INTRODUCTION

The purpose of this handbook is to introduce the College of Staten Island's Medical Technology students to the program’s educational goals and functional qualities and characteristics.

The Bachelor of Science Program in Medical Technology at the College of Staten Island is a 4-year, 128-credit program of a combination of on campus course work and 6 months of clinical training. Clinical training may be completed at any of our affiliate hospitals in Staten Island, Brooklyn, or Queens, Manhattan, the Bronx, Long Island, or Hackensack New Jersey.

MISSION STATEMENT

The Medical Technology Program at the College of Staten Island is designed and conducted to enable graduates to perform routine and advanced clinical laboratory tests.

Our graduates will be able to influence laboratory-based decisions based on educational, technical and professional training and to thereby contribute to the quality of health care services.

Graduates of the Medical Technology Program will be prepared to sit for entry-level national certification examinations in the discipline and will be prepared to practice as ethical and competent professionals.

PROGRAM GOALS

• To provide a comprehensive learning experience to students in the field of Medical Laboratory Science;
• To ensure that students graduate with skills that allow them to become responsible professionals as they perform procedures with precision and accuracy;
• To ensure that graduates have the skills in manual procedures to be able to succeed in large institutions as well as point of care testing sites;
To provide students with the appropriate knowledge to qualify for national certification examinations.

MEDICAL TECHNOLOGY PROGRAM OFFICIALS AND FACULTY

PROGRAM DIRECTOR: Barbara Downes Davis, Ph.D.
Room 6S-136A
718-982-3961
Barbara.Davis@csi.cuny.edu

BIOLOGY CHAIRPERSON: Chang-Hui Shen, Ph.D.
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FACULTY:
Abdeslem El Idrissi, Ph.D., CSI biology faculty
Nancy Liu-Sullivan, Ph.D., CSI biology faculty
Barbara Davis, Ph.D., MT (ASCP), CSI adjunct instructor
Chang-Hui Shen, Ph.D. – CSI biology faculty
Carol Hartman, MS, MT(ASCP), CSI biology faculty
Thomas Neglia, MT(ASCP), MHA – CSI adjunct instructor
Lori Burkard, MS, MT (ASCP) – Northwell Health-Staten Island University Hospital, CSI adjunct instructor
Mary Fedele, MT (ASCP), MPA – NYU-Langone Hospitals – Brooklyn, CSI adjunct instructor
Arthur Phillips, MS, MT (ASCP) BBK, CSI adjunct instructor
Linda Panyu, MT (ASCP) – CSI adjunct instructor
Joseph Mbandwei, MS, MT(ASCP), Empire City Laboratories, CSI adjunct instructor
Khaled Deyab, MS, MT in Clinical Chemistry (ASCP), CSI adjunct instructor

Advisory Board:
Abdeslem El Idrissi, Ph.D., CSI biology faculty
Nancy Liu-Sullivan, Ph.D., CSI biology faculty
Barbara Davis, Ph.D., MT (ASCP) – CSI adjunct instructor
Chang-Hui Shen, Ph.D., CSI biology faculty
Arthur Philipps, MT in BBK (ASCP), CSI adjunct instructor
Joann Rittersbach, MT(ASCP), Memorial Sloan Kettering Cancer Center
Mike Pesce, Ph.D. – NYP-Columbia University Medical Center
QUALIFICATION FOR ADMISSIONS AND RETENTION

1. Minimum of 3.0 GPA (4.0 scale) for MDT pre-major’s courses

2. A minimum of two recommendation letters (preferably one from a college professor, the other from the volunteer work). **Note: Volunteer work experience is required of all MDT applicants with the recommended hours and duration as follows: 5-10 hours per week for a minimum of 8 weeks.**

3. Applicants with excellent academic standing can be provided with conditional acceptance into the MDT program before completion of all required pre-major’s courses. Upon completion of all pre-major’s courses while maintaining minimum GPA of 3.0, the student will become automatically matriculated as a formal MDT major’s student.

