



## CLINICAL LABORATORY TECHNOLOGY CLBT 1050 IMMUNOLOGY AND SEROLOGY

COURSE SYLLABUS: SUMMER SEMESTER 2018

### INSTRUCTOR CONTACT INFORMATION

Cynthia Williams, MS, MT (AMT) (HHS)

Office Hours: 8-9 am; 3:30-5 pm

Office Location: 716 Gillis Building

Email Address: [Cynthia Williams \(cwilliams@southeasterntech.edu\)](mailto:cwilliams@southeasterntech.edu)

Phone: 912-538-3183

Fax Number: 912-538-3106

### COURSE INFORMATION

Credit Hours/Minutes: 3/3750

Class Location: Room 739 Gillis Building

Class Meets: Monday, Tuesday, Wednesday, 12:30pm-3:15pm

Course Reference Number (CRN): 60184

### SOUTHEASTERN TECHNICAL COLLEGE'S (STC) CATALOG AND HANDBOOK

Students are responsible for all policies and procedures and all other information included in Southeastern Technical College's [Catalog and Handbook \(http://www.southeasterntech.edu/student-affairs/catalog-handbook.php\)](http://www.southeasterntech.edu/student-affairs/catalog-handbook.php).

### REQUIRED TEXT

*Immunology and Serology in the Laboratory Medicine*, Turgeon 5th Edition and Quick Review Cards, Valorie Polanski 2ed.

### REQUIRED SUPPLIES & SOFTWARE

Ink pens, pencil, highlighter, permanent marker, paper and any other supplies deemed necessary by instructor. Calculator is provided.

### COURSE DESCRIPTION

Introduces the fundamental theory and techniques applicable to serology and immunology practice in the medical laboratory. Topics include immune system, antigen and antibody reactions, immunological diseases, concept in molecular diagnostics, common serological and molecular techniques, safety and quality control, and quality improvement.

### MAJOR COURSE COMPETENCIES

1-Immune System

2-Antigen and Antibody Reactions

3-Immunological Diseases

4-Related Lab Math

5-Common Serological Techniques and Molecular techniques

6-Safety and Quality Control

## 7-Quality Improvement

### PREREQUISITE(S)

MATH 1111, BIOL 2113, BIOL 2113L, ENGL1101, CLBT 1010

### COURSE OUTLINE

Order	Description	Learning Domain	Level of Learning
1	Describe immune system characteristics.	Cognitive	Knowledge
2	Summarize the immune defense system roles and functions.	Cognitive	Comprehension

### Antigen and antibody reactions

Order	Description	Learning Domain	Level of Learning
1	Define selected terms.	Cognitive	Knowledge
2	Interpret immunoglobulin structures and functions.	Cognitive	Comprehension
3	Identify the characteristics and functions of the complement system.	Cognitive	Knowledge
4	Distinguish the basic concept and reactions of the serologic tests.	Cognitive	Analysis

### Immunological diseases

Order	Description	Learning Domain	Level of Learning
1	Correlate clinical symptoms and test results with immunological/serological diseases	Cognitive	Analysis
2	Recognize normal and abnormal test results.	Cognitive	Analysis

### Related lab math

Order	Description	Learning Domain	Level of Learning
1	Apply and perform dilutions, serial dilutions, and calculation of titers to serological test procedures.	Psychomotor	Mechanism

### Common Serological techniques and Molecular techniques

Order	Description	Learning Domain	Level of Learning
1	Describe serological tests for syphilis, viruses, bacteria,	Cognitive	Knowledge

	and miscellaneous microorganisms.		
2	Perform selected serological tests.	Psychomotor	Guided Response
3	Evaluate serological result and normal value recording and reporting.	Cognitive	Evaluation
4	Identify proper specimen collection and handling techniques.	Cognitive	Knowledge
5	Describe foundation concepts and definitions in molecular diagnostic including nucleic acid structures and functions.	Cognitive	Knowledge

### Safety and quality control

Order	Description	Learning Domain	Level of Learning
1	Identify sources of error in serologic testing.	Cognitive	Knowledge
2	Perform and set-up selected quality control and safety procedures.	Psychomotor	Guided Response
3	Comply with safe work habits in the performance of serological testing and common serological techniques and molecular techniques.	Affective	Receiving
4	Demonstrate ability to document quality control and patient results in a legible manner.	Psychomotor	Guided Response
5	State variables in pre, analytical, and post analytical testing in common serological and molecular techniques.	Cognitive	Knowledge

### Quality improvement

Order	Description	Learning Domain	Level of Learning
1	Identify methods used to improve performance in the immunology department.	Cognitive	Knowledge
2	Consider the ethical issues associated with communicable immune system diseases.	Affective	Valuing

### GENERAL EDUCATION CORE COMPETENCIES

Southeastern Technical College has identified the following general education core competencies that graduates will attain:

1. The ability to utilize standard written English.
2. The ability to solve practical mathematical problems.
3. The ability to read, analyze, and interpret information.

