confirming the accuracy of test results, and reporting laboratory findings to pathologists and other physicians. The Tidewater Community College MLT program is fully accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS), 5600 N. River Rd., Suite 720, Rosemont, IL 60018-5119, Phone 773-714-8880 http://www.naacls.org/

Employment Demand
According to the U.S. Bureau of Labor and Statistics, “Employment of medical laboratory technicians is projected to grow 18 percent from 2014 to 2024, much faster than the average for all occupations.

Despite starting salaries ranging from $36,000 to $44,000, 44 percent of health care facilities in the United States are reporting difficulties in hiring laboratory technicians/technologists according to American Society for Clinical Pathology. Projections show an even greater need for laboratory technicians by 2018 when approximately 10 percent of clinical laboratory professionals will reach retirement age.

Other factors impacting the field are the increasing number of tests needed for general patient care, disease control, and the long-term care of an aging population. Industry experts predict test usage will increase 17 percent as the population ages.

Program Length
The Tidewater Community College Associate of Applied Science in Medical Laboratory Technology is 5 semesters in length and consists of 67 credit hours. This curriculum is designed to prepare students for employment as medical laboratory technicians upon graduation and certification.

Essential Functions of the MLT Student
To successfully complete the clinical component of the MLT program, the student must be able to perform all of the essential functions of a Medical Laboratory Technician. Students should possess and be able to demonstrate the following:

1. Manual Dexterity: Bilateral use of hands or terminal devices that involves coordination and strength
2. Fine Motor: Ability to manipulate small objects with fingertips or adaptive devices
3. Vision: Ability to distinguish red color from yellow color; distinguish clear from cloudy; and see through a microscope. Must be able to discern primary colors and/or shades thereof; and differentiate shapes macroscopically and microscopically
4. Hearing: Ability to adapt (i.e. phone receivers, hearing aids, etc.)
5. **Communication:** Demonstrate effective written and oral communication abilities sufficient for interaction with others. This includes, but is not limited to, reading, following instructions, and other forms of communication.

   - **Writing:** Ability to communicate effectively in legible written form
   - **Speaking:** Ability to verbally communicate understandably in English
   - **Reading:** Ability to read, understand, and follow directions printed in English

6. **Emotional stability:** Ability to work independently maintaining composure and competence under stressful situations. Be able to function as a supportive member of the health care team to maintain the highest standards of the laboratory in its delivery of patient care.

7. **Interpersonal skills:** Sufficient ability to interact with individuals, families, and other health care professionals from a variety of emotional, cultural, and intellectual backgrounds.

8. **Mobility:** Physical abilities sufficient to move from room to room, maneuver in small places, and stand and walk for extensive periods of time

9. **Cognitive Abilities:** Ability to be oriented to time, place, and person: organization responsibilities, prioritizing appropriately, and making decisions in a timely manner

10. **Health Status:** Students who pose a risk to the health, safety or well-being of patients or other students, whether due to infectious disease or otherwise, may be removed from clinical settings.

    If a student should contract or be a carrier of any infectious disease whether acute, chronic, active or inactive, it is the student’s responsibility to report this immediately to the course/clinical instructor. Patient well-being, safety, and health are the primary concern of all clinical faculties and clinical sites. All clinical sites and clinical facilities, as well as TCC, reserve the right to require medical verification that a student may participate in a clinical setting without posing a risk to the health, safety or well-being of patients, other students, or staff.

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**Admission Requirements**

Admission to Tidewater Community College does not automatically qualify a student for admission to the Medical Laboratory Technology Program. Students must comply with all General Admission Requirements for Division of Health Professions Programs.

In addition to meeting the admissions requirements for TCC and the Division of Health Professions programs, students must meet the following specific requirements to be admitted to the Medical Laboratory Technology program. Students must:

1. Be a high school graduate or have a GED
2. Meet current requirements for admission to TCC
3. Attend a Medical Laboratory Technology Information Session
4. Submit a complete application for the Medical Laboratory Technology Program. Admission to the program is based on the date the completed application was received in the Medical Laboratory Technology Program Director’s office.
5. Complete the following prerequisite courses with a grade of ‘C’ or better: BIO 101 General Biology I; BIO 141 Anatomy and Physiology I; and MTH 161 Precalculus I
6. Maintain a curricular GPA of 2.5 or better at the last school or college attended
7. Have a personal interview with the Program Director
8. Ensure that transcripts from all other colleges attended are on file at TCC prior to program application deadline date. These transfer credits must be evaluated before any transfer credit is granted. Applications are accepted from January 15 through May 15 for fall admission. Admission will be on a competitive placement basis of fully qualified candidates.