TECHNICAL STANDARDS

The technical (non-academic) standards established by the program are evidence of the “essential functions” that the students must be able to accomplish in the program. Essential functions include requirements that students be able to engage in educational training activities in such a way that will not endanger other students or the public including: Students may be permitted to perform procedures under qualified supervision after demonstrating proficiency.
a. Vision

The student must be able to read charts and graphs, read instrument scales, discriminate color, read microscopic materials, and record results.

b. Speech and hearing

The student must be able to communicate effectively and sensitively in order to assess non-verbal communication and be able to adequately transmit information to all members of the health care team.

c. Fine motor functions

The student must process all skills necessary to carry out diagnostic procedures, manipulate tools, instruments and equipment.

d. Psychological Stability

The students must possess the emotional health required for full utilization of the applicant’s intellectual abilities. Must be able to recognize emergency situations, and take appropriate actions.

OVERALL COURSE OBJECTIVES

The major course objectives for completion of the Medical Technology didactic portion at the College of Staten Island are that the students will:

1. Have studied each subject thoroughly through assigned reading in all required texts and supplementary literature provided for each subject.

2. Be responsible for the entire course content, that is, lecture and laboratory assignments.

3. Demonstrate attainment and retention of subject knowledge by successful performance on written and/or practical examinations.
4. Demonstrate the ability to solve problems by relating didactic information with practical laboratory application. This must be accomplished by solution of written problems in one of the following areas:

   a) application of standard methodologies and techniques to handle routine and unusual specimens;
   b) selection and performance of quality control procedures;
   c) troubleshooting with instrumentation and analyzers;
   d) integration of facts associated with disease states and correlation of individual subject areas in order to assess diagnostic criteria.

5. Have synthesized and organized segments of knowledge into a unified whole.

For example: performing a dilution using the proper safety and quality control, instruments, methods, and interpreting the result.

6. Demonstrate by passage of written examination, practical examinations, laboratory exercises, case study completion and comprehensive final examination, that they can judge the value of ideas and the usefulness of procedures and methods employed and the appropriate criteria in the analysis of clinical laboratory specimens.

AFFECTIVE OBJECTIVES

The Medical Technology program at CSI strives to maintain a Code of Ethics for all students and evaluates laboratory expertise and skills attained as entry level Medical Laboratory professionals.

All students completing the Medical Technology program will be able to:

1. Demonstrate and routinely practice acceptable conduct in the professional setting and value their appearance by choosing to wear the proper professional attire.

2. Illustrate good rapport, communication and interactive skills when discussing matters of mutual interest with hospital staff, physicians and supervisory personnel.

3. Value the confidentiality of all test results related to the clinical diagnosis and care of patients.

4. Organize and plan the workday to increase the level of professional proficiency in the performance of laboratory science procedures while maintaining efficiency and quality.

5. Judge and evaluate the laboratory results obtained, verifying their reliability.
6. Assess the importance of laboratory determinations by applying the educational methodologies and theories to the interpretation of laboratory test and the results obtained.

7. Relate professional behavior, kindness and empathy to patients and other laboratory personnel to establish a relationship which demonstrates confidence in clinical performance.

8. Evaluate personal behavior and conduct recognizing the highest degree of honesty and integrity with all laboratory testing.

9. Manage personal behavior and conduct so as to maintain adaptability in action and attitudes while in the professional setting.

10. Create and establish cooperative interactive skills with fellow students entering the Medical Technology profession.

11. Plan on educating individuals outside of the profession about the technical expertise and skills required to fulfill competency as a clinical laboratory scientist.

12. Value education in medicine as being continuous by seeking participation in in-service and professional seminars in the Clinical Laboratory Sciences.

13. Manage or handle possible laboratory test errors by:
   a. Determining how the error occurred
   b. Choosing to repeat the test in error.
   c. Identifying how the error can be avoided in future testing.
   d. Comparing the results following the recognized errors to assure the reliability of the remaining test results.

14. Determine personal initiative through:
   a. Developing optimal use of any free time.
   b. Providing assistance to others in the laboratory setting whenever needed.
   c. Reviewing and relating relevant literature to the laboratory setting.