### STUDENT REQUIREMENTS

Students are expected to complete all tests, assignments, and Laboratory Reports by the due dates. A ten point penalty will be assessed for each day an assignment or Laboratory Report is late. Students are required to pass all laboratory skills in three attempts. A student may not progress until skills are mastered. Students

are responsible for policies, procedures, and requirements (drug screen, background check, immunizations, Fit test, CPR...) included in the STC Catalog/Clinical Laboratory Technology (CLT) handbook. Students are required to read the chapter prior to class. Tests will be timed. Points will be deducted for spelling due to Medical Liability in the work place. Laboratory results are legal documents.

#### **ATTENDANCE GUIDELINES**

Class attendance is a very important aspect of a student's success. Being absent from class prevents students from receiving the full benefit of a course and interrupts the learning process. Southeastern Technical College considers both tardiness and leaving early as types of absenteeism. Responsibility for class attendance rests with the student. Regular and punctual attendance at all scheduled classes is required for student success. Students will be expected to complete all work required by the instructor as described in the individual course syllabus.

Instructors have the right to give unannounced quizzes/assignments. Students who miss an unannounced quiz or assignment will receive a grade of 0. Students who stop attending class, but do not formally withdraw, may receive a grade of "F" (Failing 0-59) and face financial aid repercussions in upcoming semesters.

Instructors are responsible for determining whether missed work may be made up and the content and dates for makeup work is at the discretion of the instructor.

Students will not be withdrawn by an instructor for attendance; however, all instructors will keep records of graded assignments and student participation in course activities. The completion dates of these activities will be used to determine a student's last date of attendance in the event a student withdraws, stops attending, or receives an "F" in a course.

CLT attendance is counted from the first scheduled class meeting of each semester. To receive credit for a course a student must attend at least 90% of the scheduled instructional time. All work missed due to tardiness or absences must be made up at the convenience of the instructor. Any student attending less than the required scheduled instructional time as noted on each syllabus will receive a "W" for the course if removed from the course on or before the 65% portion of the semester (see STC's calendar on our website for the actual date of the 65% point). After the 65% portion of the semester, the student has earned the right to a letter grade and will receive a grade for the course. Tardy means arriving after the scheduled time for instruction to begin. Early departure means leaving before the end of the scheduled time. Three (3) tardies or early departures equal one (1) absence for the course involved. If you are 30 minutes late to class, you are considered absent for the day.

#### **SPECIAL NEEDS**

Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact [Helen Thomas \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126, to coordinate reasonable accommodations.

#### **SPECIFIC ABSENCES**

Provisions for Instructional Time missed because of documented absences due to jury duty, military duty, court duty, or required job training will be made at the discretion of the instructor.

#### **PREGNANCY**

Southeastern Technical College does not discriminate on the basis of pregnancy. However, we can offer accommodations to students who are pregnant that need special consideration to successfully complete the course. If you think you will need accommodations due to pregnancy, please advise me and make appropriate arrangements with [Helen Thomas \(hthomas@southeasterntech.edu\)](mailto:hthomas@southeasterntech.edu), 912-538-3126.

## WITHDRAWAL PROCEDURE

Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% portion of the semester (date will be posted on the school calendar) must speak with a Career Counselor in Student Affairs and complete a Student Withdrawal Form. A grade of "W" (Withdrawn) is assigned when the student completes the withdrawal form from the course.

Students who are dropped from courses due to attendance (see your course syllabus for attendance policy) after drop/add until the 65% point of the semester will receive a "W" for the course. Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of "F" being assigned.

After the 65% portion of the semester, the student will receive a grade for the course. (Please note: A zero will be given for all missed assignments.)

There is no refund for partial reduction of hours. Withdrawals may affect students' eligibility for financial aid for the current semester and in the future, so a student must speak with a representative of the Financial Aid Office to determine any financial penalties that may be assessed due to the withdrawal. All grades, including grades of 'W', will count in attempted hour calculations for the purpose of Financial Aid.