If the number of applicants to the program exceeds the maximum enrollment capacity, students will be selected on a competitive basis. The scoring criteria to be applied during competitive applicant review are defined in Table 1 (below). In the event that two or more students have a tied competitive placement score, the grade point average (GPA) from the last school attended will be used to break the tie.

Table 1: Admission Requirements Weighting

<table>
<thead>
<tr>
<th>Basic Admission Criteria</th>
<th>Competitive Admission Criteria</th>
<th>% Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>High school diploma or GED</td>
<td>Must have to be considered for program</td>
<td></td>
</tr>
<tr>
<td>Curricular GPA of 2.5 or better at last school attended</td>
<td></td>
<td></td>
</tr>
<tr>
<td>BIO 101 General Biology I with a grade of “C” or higher</td>
<td>A= 4 points B= 3 points C= 2 points</td>
<td></td>
</tr>
<tr>
<td>BIO 141 Anatomy and Physiology I with a grade of “C” or higher</td>
<td>A= 4 points B= 3 points C= 2 points</td>
<td>75%</td>
</tr>
<tr>
<td>MTH 161 Precalculus I with a grade of “C” or higher</td>
<td>A= 4 points B= 3 points C= 2 points</td>
<td></td>
</tr>
<tr>
<td>AS or AAS</td>
<td>2 points</td>
<td>15%</td>
</tr>
<tr>
<td>BA or BS</td>
<td>3 points</td>
<td></td>
</tr>
<tr>
<td>MA or MS</td>
<td>4 points</td>
<td></td>
</tr>
<tr>
<td>Interview</td>
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<td>10%</td>
</tr>
</tbody>
</table>

Once accepted, students must:

1. Submit a satisfactory health status as certified by submission of a completed Health Professions Physical form signed by a licensed healthcare provider within the last 12 months. The Health Physical form is available in the Division of Health Professions Administrative Office, or on TCC's website.

2. Submit Immunization record. Health Professions students must comply with both Virginia Law and clinical facility requirements related to immunizations. Health care professions include inherent health and safety risks. All health profession students are required to be compliant with Virginia laws related to immunizations for the protection of themselves and patients.

3. Submit documentation of a negative TB test or, if a previous positive TB test was obtained, record of a negative chest X-ray.

4. Completion of a criminal background check and a drug screen prior to placement for clinical rotations. The cost of the background checks and urine drug screen is the responsibility of the
5. Maintain a ‘C’ grade point average or better to remain in good standing. Students whose academic performance is below a ‘C’ grade point average will be readmitted to the program at the discretion of the Program Director and according to space.

Program Outcomes

Tidewater Community College’s Medical Laboratory Technology uses the following criteria as outcomes measures of effectiveness of the program.

1. 70% of those students that begin the final half of the program (semester 4) will be retained and graduate as calculated by the most recent three years.
   - 100% of students that began the final half of the program were retained and graduated in 2017
   - 100% of students that began the final half of the program were retained and graduated in 2016
   - 100% of students that began the final half of the program were retained and graduated in 2015
   - 89% of students that began the final half of the program were retained and graduated in 2014

2. A minimum of 75% of students taking the MLT ASCP Certification Examination within the first year of graduation will pass as calculated by the most recent three-year period.
   - 100% pass rate for 2017
   - 100% pass rate for 2016
   - 91% pass rate for 2015
   - 100% pass rate for 2014

3. 90% of graduates who desire employment will be gainfully employed in a medical laboratory related occupation or continue their education within 1 year of graduation as calculated by the most recent three years.
   - 100% of 2017 graduates who sought employment are gainfully employed as an MLT
   - 100% of 2016 graduates who sought employment are gainfully employed as an MLT
   - 100% of 2015 graduates who sought employment are gainfully employed as an MLT
   - 100% of 2014 graduates who sought employment are gainfully employed as an MLT