15. Formulate interpersonal relations with others including:
   a. Developing good interpersonal skills.
   b. Utilizing proper language in communicating.
   c. Recognizing the proper chain of interaction in the clinical setting with laboratory personnel, staff and patients.
16. Assess the interest in the profession of Medical Technology by emphasizing:
   
a. Values of continuing medical education.
b. Organization and importance of a laboratory work schedule.
c. Relationships between theory and practice with techniques used in the analysis of clinical specimens.

17. Evaluate ethical behavior by:
   
a. Recognizing the confidentiality of test results.
b. Demonstrating a high degree of integrity, attitude, actions, and general personal conduct as a laboratory professional.

EVALUATION OF STUDENTS AT THE COLLEGE OF STATEN ISLAND AND CLINICAL SETTINGS: Each MDT course presented in the Medical Technology Program at CSI will be evaluated for grading using the following criteria, where appropriate:

1. Written examinations which include problem solving
2. Laboratory presentation or demonstration to the class of exercise and techniques
3. Laboratory reports
4. Case studies
5. Colored slides, power point, and audio-visual examinations

Course completion at the college involves:

1. Successful passing grades on all required coursework
2. Successful mastery of practical examinations where appropriate
3. Submission of laboratory reports for grading
4. Successful completion of midterm and final exams

Course completion at Internship (Clinical Rotation) sites involves:

1. Oral examinations
2. Written examinations
3. SAMPLES controls, quality control surveys, trouble shooting
4. Performance of all learning objectives outlined in the Medical Technology Training Guidelines described below.
TRAINING GUIDELINES
All clinical instructors are supervisors or lead technologists from the CSI MDT program-affiliated training facilities

Pre-requisites:
Students must have successfully completed all other requirements for graduation and have a GPA of at least 3.0 in Medical Technology courses, have an overall GPA of at least 3.0 and permission of the Medical Technology Program Director.

Course Description
The students will rotate through all of the following seven laboratory sections: Hematology/Hemostasis, Immunohematology, Clinical Chemistry, Urinalysis/Body Fluids, Microbiology, Parasitology/Mycology, and Immunology. They will also observe Molecular Diagnostics procedures, if available. Additional areas of the lab, such as Histology and Phlebotomy, are at the discretion of the affiliate and are encouraged. Students may be permitted to perform procedures under qualified supervision after demonstrating proficiency.

ATTENDANCE

During clinical internship status, it is of utmost importance that the student notify their educational coordinator at the affiliation site if an absence or lateness is anticipated.

Punctual attendance and participation in all clinical rotations are essential and required. The training schedule follows that at the training hospital including holidays.

If more than 3 days of the training time is missed (including absences due to family or personal reasons) by a student for a designated rotation area, it is the clinical supervisor's discretion to decide whether the student is allowed to make up for the missing time; if not, the student will have to repeat the entire rotation for the designated area. There is no guarantee that an immediate rotation spot can be provided.

I fully concur that if I get dismissed by the training hospital due to disciplinary issues, I shall be dismissed from the CSI Medical Technology program.

LEARNING OBJECTIVES

During the course of Internship and at the conclusion of the clinical study process, the student will be able to:
• Describe the process of specimen collection, transportation, and processing.
• Define clinical significance of abnormal values.
• Discriminate between operating principles of assay systems.
• Summarize quality assurance and quality control methods.
• Describe methods for proper maintenance of automated instruments.

