



**Clinical Laboratory Technology
(CLBT) 1080 Microbiology
COURSE SYLLABUS
Spring Semester 2020**

COURSE INFORMATION

Credit Hours/Minutes: 5/7500
Class Location: Room 739 Gillis Building
Class Meets: Monday through Wednesday, 8:30-11:50
Course Reference Number (CRN): 40203

INSTRUCTOR CONTACT INFORMATION

Instructor Name: Cynthia Williams, MS, MT (AMT) (HHS)
Email Address: Cynthia Williams (cwilliams@southeasterntech.edu)
Vidalia/Office Location: Vidalia Campus/Office Location: 716 Gillis Building
Office Hours: 7:30-8 am; 3:30-5 pm
Phone: 912-538-3183
Fax Number: 912-538-3106

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>).

REQUIRED TEXT

Textbook of Diagnostic Microbiology; 4th ed. by Connie Mahon et.al Published by Saunders; Microbe Cards by Mark Pepler.

REQUIRED SUPPLIES & SOFTWARE

Ink pens, pencil, highlighter, permanent marker, paper and any other supplies deemed necessary by instructor. Calculator is provided. Students should not share login credentials with others and should change passwords periodically to maintain security.

COURSE DESCRIPTION

Introduces fundamental microbiology and parasitology theory and techniques applicable to disease state identification. Topics include: microbiology fundamentals; basic techniques; clinical microbiology; related lab math; anti-microbial sensitivity; safety and quality control; parasitology; mycology, mycobacteriology, and virology; correlation of disease states; and process improvement.

MAJOR COURSE COMPETENCIES

1. Microbiology Fundamentals
2. Basic techniques
3. Clinical Microbiology

4. Proper usage of microscope
5. Anti-Microbial Sensitivity
6. Safety and quality control
7. Parasitology
8. Mycology, Mycobacteriology, and Virology
9. Correlation of Disease States
10. Quality Improvement

PREREQUISITE(S)

All Required

COURSE OUTLINE

MICROBIOLOGY FUNDAMENTALS

Order	Description	Learning Domain	Level of Learning
1	Discuss basic concepts of microbial classification, growth, reproduction, and metabolism.	Cognitive	Comprehension
2	Compare and contrast eukaryotes and prokaryotes.	Cognitive	Synthesis
3	Discuss infection and disease processes.	Cognitive	Comprehension
4	Describe media composition and their uses within the clinical microbiology laboratory.	Cognitive	Comprehension

BASIC TECHNIQUES

Order	Description	Learning Domain	Level of Learning
1	Describe selected media composition and uses.	Cognitive	Comprehension
2	Describe essential collection, transport, and handling procedures.	Cognitive	Comprehension
3	Determine appropriate media for use in isolating pathogenic microorganisms.	Cognitive	Application
4	Perform selected microbiological specimen setups.	Psychomotor	Guided Response
5	Perform and read gram stains of clinical specimens and bacterial isolates.	Psychomotor	Guided Response
6	Describe the use of bio and molecular technology to include differentiating DNA, nucleic acid probes, and amplification methods in taxonomy and clinical microbiology.	Cognitive	Comprehension

CLINICAL MICROBIOLOGY

Order	Description	Learning Domain	Level of Learning
1	Discuss culture characteristics and isolation techniques of selected gram positive and gram negative cocci.	Cognitive	Comprehension
2	Perform confirmatory tests for identifying clinically significant cocci including Staphylococcus, Streptococcus, and Neisseria.	Psychomotor	Guided Response
3	Relate pathogens to disease state.	Cognitive	Analysis
4	Discuss culture characteristics of selected clinically significant gram negative bacilli.	Cognitive	Comprehension
5	Discuss biochemical reactions used in identifying gram negative	Cognitive	Comprehension