4. 90% of graduates returning graduate surveys will evaluate the quality of the MLT program in positive terms of either “good” or “very good” as calculated by the most recent three years.
   - 100% of 2017 graduates rated the quality of the MLT program as “very good”
   - 100% of 2016 graduates rated the quality of the MLT program as “very good”
   - 100% of 2015 graduates rated the quality of the MLT program as “very good”
   - 100% of 2014 graduates rated the quality of the MLT program as “very good”

Clinical Affiliates

Chesapeake Regional Medical Center, Patient First, Laboratory Corporation of America, Riverside Regional Medical Center, Riverside Doctors Hospital, Sentara Albemarle Hospital, Sentara Careplex Hospital, Sentara Leigh Hospital, Sentara Norfolk General Hospital, Sentara Obici hospital, Sentara Princess Anne Hospital, Sentara Virginia Beach General Hospital, Sentara Williamsburg Regional Medical Center, Mary Immaculate Hospital, and Maryview Hospital
Medical Laboratory Technology Profession FAQs

What is the difference between a Medical Laboratory Technician (MLT) and a Medical Technologist (MT)?

While both the MLT and the MT may be certified or registered by one or more nationally recognized professional organizations, MLTs have a two-year associate degree and MTs have a bachelor’s degree. MTs usually perform more complex analyses than technicians are trained to do and serve in supervisory positions. In addition, MTs generally earn a higher income than technicians do and have more opportunities for advancement.

What does a Medical Laboratory Technician do?

Working under the supervision of a medical technologist or physician, a medical laboratory technician (MLT) performs routine tests in all areas of the clinical laboratory. Medical Laboratory Technicians examine and analyze body fluids and cells. They look for bacteria, parasites, and other microorganisms; analyze the chemical content of fluids; match blood for transfusions; and test for drug levels in the blood that show how a patient is responding to treatment. They use microscopes, cell counters, and other sophisticated laboratory equipment to provide the physician with accurate and quality laboratory results.

Do Medical Laboratory Technicians receive training in all areas of the laboratory?

- **Clinical Chemistry** - The clinical chemistry department performs hundreds of quantitative analyses on a variety of body fluids. Common chemistry procedures include testing for glucose, cholesterol, hormones, and electrolytes.

- **Blood Bank (Immunohematology)** - The blood bank provides blood typing and compatibility testing for both donors and recipients and ensures the safety of the blood supply.

- **Immunology/Serology** - Immunologic/serologic testing evaluates antibodies and/or antigens that may be indicative of many types of infectious disease. This is important in not only confirming a diagnosis, but also in treating and managing various conditions.

- **Microbiology** - The microbiology section identifies microorganisms that may be causing disease (pathogens). The microbiology department also provides information regarding appropriate antibiotics to use as treatment for various pathogens.

- **Urinalysis** The urinalysis department screens urine samples for evidence of kidney disease or bladder infections.

- **Coagulation** - Coagulation procedures are performed to identify possible bleeding or clotting disorders. Coagulation testing is also used to monitor anticoagulant therapy.

- **Hematology** - The hematology department performs tests that are important in diagnosing many disorders such as anemia and leukemia.

Where do Medical Laboratory Technicians work?

Medical Laboratory Technicians have numerous choices of practice settings. They work in hospitals, physician offices, clinics, public health facilities, reference laboratories, research laboratories, and forensic laboratories. In addition, governmental agencies at the federal, state, and local level also seek the services of medical laboratory technicians.
Can a Medical Laboratory Technician become a Medical Technologist?

Medical Laboratory Technicians can advance and become technologists through additional education and experience. Many colleges and universities offer two-year programs that allow practicing MLTs to complete their bachelor's degree to become a MT.
Application Procedure/Checklist

The following steps must be completed as soon as possible. Please check each item as you complete it.

1. Obtain a Medical Laboratory Technology Information Packet. Packets are available at the Virginia Beach Campus Welcome and Entry Center (757-822-7172), the Counseling office (757-822-7211), or the Health Professions Division website: www.tcc.edu/healthprofessions.