SKILLS
I- Immunohematology (Blood Bank)
1. Prepare 2%, 5%, 10% RBC suspensions
2. Perform ABO typing (forward and reverse typing)
3. Read and grade agglutination reactions as well as identify hemolytic reactions
4. Resolve ABO discrepancies
5. Perform Rh and Du typing
6. Perform Direct and Indirect antiglobulin tests
7. Review prenatal and obstetrical testing procedures
8. Perform antibody screening procedures
9. Perform compatibility testing for purpose of transfusions
10. Perform antigen typing
11. Review transfusion reaction work-up 12. If available:
    • Process blood donors
    • Prepare blood components
    • Review blood inventory
    • Issue blood, components, albumin, RhIg
    • Review blood bank Quality Control procedures

II-Hematology/Coagulation
1. Review proper collection and transportation of specimens
2. Review use of laboratory Information System
3. Maintenance procedures for automated equipment. Use of controls and calibrators
4. Quality Control as it applies to hematology and coagulation automated instruments
5. Types of reagents used in automated instruments
6. Perform laboratory procedures on automated instruments in Hematology and Coagulation
7. Prepare and stain blood smears for microscopic examination
8. Perform differential counts on Wright’s stained peripheral blood smears
9. Perform manual body fluid counts (other than blood)
10. Perform tests other than automated and discuss significance of abnormalities in:
    • Reticulocyte count
    • Sickle cell preparations
    • Erythrocyte sedimentation rate
    • Platelet counts
    • Hemoglobin electrophoresis
11. Review cytochemical staining procedures
12. Observe bone marrow procedures
13. Discuss the principles and use of reagents for coagulation testing procedures such as:
   • Prothrombin time (PT)
   • Partial Thromboplastin time (APTT)
   • Fibrinogen levels
   • Fibrin split products
   • D-dimer
   • Factor assays
   • Review, perform urinalysis procedures

III- Clinical Chemistry/Urinalysis/Body Fluids
1. Safety regulations, including proper specimen handling
2. Laboratory Information System
3. Discuss criteria that would render a specimen unacceptable for testing
4. Identify types of analyses that make up the following profiles:
   • Cardiac
   • Liver
   • Renal function
   • Lipid
   • Thyroid
   • Iron studies
5. Quality Control and Quality Assurance programs
6. Trouble-shooting equipment failure
7. Calibration procedures for automated equipment
8. When available, review determinations of
   • Therapeutic Drugs,
   • Toxicological Studies,
   • Radioimmunoassay (RIA)
9. Chemical testing in body fluids (other than blood)
10. Identify and recognize importance of panic values

IV-Microbiology/Parasitology/Mycology
1. Methods and collection of specimens
2. Techniques for safely handling and disposing of infectious material
3. Perform staining procedures and describe significance for stains such as:
   • Gram’s stain
   • Acid-fast stain
   • India ink preparation
   • Trichrome stain
4. Identify different types of media for the isolation of pathogens that may be found in submitted specimens
5. Study colony characteristics of pathogens and normal flora grown
6. Study microscopic characteristics of pathogens  
7. Discuss anaerobic microbiology  
8. Perform bacterial stereotyping serotyping  
9. Perform identification and susceptibility testing

V-Immunology/Serology  
1. Syphilis serology: Students should observe and perform all maintenance and troubleshooting procedures in addition to instrumentation quality control and accurate testing result interpretation at the training site.  
2. Students shall receive four samples to test one of the unknown analytes performed at the training site: antinuclear antibodies, anti-streptolysin O, hepatitis, HIV 1 & 2, rheumatoid factor, measles, mumps, rubella, endocrine or reproductive endocrine.  
3. Unknown samples can be tested for one of the analytes or procedures performed at the training site: HCG (serum or urine), Quick HIV 1 & 2, fluorescent antibodies, agglutination, precipitation, complement fixation, immunofixation, monospot, or electrophoresis.

VI-Molecular Diagnostics  
When available, observe Molecular Diagnostic procedures.

The specific areas of proficiencies all training students are required to acquire and successfully complete are described in the Proficiency Sheets in the appendix of this Handbook. The proficiency sheets, evaluation form, and time sheets are distributed to students prior to clinical training.

GRADING CRITERIA  
The affiliation site must submit to the Medical Technology Program Director a form depicting the student’s quality and quantity of work, work habits, personal relations, adaptability, and technical skills. This form can be provided upon request. A letter grade is to be submitted to the Program Director by the affiliates’ Laboratory Managers at the end of each semester after testing and consultation with section supervisors. Clinical training grade is Pass/Fail.