**Remember** - Informing your instructor that you will not return to his/her course does not satisfy the approved withdrawal procedure outlined above.

## **MAKEUP GUIDELINES (TESTS, QUIZZES, HOMEWORK, PROJECTS, ETC.)**

Exams or labs missed for any reason will be made up at the discretion of the instructor. A maximum of one exam can be made up. If more than one exam is missed the student will only be allowed to make up the first exam missed and a grade of "0" will be awarded for any other missed exams including the final. If you are 30 minutes late for class, you are considered absent and missed the test. Remember, the first test can be made up and the second will be a zero, to include the final.

## ACADEMIC DISHONESTY POLICY

The Southeastern Technical College Academic Dishonesty Policy states that all forms of academic dishonesty, including but not limited to cheating on tests, plagiarism, collusion, and falsification of information, will call for discipline. The policy can also be found in the Southeastern Technical College Catalog and Handbook.

## PROCEDURE FOR ACADEMIC MISCONDUCT

The procedure for dealing with academic misconduct and dishonesty is as follows:

### **1. First Offense**

Student will be assigned a grade of "0" for the test or assignment. Instructor keeps a record in course/program files and notes as first offense. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus. The Registrar will input the incident into Banner for tracking purposes.

### **2. Second Offense**

Student is given a grade of "WF" (Withdrawn Failing) for the course in which offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of second offense. The Registrar will input the incident into Banner for tracking purposes.

### **3. Third Offense**

Student is given a grade of "WF" for the course in which the offense occurs. The instructor will notify the student's program advisor, academic dean, and the Registrar at the student's home campus indicating a "WF" has been issued as a result of third offense. The Vice President for Student Affairs, or designee, will notify the student of suspension from college for a specified period of time. The Registrar will input the incident into

Banner for tracking purposes.

## STATEMENT OF NON-DISCRIMINATION

The Technical College System of Georgia and its constituent Technical Colleges do not discriminate on the basis of race, color, creed, national or ethnic origin, sex, religion, disability, age, political affiliation or belief, genetic information, disabled veteran, veteran of the Vietnam Era, spouse of military member or citizenship status (except in those special circumstances permitted or mandated by law). This school is in compliance with Title VI of the Civil Rights Act of 1964, which prohibits discrimination on the basis of race, color, or national origin; with the provisions of Title IX of the Educational Amendments of 1972, which prohibits discrimination on the basis of gender; with the provisions of Section 504 of the Rehabilitation Act of 1973, which prohibits discrimination on the basis of handicap; and with the American with Disabilities Act (ADA).

The following individuals have been designated to handle inquiries regarding the nondiscrimination policies:

<b>American With Disabilities Act (ADA)/Section 504 - Equity- Title IX (Students) – Office of Civil Rights (OCR) Compliance Officer</b>	<b>Title VI - Title IX (Employees) – Equal Employment Opportunity Commission (EEOC) Officer</b>
Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1 <sup>st</sup> Street, Vidalia Office 108 Phone: 912-538-3126 Email: <a href="mailto:Helen.Thomas@southeasterntech.edu">Helen Thomas</a> <a href="mailto:hthomas@southeasterntech.edu">hthomas@southeasterntech.edu</a>	Blythe Wilcox, Director of Human Resources Vidalia Campus 3001 East 1 <sup>st</sup> Street, Vidalia Office 138B Phone: 912-538-3147 Email: <a href="mailto:Blythe.Wilcox@southeasterntech.edu">Blythe Wilcox</a> <a href="mailto:bwilcox@southeasterntech.edu">bwilcox@southeasterntech.edu</a>

## ACCESSIBILITY STATEMENT

Southeastern Technical College is committed to making course content accessible to individuals to comply with the requirements of Section 508 of the Rehabilitation Act of Americans with Disabilities Act (ADA). If you find a problem that prevents access, please contact the course instructor.

## GRIEVANCE PROCEDURES

Grievance procedures can be found in the Catalog and Handbook located on Southeastern Technical College's website.

## ACCESS TO TECHNOLOGY

Students can now access Blackboard, Remote Lab Access, Student Email, Library Databases (Galileo), and BannerWeb via the mySTC portal or by clicking the Current Students link on the [Southeastern Technical College \(STC\) Website \(www.southeasterntech.edu\)](http://www.southeasterntech.edu).

