



**CLBT 1010 Introduction to Clinical Laboratory  
Technology  
Course syllabus  
Summer Semester 2016**

**Semester:** Summer 2016  
**Course Title:** Introduction to Medical Laboratory  
Technology  
**Course Number:** CLBT 1010  
**Credit Hours/ Minutes:** 2/ 3000  
**Class Location:** Room #739 Gillis Building  
**Class Meets:** MTW 9:15-11:30  
**CRN:** 60119

**Instructor:** Cynthia Williams, MS, MT(AMT)(HHS)  
**Office Hours:** Monday-Wednesday 7-8,3:30-5;Thursday1-5  
**Office Location:**716 Gillis Building  
**Email Address:** cwilliams@southeasterntech.edu  
**Phone:** 912-538-3183  
**Fax Number:** 912-538-3106

**REQUIRED TEXT:** *Linne and Ringsrud's Clinical Laboratory Science: The Basics and Routine Techniques 7<sup>th</sup> ed.*

**REQUIRED SUPPLIES & SOFTWARE:** Ink pens, pencil, highlighter, permanent marker, paper and any other supplies deemed necessary by instructor.

**METHODS OF INSTRUCTION:**

May include, but not limited to, lectures, discussions, videos, laboratory, and handouts.

**COURSE DESCRIPTION:** CLBT 1010 introduces students to the terms, concepts, procedures, and equipment used in a professional medical laboratory. Topics include: professional ethics and regulatory agencies; basic laboratory safety, equipment, and techniques; phlebotomy/specimen processing; related lab math; quality control concepts; process improvement; documentation and computer usage; point of care testing. Practical experience in phlebotomy will be provided in the institution laboratory and/or the clinical setting.

**MAJOR COURSE COMPETENCIES:**

- 1 Professional Ethics and Regulatory Agencies and Laws
- 2 Laboratory Safety, Equipment, and Techniques
- 3 Phlebotomy/Specimen Processing/Point of care testing
- 4 Related Lab Math
- 5 Quality Control Concepts
- 6 Process Improvement
- 7 Documentation and computer usage

**General Core Educational Competencies:** STC has identified the following general education core competencies that graduates will attain:

- 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.

All students pursuing a degree, a diploma, or a Technical Certificate of Credit with a General Education component will be required to pass the General Education **Competency Exams** prior to graduation.

**PREREQUISITE(S):** Math 1111, BIOL 2113, BIOL 2113L, ENGL1101

**COURSE OUTLINE:**

**Learning Outcomes**

### Professional ethics and regulatory agencies and laws

Order	Description	Learning Domain	Level of Learning
1	Demonstrate professional and regulatory laws.	Affective	Characterization
2	Distinguish between certification, accreditation, and licensure.	Cognitive	Analysis
3	Differentiate between state and federal laboratory licensure laws.	Cognitive	Analysis
4	Illustrate a typical hospital laboratory organizational chart.	Cognitive	Comprehension
5	Discuss career ladders and continuing education opportunities.	Cognitive	Comprehension
6	Summarize legal and ethical implications of the profession.	Cognitive	Comprehension

### Laboratory safety, equipment, and techniques

Order	Description	Learning Domain	Level of Learning
1	Demonstrate the basic use and maintenance of the following instruments: centrifuge, microscope, spectrophotometer, and balances.	Psychomotor	Guided Response
2	Measure volume using appropriate glassware and pipettes.	Psychomotor	Mechanism
3	Demonstrate safety techniques in the storage and use of chemicals and related hazardous materials.	Psychomotor	Guided Response
4	Differentiate the roles, standards and guidelines for the following agencies: Center for Disease Control and Prevention (CDC); Occupational Health and Safety Administration (OSHA); and Federal Drug Administration (FDA).	Cognitive	Analysis
5	Describe the characteristics of each link of the infection chain.	Cognitive	Comprehension
6	Define blood/air-borne pathogens.	Cognitive	Knowledge
7	Identify exposure risks related to health occupations.	Cognitive	Knowledge
8	Demonstrate pre and post exposure precautions to include handwashing, gloving (sterile/nonsterile, Personal Protective Equipment (PPE),	Cognitive	Application
9	Discuss blood borne/air borne pathogens, causative agents, modes of transmission & communicability and methods of prevention in the healthcare setting	Cognitive	Comprehension
10	Differentiate forms of immunity.	Cognitive	Analysis