2. Complete a TCC application at www.tcc.edu/apply or complete and return an Application for Admission to Tidewater Community College to the Virginia Beach Campus Welcome and Entry Center in the Bayside Building (Building B). All applicants must designate the Virginia Beach Campus as their home campus.

3. Attend the Medical Laboratory Technology Open House held on the third Thursday of each month (except December) from 4 p.m. to 5 p.m. in the Regional Health Professions Building.

4. Take the TCC English and Math placement test if required. It is recommended you take it as soon as possible to allow adequate time to take any required developmental courses. If placement testing determines that you need developmental courses, they become prerequisite courses that must be completed prior to admission to the program. Consult the Counseling Center (757-822-7211) for information concerning your need to take placement tests and for times given.

5. Complete a Health Professions Program Application indicating Medical Laboratory Technology as your program choice. Submit the completed application* in person to Angela Bell, Medical Laboratory Technology Program Director, Regional Health Professions Center (RHPC), Tidewater Community College, 1700 College Crescent, Virginia Beach, VA 23453 by the May 15 application deadline. Applications are accepted from January 15 through May 15 for fall admission.

6. If an applicant has completed courses at institutions that are not part of the Virginia Community College System (VCCS), they are required to have official college transcripts sent directly to Tidewater Community College, Office of the College Registrar, PO Box 9000, Norfolk, VA 23509 from the appropriate institution’s registrar. Student copies are not acceptable. Any college course work transferred to TCC requires a transcript evaluation. Verify receipt of all forms and transcripts by calling 757-822-1900.

7. Complete the Request for Evaluation of Previous Higher Educational Experience form at https://www.tcc.edu/transfer-credits. This form must be received by the Office of the College Registrar in order to evaluate your transcripts and assign transfer credit. Verify receipt of all transcripts by calling 757-822-1900.

*Complete application contains Health Professions Program Application and unofficial transcripts (other institutions)
Course Descriptions – Medical Laboratory Technology A.A.S Degree

Required Courses

**BIO 101 - General Biology I**
Lecture 3 hours. Recitation and laboratory 3 hours. Total 6 hours/week

Explores fundamental characteristics of living matter from the molecular level to the ecological community with emphasis on general biological principles. Introduces the diversity of living organisms, their structure, function and evolution.

**BIO 141 - Human Anatomy and Physiology I**
Lecture 3 hours. Laboratory 3 hours. Total 6 hours/week

Integrates anatomy and physiology of cells, tissues, organs, and systems of the human body. Integrates concepts of chemistry, physics, and pathology.

**CHM 111 - College Chemistry I**
Lecture 3 hours. Laboratory 3 hours. Total 6 hours/week

Explores the fundamental laws, theories, and mathematical concepts of chemistry. Designed primarily for science and engineering majors. Requires a strong background in mathematics.

**ENG 111 - College Composition I**
Lecture 3 hours/week

Introduces students to critical thinking and the fundamentals of academic writing. Through the writing process, students refine topics; develop and support ideas; investigate, evaluate, and incorporate appropriate resources; edit for effective style and usage; and determine appropriate approaches for a variety of contexts, audiences, and purposes. Writing activities will include exposition and argumentation with at least one researched essay. Prerequisite: Placement Test.

**HLT 105 - Cardiopulmonary Resuscitation**
Lecture 1 hour/week

Provides training in coordinated mouth-to-mouth artificial ventilation and chest compression, choking, life-threatening emergencies, and sudden illness.

**MDL 101 - Introduction to Medical Laboratory Techniques**
Lecture 2 hours. Laboratory 3 hours. Total 5 hours/week

Introduces the basic techniques including design of the health care system, ethics, terminology, calculations, venipuncture and routine urinalysis.

**MDL 125 - Clinical Hematology I**
Lecture 2 hours. Laboratory 3 hours. Total 5 hours/week
Teaches the cellular elements of blood including blood cell formation, and routine hematological procedures.

**MDL 190 - Coordinated Phlebotomy Internship**
Laboratory 6 hours/week

Supervises on-the-job training in selected business, industrial or service firms coordinated by the college.