Order	Description	Learning Domain	Level of Learning
	bacilli including enterics/fermenters, Haemophilus, and nonfermenters.		
6	Perform selected confirmatory tests for identifying clinically significant gram negative bacilli.	Psychomotor	Guided Response
7	Discern pathogens from normal/ transient flora at selected body sites.	Cognitive	Analysis
8	Relate medically important pathogens to disease state.	Cognitive	Analysis
9	Describe basic identification procedures of selected species including spore formers, nonspore formers, and anaerobes.	Cognitive	Comprehension
10	Describe anaerobe collection, transport, and processing.	Cognitive	Comprehension
11	Relate pathogens to disease state.	Cognitive	Analysis
12	Discuss and perform sub culture techniques used in isolation and identification of medically important microorganisms.	Cognitive	Comprehension

PROPER USAGE OF THE MICROSCOPE

Order	Description	Learning Domain	Level of Learning
1	Demonstrate proper usage of the microscope.	Psychomotor	Guided Response
2	Evaluate and interpret identification of microbial specimens through proper microscopy technique.	Cognitive	Analysis

ANTI-MICROBIAL SENSITIVITY

Order	Description	Learning Domain	Level of Learning
1	Describe methods of anti-microbial susceptibility testing including minimal inhibitory concentration (MIC) and Kirby-Bauer.	Cognitive	Comprehension
2	Perform and interpret Kirby-Bauer and MIC sensitivities.	Psychomotor	Guided Response

SAFETY AND QUALITY CONTROL

Order	Description	Learning Domain	Level of Learning
1	Describe and adhere to safety and quality control measures associated with handling clinical specimens and disease producing organisms.	Cognitive	Comprehension
2	Demonstrate appropriate safety techniques and universal precautions.	Psychomotor	Guided Response
3	Discuss and perform quality control of selected media and reagents.	Cognitive	Comprehension

PARASITOLOGY

Order	Description	Learning Domain	Level of Learning
1	Recall the scientific and common names of selected parasites	Cognitive	Knowledge

Order	Description	Learning Domain	Level of Learning
	including protozoa, ciliates, nematodes, trematodes, malaria, and cestodes.		
2	State parasitic forms which cause diseases.	Cognitive	Knowledge
3	Perform standard identification procedures.	Psychomotor	Guided Response
4	Recognize the diagnostic stage of selected parasites.	Cognitive	Analysis
5	Relate pathogens to disease state.	Cognitive	Analysis
6	Determine specimen collection, transport, and processing for commonly encountered parasites.	Cognitive	Application

MYCOLOGY, MYCOBACTERIOLOGY, AND VIROLOGY

Order	Description	Learning Domain	Level of Learning
1	Describe special media, processing techniques, and identification procedures for fungi, mycobacteria, and viruses.	Cognitive	Comprehension
2	Recognize selected mycology isolates.	Cognitive	Analysis
3	Perform and/or read acid fast bacilli (AFB) smears.	Psychomotor	Guided Response
4	Discuss basic viral structure and reproduction.	Cognitive	Comprehension
5	Relate commonly encountered pathogens to disease state.	Cognitive	Analysis

CORRELATION OF DISEASE STATES

Order	Description	Learning Domain	Level of Learning
1	Evaluate laboratory data to determine causative agent, antimicrobial resistance, and source of specimen to correlate with disease states.	Cognitive	Evaluation

QUALITY IMPROVEMENT

Order	Description	Learning Domain	Level of Learning
1	Summarize methods used to improve performance in the microbiology laboratory, including importance of the infection control functions of this department.	Cognitive	Comprehension
2	Describe and recognize the role of the clinical laboratory microbiologist in providing accurate test results through preanalytical, analytical, and post analytical phases of testing.	Cognitive	Cognitive

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, cardiopulmonary resuscitation (CPR) included in the STC Catalog/CLT handbook. Students are required to read the chapter prior to class. Test will be timed. Points will be deducted for spelling due to Medical Liability in the work place. Laboratory results are legal documents.