HEALTH POLICIES  
1. Every possible precaution is made to prevent health hazards at the college or in the Clinical Laboratory.

2. Students are required to have professional liability insurance coverage:

   Company: Allied Health Professional Liability, MERCER
   www.proliability.com
   1-800-503-9230
3. A Health Examination form must be completed by each student before the start of the clinical Practicum. This form is to be completed by each student before the start of the immunizations received and documented and copies made for the file for presentation to the education coordinator at the clinical site. No one will be admitted to the practicum without this documentation.

The health form requires:

a  a physical and a declaration by your physician, that you are in good physical health and able to attend the practicum.

b A record of all immunizations must be present, to include Mumps, Measles, Rubella and serologic tests that show the titers present.

c A record of your Hepatitis vaccinations

d A recent (within 3 months) PPD check for tuberculosis. If there is a positive PPD, there must be an X-ray report to go along with it. Each clinical training site has specific forms to be completed. These will be presented to you upon interview with the clinical training facility director.

CLINICAL TRAINING AVAILABILITY

Our program is affiliated with thirteen training hospitals in the tri state area. Generally speaking, there is a guaranteed training spots for students ready for clinical training.

SERVICE WORK

The policy of the College of Staten Island's Medical Technology Program regarding service work is that students will not be substituted for regular staff while on the clinical rotation. After demonstrating proficiency, students, under qualified supervision, may be permitted to perform procedures. Service work in clinical settings outside of academic hours is not compulsory.

GRADING REQUIREMENTS:

FOR DIDACTIC COURSES

The Medical Technology Program requires that a GPA of 3.0 (on a 4.0 scale) for MDT major’s courses be maintained to remain in the Program. An unsatisfactory performance during clinical rotations may necessitate removal from the clinical site. For students whose GPA falls below 3.0, during the first semester, a warning letter shall be sent to the student. If the student fails to improve GPA by the second semester, he/she shall be placed on academic probation.

THE GRADING POLICY

<table>
<thead>
<tr>
<th>Grade</th>
<th>Range</th>
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<tbody>
<tr>
<td>A</td>
<td>90-100%</td>
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<tr>
<td>A-</td>
<td>88-89%</td>
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<tr>
<td>C+</td>
<td>75-77%</td>
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<tr>
<td>C</td>
<td>70-74%</td>
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A grade of C or better is required in any pre-major as well as major courses.

**ACADEMIC INTEGRITY**

A grade of F will be assigned to any student confirmed of academic dishonesty.

**GRADE APPEALS**

Students wishing to appeal a grade other than WU (Withdrawn Unofficially) or FIN (Failure Changed from Incomplete) must do so within 60 school days, excepting summer session, following the end of the semester. Appeals must be submitted in writing to the chairperson of the department in which the course was offered. Upon receipt of the appeal, the chairperson shall direct the student to discuss the issue with the instructor who assigned the grade. If the issue remains unresolved, the student may request a review by the Department Committee on Grade Appeals.

This Committee on Grade Appeals shall review all information presented by the student and shall meet with the instructor. The committee shall render a decision within 30 days after the student requested the grade review by the committee because the student and instructor had not resolved the matter. If the committee upholds the appeal by a vote of 3-0, the chairperson shall change the grade to reflect the decision of the committee. If the committee does not uphold the student, there is no further appeal within the College.

In all deliberations on grade appeals, the burden shall be on the student to prove that a violation of the College's regulations occurred or that the instructor's own stated criteria for grading, which shall have been enunciated at the beginning of the semester, have not been followed. Students needing advice on the procedure may consult an academic and personal counselor.

Students wishing to have a WU or a FIN grade changed to a grade of W must file a written petition supported by documentation to the Committee on Course and Standing.

**COMMITTEE ON COURSE AND STANDING**

The Committee on Course and Standing is chaired by the Vice President for Academic Affairs or a designee; and its membership consists of the Registrar and one member of the faculty from
each instructional department. In addition to reviewing student records, the Committee considers student appeals related to readmission, and graduation.