**MDL 210 - Immunology and Serology**
Lecture 1 hour. Laboratory 3 hours. Total 4 hours/week

Teaches principles of basic immunology, physiology of the immune system, diseases involving the immune system, as well as serologic procedures.

**MDL 216 - Blood Banking**
Lecture 2 hours. Laboratory 6 hours. Total 8 hours/week

Teaches fundamentals of blood grouping and typing, compatibility testing, antibody screening, component preparation, donor selection, and transfusion reactions and investigation.

**MDL 225 - Clinical Hematology II**
Lecture 2 hours. Laboratory 3 hours. Total 5 hours/week

Teaches advanced study of blood to include coagulation, abnormal bloody formation, and changes seen in various diseases.

**MDL 251 - Clinical Microbiology I**
Lecture 2 hours. Laboratory 3 hours. Total 5 hours/week

Teaches handling, isolation, and identification of pathogenic microorganisms. Emphasizes clinical techniques of bacteriology, mycology, parasitology, and virology. Part I of II.

**MDL 252 - Clinical Microbiology II**
Lecture 1 hour. Laboratory 3 hours. Total 4 hours/week

Teaches handling, isolation, and identification of pathogenic microorganisms. Emphasizes clinical techniques of bacteriology, mycology, parasitology, and virology. Part II of II.

**MDL 261 - Clinical Chemistry and Instrumentation I**
Lecture 3 hours. Laboratory 3 hours. Total 6 hours/week
Introduces methods of performing biochemical analysis of clinical specimens. Teaches instrumentation involved in a clinical chemistry laboratory, quality control, and the ability to recognize technical problems. Part I of II.

**MDL 265 - Advanced Clinical Chemistry**
Lecture 2 hours/week

Presents principles of current special chemistry techniques.

**MDL 266 - Clinical Chemistry Techniques**
Laboratory 9 hours/week

Includes performing of clinical chemistry methodologies and operation of typical instrumentation in a clinical laboratory or simulated laboratory setting.

**MDL 276 - Clinical Hematology Techniques**
Laboratory 12 hours/week
Stresses performing hematological and coagulation methods and operation of typical instrumentation in a clinical laboratory or simulated laboratory setting.
MDL 277 - Clinical Immunohematology and Immunology Technique  
Laboratory 9 hours/week  
Deals with performing techniques, procedures, and interpretations in Blood Banking and Serology in a clinical laboratory or simulated laboratory setting.

MDL 278 - Clinical Microbiology Techniques II  
Laboratory 12 hours/week  
Includes performing of techniques, procedures, and identification of microorganisms in a clinical laboratory or simulated laboratory setting. Laboratory 12 hours/week

MDL 298 - Seminar and Project  
1 credit  
Requires completion of a project or research report related to the student’s occupational objectives and a study of approaches to the selection and pursuit of career opportunities in the field.

MTH 161 - Precalculus I  
Lecture 3 hours/week  
3 credits  
 Presents college algebra, matrices, and algebraic, exponential, and logarithmic functions. Credit will not be awarded for both MTH 161: Precalculus I and MTH 166: Precalculus with Trigonometry or equivalent.

SDV 101 - Orientation to Health Care  
Lecture 1 hour/week  
1 credit  
Introduces students to the skills which are necessary to achieve their academic goals, to the services offered at the college, and to the discipline in which they are enrolled. Covers topics such as services offered at the college, including the learning resources center; counseling and advising; listening, test taking, and study skills; and topical areas which are applicable to their particular discipline.

The granting of the Associate of Applied Science degree in Medical Laboratory Technology is not contingent upon passing an external certification or licensure examination.
The Associate of Applied Science (A.A.S.) degree in Medical Laboratory Technology (MLT) prepares students for employment as medical laboratory technicians upon graduation and certification. Graduates may work under the supervision of a physician or medical technologist (MT) performing routine clinical laboratory tests for the diagnosis, treatment, and prevention of disease.

Admission to the college does not guarantee admission to the MLT program. Applicants to this program must complete BIO 101, BIO 141, and MTH 161 (previously MTH 157 or MTH 158) with a "C" or higher for consideration of admission. Students must submit an unofficial transcript along with their health professions application. They must also submit an official copy of their transcripts from other colleges attended to the Office of the College Registrar prior to the program application deadline. Applicants must have maintained a curricular GPA of 2.5 or better during previous college study. Attendance at an orientation session and a personal interview are also required. For further information regarding admission, continuance and graduation, go to tcc.edu (search keywords "medical laboratory technology").