Students are required to have a lab coat, STC patch, student ID badge, solid color uniform and shoes for field trip to MRMC hospital lab.

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.

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 (90%) may be dropped from the course as stated below in the Withdrawal Procedure.

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.

For this class, which meets 3 days a week for 15 weeks, the maximum number of days a student may miss is 5 days during the semester.

STUDENTS WITH DISABILITIES

Students with disabilities who believe that they may need accommodations in this class based on the impact of a disability are encouraged to contact the appropriate campus coordinator to request services.

Swainsboro Campus: [Macy Gay mgay@southeasterntech.edu](mailto:Macy_Gay@southeasterntech.edu), 478-289-2274, Building 1, Room 1208

Vidalia Campus: [Helen Thomas hthomas@southeasterntech.edu](mailto:Helen_Thomas@southeasterntech.edu), 912-538-3126, Building A, Room 108

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 make arrangements with the appropriate campus coordinator.

Swainsboro Campus: [Macy Gay mgay@southeasterntech.edu](mailto:Macy_Gay_mgay@southeasterntech.edu), 478-289-2274, Building 1, Room 1208

Vidalia Campus: [Helen Thomas hthomas@southeasterntech.edu](mailto:Helen_Thomas_hthomas@southeasterntech.edu), 912-538-3126, Building A, Room 108

It is strongly encouraged that requests for consideration be made **PRIOR** to delivery and early enough in the pregnancy to ensure that all the required documentation is secured before the absence occurs. Requests made after delivery **MAY NOT** be accommodated. The coordinator will contact your instructor to discuss accommodations when all required documentation has been received. The instructor will then discuss a plan with you to make up missed assignments

WITHDRAWAL PROCEDURE

Students wishing to officially withdraw from a course(s) or all courses after the drop/add period and prior to the 65% point of the term in which student is enrolled (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 for the course(s) when the student completes the withdrawal form.

Important – Student-initiated withdrawals are not allowed after the 65% point. After the 65% point of the term in which student is enrolled, the student has earned the right to a letter grade and will receive a grade for the course. Please note: Abandoning a course(s) instead of following official withdrawal procedures may result in a grade of "F" (Failing 0-59) being assigned.

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

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 also speak with a representative of the Financial Aid Office to determine any financial penalties that may be assessed due to the withdrawal. A grade of "W" will count in attempted hour calculations for the purpose of Financial Aid.

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.

Extenuating circumstances are determined at the instructor's discretion. Unless otherwise scheduled with the instructor, it is expected that the test will be taken the next day, scheduled outside of regular class time. Failure to follow this procedure will result in a grade of zero.

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 Student 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:

American With Disabilities Act (ADA)/Section 504 - Equity- Title IX (Students) – Office of Civil Rights (OCR) Compliance Officer	Title VI - Title IX (Employees) – Equal Employment Opportunity Commission (EEOC) Officer
Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1 st Street, Vidalia Office 108 Phone: 912-538-3126 Email: Helen Thomas hthomas@southeasterntech.edu	Lanie Jonas, Director of Human Resources Vidalia Campus 3001 East 1 st Street, Vidalia Office 138B Phone: 912-538-3230 Email: Lanie Jonas ljonas@southeasterntech.edu

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.

Assessment/Assignment	Percentage
Chapter tests	60%
Microbe card test	10%
Lab Reports	5%
Comprehensive Final	25%
ID 10 unknown	PASS/FAIL

GRADING SCALE

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

CLBT 1080 Microbiology Spring Semester 2020 Lesson Plan

Lesson plan subject to change at the discretion of the instructor.