Students can petition the Committee through an appeals counselor in the Division of Student Affairs. The appeals counselors, whose names are available through the Registrar's Office, will advise the students in the preparation of their petition, which will then be referred to the Committee.

ATTENDANCE POLICIES FOR DIDACTIC COURSES

1. Attendance is mandatory for the entire program; absences from lecture and/or laboratories are limited to 3 per semester. Students with more than the allowed numbers of the absences shall receive academic penalty at the discretion of class instructors. Missed laboratory work must be made up in the form of a lab summary report. Make-up examinations are at the discretion of the instructor.

2. Protracted illness (three consecutive days or more) must be accompanied by a doctor's note or other acceptable proof of absence. Any make-ups are at the discretion of the instructor or laboratory director. All deficiencies must be removed before the end of the semester, unless the student plans to repeat the course in a subsequent semester.

PROGRAM CURRICULUM
THE COLLEGE OF STATEN ISLAND
DEPARTMENT OF BIOLOGY

Bachelor of Science Medical Technology

Total Credits Required 128

Suggested course flow:

I. Required Pre-Major Courses
   • BIO 150 HUMAN ANATOMY & PHYSIOLOGY I (4 CREDITS)
   • BIO 160 HUMAN ANATOMY & PHYSIOLOGY II (4 CREDITS)
   • BIO 170 GENERAL BIOLOGY I (3 CREDITS)
   • BIO 171 GENERAL BIOLOGY I LAB (1 CREDIT)
   • BIO 314 GENERAL MICROBIOLOGY (4 CREDITS)
   • MTH 123 COLLEGE ALGEBRA & TRIGNOMETRY (4 CREDITS*)
   • MTH 214 APPLIED STATISTICS USING COMPUTERS or BIO 272 BIOMETRICS (4 CREDITS EACH)
   • CHM 141 GENERAL CHEMISTRY I (3 CREDITS)
   • CHM 121 GENERAL CHEMISTRY I LAB (1 CREDIT)
II. Medical Technology Major’s Courses

- MDT 100 HEMATOLOGY (4 CREDITS)
- MDT 160 CLINICAL CHEMISTRY (4 CREDITS)
- CHM 240 ANALYTICAL CHEMISTRY (4 CREDITS)
- MDT 310 BLOOD TRANSFUSION TECHNOLOGY (4 CREDITS)
- MDT 316 CLINICAL MICROBIOLOGY (4 CREDITS)
- BIO 318 HISTOLOGY (4 CREDITS)
- BIO/MDT 325 DIAGNOSTIC MOLECULAR BIOLOGY (4 CREDITS)
- BIO/MDT 442 IMMUNOLOGY (4 CREDITS)
- MDT 371 CLINICAL PARASITOLOGY (3 CREDITS)
- MDT 372 MEDICAL MYCOLOGY (3 CREDITS)
- BIO 346 GENERAL VIROLOGY (3 CREDITS)
- MDT 375 MEDICAL TECHNOLOGY COMPREHENSIVE REVIEW (2 CREDITS)
- MDT 380 CLINICAL TRAINING (10 CREDITS)
- MDT 480 CLINICAL TRAINING SUMMARY PAPERS (3 CREDITS)
- MDT 384 LABORATORY OPERATIONS AND MANAGEMENT (2 CREDITS)

Students admitted prior to May 2015 are not required to enroll in BIO346, MDT371, and MDT372. These students register for MDT480 for 12 credits.

MEDICAL TECHNOLOGY COURSE DESCRIPTIONS

1. MDT 100 (Hematology): 3 class hours, 3 laboratory hours; 4 credits: Introduction to the study of hematology with emphasis on the formation and function of normal blood cells; identification of normal and abnormal blood cell types, variations in blood picture associated with hematologic disorders, and hemostasis and coagulation. Laboratory practice includes complete blood counts, studies of peripheral blood and bone marrow smears, special tests for hematologic disorders, and basic coagulation procedures.
2. **MDT 160 (Clinical Chemistry):** 3 class hours, 3 laboratory hours; 4 credits. Introduction to clinical chemistry and fundamentals of body fluid and urinalysis. Emphasis on theory and practice of both manual and automated techniques used in clinical chemistry laboratories. Students will learn to operate the autoanalyzer, spectrophotometer, electrophoresis, and other instruments. Normal metabolism, abnormal metabolism, and the clinical significance of laboratory tests are also discussed. Special field trips are arranged to expose students to real-world hospital laboratory operations.