## TECHNICAL COLLEGE SYSTEM OF GEORGIA (TCSG) GUARANTEE/WARRANTY STATEMENT

*The Technical College System of Georgia guarantees employers that graduates of State Technical Colleges shall possess skills and knowledge as prescribed by State Curriculum Standards. Should any graduate employee within two years of graduation be deemed lacking in said skills, that student shall be retrained in any State Technical College at no charge for instructional costs to either the student or the employer.*

## GRADING POLICY

Chapter test average of 70 or higher is required to sit for the comprehensive final (grades of 69.9 will not be rounded up). You MUST pass all skills in this course to pass this course. Test and labs will be timed. Points will be deducted for spelling due to Medical Liability in the work place. Laboratory results are legal documents. NO GRADES WILL BE DROPPED! You must receive a "C" or higher in all CLBT, core, and clinical courses to progress

in the CLT program.

<b>Assessment/Assignment</b>	<b>Percentage</b>
Chapter tests	65%
Lab Reports	5%
Comprehensive Final	30%

#### GRADING SCALE

<b>Letter Grade</b>	<b>Range</b>
A	90-100
B	80-89
C	70-79
D	60-69
F	0-59

**CLBT 1050 IMMUNOLOGY AND SEROLOGY  
SUMMER SEMESTER 2018 LESSON PLAN**

Lesson Plan is subject to change at the discretion of the instructor.

<b>Week</b>	<b>Chap / Less</b>	<b>Content</b>	<b>Tests Labs</b>	<b>Comp Area</b>
1 May 15- 17	6	Syllabi review Hematopoiesis chart Cell function chart	Graft vs. host article assignment Cell lineage chart and CBC normal values Electrophoresis research	Course 1,2,3,4,5,6 Core A,C
2 May 21- 24	1,7	Overview of Immunology Safety, QA, QC	Blood type-forward Khan videos Electrophoresis video Microscope- ID: seg, lymph, mono, RBC's Forensic/Paternity case	Course 1,4,5,6 Core A,C
3 May 28 (Holiday) -31	2,3	Antigen/ Antibody Cells and cellular activity of the immune system; grans and monos	<b>Test 1,6,7</b> Research segmented neutrophils and macrophages. Lab- draw blood	Course 1,2,3 Core A,C
4 June 4-7	4	Cells and cellular activity of the immune system: plasma cells and lymphocytes	Research Lymphocytes Graft vs. host article discussion Khan videos Serum protein electrophoresis HO	Course 1,2,3,4,5,6 Core A,C
5 June 11- 14	5,10	Soluble mediators of the immune system Agglutination methods	<b>Test 2,3,4</b> Power point PCR, ELISA... UNK HO techniques Pregnancy test	Course 1,2,3,4,5,6 Core A,C
6 June 18- 21	11,14	Electrophoresis techniques Molecular techniques	Lab - RSV, CRP, RPR Khan-DNA/Electrophoresis videos Research electrophoresis.	Course 1,2,3,4,5,6 Core A,C
7 June 25- 27 OFF July 2-5	15,17,18, 19	Immune response to Infectious disease Streptococcal infection Syphilis Vector-borne diseases	<b>Test 5,10,11,14</b> Lab 4 ASO, Strep kit, RPR	Course 1,2,3,4,5,6 Core A,B,C
8 July 9-12	20,21,22, 29,30	Toxoplasmosis Cytomegalovirus Infectious mono SLE,RA	<b>Test 15,17,18,19</b> Lab 5- Mono kit	Course 1,2,3 Core A,B,C

9 July 16- 19	23,2425	Viral Hepatitis Rubella HIV	Lab 6- Rubella kit Discuss performance improvement Troubleshooting/ Possible errors in testing Case studies MOCK final	Course 1-7 Core A,B,C
10 Finals 24-25		Review	<b>Final</b>	Course 1-7 Core A,B,C

**MAJOR COURSE COMPETENCIES:**

- 1-Immune System
- 2-Antigen and Antibody Reactions
- 3-Immunological Diseases
- 4-Related Lab Math
- 5-Common Serological Techniques
- 6-Safety and Quality Control
- 7-Process Improvement

**GENERAL CORE EDUCATIONAL COMPETENCIES:**

- A. The ability to utilize standard written English.
- B. The ability to solve practical mathematical problems.
- C. The ability to read, analyze, and interpret information