WEEK	CHAPTER	CONTENT	ASSIGNMENTS & TESTS DUE	COMP AREA
1 January 7-8; 2 January 13-15	1-8	Syllabi review 1-Bacterial Cell structure, Physiology, Metabolism and Genetics 2-Host –Parasite Interaction 3-Laboratory(Lab) Role in infection Control 4-Control of Microorganisms 5-Performance Improvement in the Microbiology Lab 6-Specimen Collection and Processing 7 Microscopic Examination of Infected Materials 8-Use of Colony Morphology for the presumptive identification of Microorganisms	Specimen plate and hold chart	Course 1,3,3,6 Core A,B,C
3 January 21-22 (Holiday is Jan.20)	14&15	Staphylococci Streptococcus, Enterococcus and other catalase negative gram positive cocci	Test 1-8 1-Gram stain, media, streak out quality control stock cultures Review microbe card for each organism. 2-catalase and coagulase/gram stain staph 3-Strep Identification (ID)/gram stain strep Begin bacteria identification chart	Course 1,2,3,9 Core A,B,C
4 January 27-39	16	Aerobic gram positive bacilli	Gram stain Direct Atlas Hemolysis skills assessment	Course 1,2,3,9 Core A,B,C
5 February 3-5	17 &18	Neisseria/Moraxella Haemophilus and other gram negative bacilli	Test 14,15,16 Direct Atlas /Gram stain Oxidase	Course 1,2,3,9 Core A-C
6 February 10-12	9 &19	9-Biochemical Identification of gram negative bacteria (GNB) 19-Enterobacteriaceae	4-Enterotube Gram stain Microscan video ID organism lab; ESBL, CRE	Course 1,2,3,9 Core A-C
7 February 17-	20	Vibrio, Aeromonas, Plesiomonas and Campylobacter	Test 17,18,9,19 Direct Atlas- Campy	Course 1,2,3,9

WEEK	CHAPTER	CONTENT	ASSIGNMENTS & TESTS DUE	COMP AREA
19				Core A-C
8 February 24-26	21	Non-fermenting and miscellaneous GNB	Oxidase ID organism PASS/FAIL	Course 1,2,3,9 Core A-C
9 March 2-4	22	Anaerobe Blood cultures	Anaerobic methods Betalactamase	Course 1,2,3,9 Core A-C
10 March 9-11	12 & 13	12-Antibiotic Mechanisms of Action and Resistance 13- Antimicrobial Susceptibility Media	Test 20,21,22 Antibiotic Resistance/ Source/Plate Review media Quality Control Betalactamase Kirby- Bauer lab MIC/"D" test	Course 1,2,3,4,5,6,9 Core A-C
11 March 16-18	23, 24, 25	23-Spirochetes 24-Chlamydia Rickettsia 25- Mycoplasma and Ureaplasma	Atlas Review cold agglutinin procedure	Course 1,2,3,9 Core A-C
12 March 23-25	26, 27, 29	26- Mycobacterium 27- Mycology 29- Virology	Test 12,13,23,24,25 Kinyon stain power point pictures of stains Bread mold-Lactophenol cotton blue stain India Ink stain	Course 1,2,3,5,8 Core A-C
13 March 30- April 1 (April 6-9 is Spring break!)	28	28-Parasitology	Test 26,27,29 View permanent slides	Test 26,27,29 View permanent slides
14 April 13-15	28	28-Parasitology Centers for Disease Control (CDC) Bioterrorism flow chart	View permanent slides	Course 1,2,3,7,9 Core A-C
15 April 20-22	Review	28-Parasitology Review	View permanent slides Trip to Meadows Regional Medical Center Test 28 Microbe card test	Course 1,2,3,7,9 Core A-C
16 April 27-29	Review	Finals	Comprehensive Final	Course 1-12 Core A-C

MAJOR COURSE COMPETENCIES:

1. Microbiology Fundamentals
2. Basic techniques
3. Clinical Microbiology
4. Related lab math
5. Anti-Microbial Sensitivity
6. Safety and quality control
7. Parasitology
8. Mycology, Mycobacteriology, and Virology
9. Correlation of Disease States
10. 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