### Phlebotomy/specimen processing

Order	Description	Learning Domain	Level of Learning
1	Demonstrate proper patient identification techniques.	Cognitive	Application
2	List the anticoagulants for each color coded evacuated tube.	Cognitive	Knowledge
3	List types and sizes of needles.	Cognitive	Knowledge

4	Assemble materials for blood collection.	Cognitive	Application
5	Identify appropriate venipuncture sites.	Cognitive	Knowledge
6	Perform appropriate venipuncture with both syringe and evacuator tube using universal precautions.	Psychomotor	Guided Response
7	List common problems related to venipuncture and the solutions.	Cognitive	Knowledge
8	Describe finger and heel stick procedures and related safety precautions.	Cognitive	Comprehension
9	Perform finger stick procedures using aseptic technique and universal precautions.	Psychomotor	Guided Response
10	Describe specimen handling and processing including variables affected by improper technique.	Cognitive	Comprehension
11	Demonstrate selected processing procedures.	Psychomotor	Guided Response

### Related lab math

Order	Description	Learning Domain	Level of Learning
1	Perform related math calculations for metric system conversion, temperature conversion, simple dilutions, total magnification and Beer's Law.	Cognitive	Synthesis

### Quality control concepts

Order	Description	Learning Domain	Level of Learning
1	Define standards and controls.	Cognitive	Knowledge
2	Identify the functions of a quality assurance program.	Cognitive	Comprehension
3	Define selected statistical terms.	Cognitive	Knowledge
4	Prepare quality control charts.	Cognitive	Application

### Process improvement

Order	Description	Learning Domain	Level of Learning
1	Describe the methods used by clinical laboratories to improve performance.	Cognitive	Comprehension

### Documentation and computer usage

Order	Description	Learning Domain	Level of Learning
1	Demonstrate ability to complete documentation in a legible manner.	Psychomotor	Guided Response
2	Explain the importance of maintaining documentation.	Cognitive	Comprehension

**STUDENT REQUIREMENTS:** Students are required to wear name badges. 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 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.

No cell phones allowed. If you are caught using the cell phone, you will be asked to leave class and receive an “early departure” for the class. (Note: Three (3) tardies or early departures equal one (1) absence for the course involved.) If you are 30 minutes late to class, you will receive an absence for the day.

**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 also 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 and face financial aid repercussions in upcoming semesters.

#### **ADDITIONAL ATTENDANCE PROVISIONS**

##### ***Health Sciences***

Requirements for instructional hours within Health Science programs reflect the rules of respective licensure boards and/or accrediting agencies. Therefore, these programs have stringent attendance policies. Each program's attendance policy is published in the program's handbook and/or syllabus which specify the number of allowable absences. All provisions for required make-up work in the classroom or clinical experiences are 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. Time and/or 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. If you are 30 minutes late to class, you are considered absent for the day.

**For this class, which meets 3 days a week for 9 weeks, the maximum number of days a student may miss is 3 days during the semester.**

**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” 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 also 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.

**Withdrawing from Learning Support and/or College Success and Survival Skills courses are not permitted unless the student intends to withdraw totally from the College.**

**TRADITIONAL ATTENDANCE ADDENDUM: For this class, which meets 3 days a week for 9 weeks, the maximum number of days a student may miss is 3 days during the semester.**

**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.**

**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 Jan Brantley, Room 2108 Swainsboro Campus, 478-289-2274, or Helen Thomas, Room 108 Vidalia Campus, 912-538-3126, to coordinate reasonable accommodations.**

#### **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 the Special Needs Office. Swainsboro Campus: Jan Brantley, Room 1208, (478) 289-2274 -- Vidalia Campus: Helen Thomas, Room 108, (912) 538-3126.

**MAKEUP GUIDELINES: 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.**

**ACADEMIC DISHONESTY POLICY: The STC Academic Dishonesty Policy states 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 STC Catalog and Student Handbook.**

#### **Procedure for Academic Misconduct**

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

##### **--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.

##### **--Second Offense--**

Student is given a grade of "WF" 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.

--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 second 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:** Southeastern Technical College does not discriminate on the basis of race, color, creed, national or ethnic origin, gender, religion, disability, age, disabled veteran, veteran of Vietnam Era 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).