Upon completion of an accredited program, Medical Laboratory Technicians are eligible to complete a national certification exam administered by the American Society for Clinical Pathology (ASCP) to become certified as a medical laboratory technician.

The Medical Laboratory Technology Program is accredited by the National Accrediting Agency for Clinical Laboratory Sciences (NAACLS) 5600 N. River Road, Suite 720, Rosemont, IL 60018 (773) 714-8880, https://www.naacls.org/.

**Pre-Admission Semester**

<table>
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<th>Course No.</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Co-Requisites</th>
<th>When Taken</th>
<th>Grade</th>
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<tbody>
<tr>
<td>BIO 101</td>
<td>General Biology I</td>
<td>4</td>
<td>Placement into ENG 111 and completion of MTH 3 (or MTH 1), MTE 2, or equivalent</td>
<td>None</td>
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<tr>
<td>BIO 141</td>
<td>Human Anatomy and Physiology I</td>
<td>4</td>
<td>NAS 2 or acceptable NAS 2 Challenge Exam score</td>
<td>None</td>
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<td>MTH 161</td>
<td>PreCalculus I</td>
<td>3</td>
<td>MTH 3 (or MTH 1) or MTE 1-3, and MTH 5 (or MTH 95) or MTE 4-5, and MTE 6-9; or qualifying placement score</td>
<td>None or MCR 6 with placement recommendation</td>
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Semester Total 11

**SEMESTER 1**

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<th>Course No.</th>
<th>Course Title</th>
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<td>CHM 111</td>
<td>General Chemistry I</td>
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### SEMESTER 1

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<th>When Taken</th>
<th>Grade</th>
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<tr>
<td></td>
<td>General Chemistry I</td>
<td></td>
<td>4-5, and MTE 6-9; or equivalent</td>
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<tr>
<td>ENG 111</td>
<td>College Composition I</td>
<td>3</td>
<td>Qualifying Placement Test score, ENF 1, ENF 2 or equivalent</td>
<td>None</td>
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<td>HLT 105</td>
<td>Cardiopulmonary Resuscitation</td>
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<td>MDL 101</td>
<td>Introduction to Medical Laboratory Techniques</td>
<td>3</td>
<td>Admission into program</td>
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<td>SDV 101</td>
<td>Orientation to Health Care</td>
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<td>None</td>
<td>None</td>
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### SEMESTER 2

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<th>When Taken</th>
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<td>MDL 125</td>
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<td>Admission into program</td>
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<td>MDL 210</td>
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<td>Admission into program</td>
<td>None</td>
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<td>MDL 251</td>
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<td>Admission into program</td>
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<td>MDL 261</td>
<td>Clinical Chemistry and Instrumentation I</td>
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<td>Admission into program</td>
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### SEMESTER 3

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<th>Course No.</th>
<th>Course Title</th>
<th>Credits</th>
<th>Prerequisites</th>
<th>Co-Requisites</th>
<th>When Taken</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>MDL 190</td>
<td>Coordinated Internship</td>
<td>1</td>
<td>Admission into program</td>
<td>None</td>
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<td></td>
<td>Humanities Elective ¹</td>
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### SEMESTER 4

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<th>Prerequisites</th>
<th>Co-Requisites</th>
<th>When Taken</th>
<th>Grade</th>
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<tbody>
<tr>
<td>MDL 216</td>
<td>Blood Banking</td>
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<td>MDL 225</td>
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<td>MDL 252</td>
<td>Clinical Microbiology II</td>
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<td>MDL 265</td>
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<td>Social Science Elective ¹</td>
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### SEMESTER 5

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<tbody>
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<td>Clinical Chemistry Techniques</td>
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<td>MDL 278</td>
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Semester Total 15

Total Minimum Credits 67

1 Eligible courses are listed on page 15 in the 2018-2019 catalog. Students should consult with an academic advisor or counselor to choose the appropriate course(s).