3. **CHM 240 (Analytical Chemistry):** 2 class hours, 4 laboratory hours, 4 credits. A study of the quantitative aspects of chemical changes, chemical equilibria, the stoichiometry and energetics of chemical reactions, theory and laboratory in volumetric, optometric, electrostatic, and kinetic methods of chemical analyses. Also included is an introduction to instrumental methods of analysis.

4. **MDT 310 (Blood Transfusion Technology):** 2 class hours, 4 laboratory hours; 4 credits. An introduction to the nature, significance, and distribution of blood groups antigens and antibodies; fundamentals of basic immunology, compatibility testing, and other procedures associated with a clinical blood bank. Laboratory practice includes duplicate testing for blood groups, crossmatching, antibody screening, hepatitis antigen testing, component preparation, and other significant tests.

5. **MDT 316 (Clinical Microbiology):** 2 class hours, 4 laboratory hours, 4 credits. With the focus on medical and diagnostic microbiology, this course is a study of host-microbe interactions, the principles and applications of immune response, the epidemiology of infectious disease, and the pathogenesis of the major microbial diseases. In the laboratory class, the procedures used in laboratory diagnosis are applied.

6. **BIO 318 (Histology):** 2 class hours, 4 laboratory hours, 4 credits. A study of the microscopic structure of the mammalian cells, tissues, and organs with emphasis on functional correlations. Laboratory sessions include technical procedures for fixing, sectioning, staining, and mounting tissue specimens, and examination of prepared microscopic slides of human/mammalian tissues and organs.

7. **MDT 325 (Diagnostic Molecular Biology):** 3 class hours, 3 laboratory hours; 4 credits. This course will address the theoretical and practical framework for the understanding and application of molecular biology techniques in the clinical laboratory. The course material will cover the principles and applications of recombinant DNA technology including DNA-DNA hybridization, DNA amplification and nonradioactive in situ hybridization (HISH) for the detection and identification of microorganisms associated with infectious diseases.

8. **BIO 346 (General Virology):** 3 class hours, 3 credits. A study of major groups of viruses which includes structural and biochemical characteristics, cell-virus interactions, and viral diseases.
9. MDT 371 (Clinical Parasitology): 3 class hours, 3 credits. As a survey of clinically relevant parasites, this course is designed to expose students to the identification and clinical relevance of a variety of microscopic and macroscopic vectors of diseases.

10. MDT 372 (Clinical Mycology): 3 class hours, 3 credits. A survey of morphology, cultural characteristics and taxonomy of pathogenic fungi and their role in human diseases.

11. MDT 375 (MDT Comprehensive Review): A required course for 2 class hours, 2 credits. A review of key concepts of each MDT disciplinary area with weekly practice tests to prepare MDT students to take the ASCP NYS Licensure Exam and the ASCP Certification Exam.

12. MDT 384 (Laboratory Operations and Management): 2 hours, 2 credits. A laboratory operations and management course to help prepare students for career advancement in the laboratory, beyond entry-level employment. Students will have a comprehensive understanding of principles of laboratory management, financial management, and strategies for career success.

13. BIO 442 (Immunology): 2 class hours, 4 laboratory hours, 4 credits. This course guides students through key components and interface of the two arms of immunity: innate and adaptive immunities. Special attention is given to antigen-antibody interactions, self- versus non-self distinctions, immune diseases, and immuno-oncology. The laboratory class is authentic-research based with emphasis on the role of cytokines in signaling pathways.

14. MDT380 (Clinical Training I), 10 credits, 6 months, in Blood Bank (6 weeks), Hematology (5 weeks), Clinical Chemistry (5 weeks), Urinalysis (2 weeks), Microbiology (4 weeks), Parasitology/Mycology (2 weeks), and Immunology/Serology (2 weeks).