**GRIEVANCE PROCEDURES:** Grievance procedures can be found in the Catalog and Handbook located on STC'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 STC website at [www.southeasterntech.edu](http://www.southeasterntech.edu).

**GRADING:** Chapter test average of 70 or higher is required to sit for the final exam (grades of 69.9 will not be rounded up: Chapter tests will determine your final grade (no lab grades will be included). Only one makeup exam will be given for chapter test. If you miss a second exam you will receive a zero for the second exam missed. 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.

#### **GRADING POLICY**

**Chapter test =65%**

**Lab Reports = 5%**

**Final Exam =30%**

#### **GRADING SCALE**

A: 90-100

B: 80-89

C: 70-79

D: 60-69

F: 0-59

#### **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.*

**CLBT 1010 Introduction to Clinical Laboratory Technology**  
**SUMMER SEMESTER 2016 LESSON PLAN**  
**Lesson Plan is subject to change at the discretion of the instructor.**

Week	Chap / Less	Content	Assignments & Tests Due	Comp Area
<b>Week 1 May 18</b>				
1	1	1 –Fundamentals of the clinical lab Syllabus review	<b>TCSG assigned</b> <b>Bloodborne/airborne pathogens ppt</b> <b>HIPAA ppt</b> <b>Intro to lab videos</b>	Course 1,2,4,5,6 Core A,B,C
<b>Week 2 May 23-25</b>				
2	2	1 –Fundamentals of the clinical lab, cont. 2-Safety in the lab	Lab - safety MSDS bleach Tubes, anticoagulants, order of draw	Course 2,5 Core A,B,C
<b>Holiday Monday-May 31      Week 3 May 31- June 1</b>				
3	3	3-Collecting and processing blood and body fluids Venipuncture Instruction Videos	<b>TEST 1 &amp; 2</b> Lab -Venipuncture Dummy arms Tube ID HO Venipuncture videos Handwashing/Deglove What tube? order of draw	Course 1-8 Core A,B,C
<b>Week 4 June 6-8</b>				
4	4	4-Measurement,lab equipment and reagents Venipuncture continued	Venipuncture practice Dummy arms Live draws (student-student) Tube ID Venipuncture skills lab grade Manual and automated pipettes Dilution lab/ 1:10 bleach solution	Course 2,3,4,5,6,8 Core A,B,C
<b>Week 5 June 13-15</b>				
5	5	5-Microscope 6-Measurement techniques	<b>TEST 3 &amp; 4</b> Lab -Microscope ID parts/clean/focusing View hematology cells, bacteria, parasites, pond water, urine	Course 2,4,8 Core A,B,C
<b>Week 6 June 20-22</b>				

6	6,7	7-Lab math and solution preparation Linearity!	Lab- Serial dilutions/ Syringe draw Western Blot Beckman-Coulter DXC Electrophoresis- protein and Hgb Flow Cytometry, ELISA PCR, FISH	Course 2,4,5,6,8 Core A,B,C
<b>Week 7 June 27-29</b>				
7	8	8-QA & QC	<b>Test 5,6,7</b> Lab 6 SD/CV/shift/trend Linearity/ correlation Westgard rules Peer review Correlations Proficiency surveys 6 steps: troubleshooting QC Polanski cards pg. 46-57 & 59-60	Course 1,4,5,6,8 Core A,B,C
<b>Holiday week of July 4-7</b>				
<b>Week 8 July 11-13</b>				
8	8	8-QA & QC cont.	SD/CV practice Review QC What do I do? HO Flow of lab	Course 1-8 Core A,B,C
<b>Week 9 July 18-20</b>				
9	9 & 10	9 -Lab automation POCT 10-Laboratory Information Systems	Lab 7 Pregnancy test Finger stick lab Review lab reports Videos on automation Work on STD's Review for test	Course 2,4,5,6,8 Core A,B,C
<b>Week 10 July 25-27</b>				
10		Review for final	<b>TEST 8,9,10 Monday</b> TCSG std's due AAB practice test <b>Final Tuesday</b>	Course 1-8 Core A,B,C

**MAJOR COURSE COMPETENCIES:**

1. Professional Ethics and Regulatory Agencies and Laws
2. Laboratory Safety, Equipment, and Techniques
3. Phlebotomy/Specimen Processing/Point of care testing
4. Related Lab Math
5. Quality Control Concepts
6. Process Improvement
7. Documentation and computer usage

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