15. MDT480 (Clinical Training II, Rotation Summary Papers), 3 credits.

B. Suggested duration of clinical training by discipline:

- Blood Bank: 6 weeks
- Clinical Chemistry: 5 weeks
- Hematology/Coag: 5 weeks
- Immunology: 2 weeks
- Microbiology/Parasitology/Mycology: 6 weeks
- Urinalysis/Body Fluids: 2 weeks

**EVALUATION PROCESS**

The faculty of the Medical Technology Program includes both university-based faculty and clinical instructors located at the clinical affiliates. Instructors use a variety of criteria, as
outlined earlier, for arrival at final grades. Instructors also use a variety of criteria, including exam grades and laboratory performance.

The students are provided with assessment forms at the end of each course for the purpose of providing personal appraisal of the courses and instructors. These evaluations are sent out and returned to the College of Staten Island's administrative offices. These evaluations assist faculty in self-improvement of the course offered in the program.

All student evaluation forms are reviewed, statistics compiled and data presented for use in determining instructor effectiveness, difficulty of the class, and separate comments for self expression. The data is submitted to the department for use in reports for our program’s accreditation and improvement.

In addition to student evaluations, we ask all faculty, both University based and at the Clinical sites, for evaluations of the courses and special needs they would like addressed. The Medical Technology Advisory Committee meets annually to address these issues.

Of note, graduation is not contingent upon passing external examinations such as ASCP-BOC and the NYS MLS Licensure exam.

PROFESSIONAL ORGANIZATIONS

As student members of the various professional organizations, you may be eligible for scholarships and discounts for seminars and publications. We encourage our students to become active in the professional organizations. It is an excellent way to meet your peers, and keep up your continuing education. You can order the review books over the phone or web for the certification exams.

The College of Staten Island Medical Technology program is accredited by NAACLS (info below) as of October 2012.

National Accrediting Agency for Clinical Laboratory Science (NAACLS)
E-mail: http://naacls.org
(773) 714-8880
8410 West Bryn Mawr Avenue, Suite 670 Chicago,
Illinois 60631

American Society for Clinical Pathology (ASCP)
(312) 738-1336
Board of Registry
Department #77-3335
Chicago, Illinois 60678-3335
E-mail:bor@ascp.org STUDENTS
JOIN ASCP FREE!
SERVICE WORK POLICY: The policy of the College of Staten Island's Medical Technology Program regarding service work is on a voluntary basis at any healthcare-related facilities. Where possible, we recommend to our students to obtain this type of service work on a non-compensatory basis. This information is communicated to the students during the application interview conducted by the Academic Advisor of the medical technology program.

STUDENT CONTACT INFORMATION: It is the responsibility of the student to inform the Director of the Program of any changes in address, phone number and/or email address within one business week of the change. The students should contact the Biology office at 718-982-3850 with these changes to be made to their file.

TEACH-OUT PLAN:

Under the circumstances where the College of Staten Island is closed, the CSI medical technology program has a teach-out plan with the Medical Technology program of York College, a senior college of the City University of New York. This plan allows the CSI students to complete their undergraduate studies in medical technology.
Clinical Training Consent Form
Medical Technology Program
Department of Biology
College of Staten Island

I have completed all required didactic courses in the medical technology program and I have applied to start clinical training at training sites affiliated with the College of Staten Island.

I understand that all clinical training schedule including holiday schedule and sick days follows that at the training hospital.

I understand that if more than 3 days of the training time is missed (including absences due to family or personal reasons) by a student for a designated rotation area, it is the clinical supervisor's discretion to decide whether the student is allowed to make up for the missing time; if not, the student will have to repeat the entire rotation for the designated area. There is no guarantee that an immediate rotation spot can be provided.

I fully concur that if I get dismissed by the training hospital due to disciplinary issues, I shall be dismissed from the CSI Medical Technology program.

NAME (print) DATE

_________________ _____________________

SIGNATURE DATE

_________________ _____________________