



CLBT 1060 Immunohematology

COURSE SYLLABUS

Fall Semester 2019

COURSE INFORMATION

Credit Hours/Minutes: 4/6000 minutes

Class Location: Room #739

Class Meets: MTW 1-3:45pm

CRN: 20095

INSTRUCTOR CONTACT INFORMATION

Instructor Name: Cynthia Williams, MS, MT (AMT) (HHS)

Email Address: Cynthia Williams (cwilliams@southeasterntech.edu)

Vidalia/Office Location: 716 Gillis Building

Office Hours: 7:30-8 am; 3:30-5 pm

Phone: 912-538-3183

Fax Number: 912-538-3106

REQUIRED TEXT

Basic and Applied Concepts of Blood Banking and Transfusion Practices 3rd.ed. Blaney and Howard

REQUIRED SUPPLIES & SOFTWARE

Ink pens, pencil, highlighter, permanent marker, paper, personal lab coat, closed toe shoes, and any other supplies deemed necessary by instructor. Students should not share login credentials with others and should change passwords periodically to maintain security.

COURSE DESCRIPTION

Course provides an in-depth study of immunohematology principles and practices as applicable to medical laboratory technology. Topics include: genetic theory and clinical applications, immunology, donor unit collection, related lab math, pre-transfusion testing, management of disease states and transfusion reactions, safety and quality control, and process improvement.

MAJOR COURSE COMPETENCIES

1. Genetic Theory and clinical applications
2. Immunology
3. Donor unit collection
4. Related lab math
5. Pre-transfusion testing
6. Management of disease states and transfusion reactions
7. Safety and quality control
8. Process improvement

PREREQUISITE(S)

MATH 1111, BIOL 2113, BIOL 2113L, ENGL1101, CLBT 1050

COURSE OUTLINE

Genetic theory and clinical applications

Order	Description	Learning Domain	Level of Learning
1	Discuss Mendelian genetics and laws of inheritance.	Cognitive	Comprehension
2	Define selected terms.	Cognitive	Knowledge
3	Formulate genotypes and phenotypes.	Cognitive	Synthesis

Immunology

Order	Description	Learning Domain	Level of Learning
1	Relate the role of defense in the body.	Cognitive	Application
2	Differentiate between the types of acquired immunity.	Cognitive	Analysis
3	Describe red blood cell antigens.	Cognitive	Knowledge
4	Describe blood group antibodies.	Cognitive	Knowledge
5	Correlate the role of complement in blood banking.	Cognitive	Analysis
6	Evaluate antigen/antibody reactions.	Cognitive	Evaluation

Donor unit collection

Order	Description	Learning Domain	Level of Learning
1	Identify donor selection criteria.	Cognitive	Knowledge
2	Correlate donor selection techniques.	Cognitive	Analysis
3	Describe the end products of hemapheresis and their uses.	Cognitive	Knowledge
4	Discuss blood component therapy.	Cognitive	Comprehension
5	List accepted blood storage and shipping requirements.	Cognitive	Knowledge

Related lab math

Order	Description	Learning Domain	Level of Learning
1	Demonstrate knowledge and ability to use laboratory math to calculate and resolve problems related to immunohematology.	Cognitive	Application
2	Perform related math calculations for dilutions, preparation of %RBC solutions, and Fetal-dex.	Cognitive	Synthesis

Pre-transfusion testing

Order	Description	Learning Domain	Level of Learning
1	Discuss ABO blood group systems.	Cognitive	Comprehension
2	Perform ABO grouping.	Psychomotor	Guided Response
3	Evaluate ABO discrepancies.	Cognitive	Evaluation
4	Discuss Rh/Hr blood group systems.	Cognitive	Comprehension
5	Convert Rh/Hr nomenclatures.	Cognitive	Comprehension
6	List Rh/Hr antigens.	Cognitive	Knowledge
7	List and discuss Rh/Hr antibodies and their clinical significance.	Cognitive	Knowledge
8	Perform Rh testing, Du testing, and titers.	Psychomotor	Guided Response
9	Describe other antigen systems.	Cognitive	Knowledge
10	List antibodies and describe characteristics.	Cognitive	Knowledge
11	Relate antibodies to specified antigens.	Cognitive	Application

Order	Description	Learning Domain	Level of Learning
12	Discuss the clinical significance of antibody/antigen relationship.	Cognitive	Comprehension
13	Perform selected tests.	Psychomotor	Guided Response
14	Perform selected special techniques, such as elutions and absorptions, prenatal and postnatal transfusions, alloantibody identification, multiple antibodies identification, and enzyme techniques.	Psychomotor	Guided Response
15	Recognize common problems and sources of error.	Cognitive	Analysis
16	Perform compatibility testing.	Psychomotor	Guided Response
17	Interpret and resolve compatibility test results.	Cognitive	Comprehension

Management of disease states and transfusion reactions

Order	Description	Learning Domain	Level of Learning
1	Describe transfusion reaction investigations.	Cognitive	Knowledge
2	Describe selected hemolytic diseases (e.g., autoimmune hemolytic anemia, hemolytic disease of newborn) and supporting test procedures (e.g., cord blood studies).	Cognitive	Knowledge
3	Perform selected tests.	Psychomotor	Guided Response

Safety and quality control

Order	Description	Learning Domain	Level of Learning
1	Set up and perform selected quality control and safety procedures.	Psychomotor	Guided Response

Process improvement

Order	Description	Learning Domain	Level of Learning
1	Discuss methods used to improve performance in the immunohematology lab.	Cognitive	Comprehension
2	Consider the ethical issues associated with transfusions.	Affective	Valuing

GENERAL EDUCATION CORE 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.

STUDENT REQUIREMENTS

Students are required to wear name badge. Students must wear closed toe shoes, gloves, and lab coat while in the lab. 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 E-Catalog/CLT handbook. Students are required to read the chapter prior to class. Test will be timed- one hour per test. 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 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_mgay@southeasterntech.edu), 478-289-2274, Building 1, Room 1210

Vidalia Campus: [Helen Thomas hthomas@southeasterntech.edu](mailto:Helen_Thomas_hthomas@southeasterntech.edu), 912-538-3126, Building A, Room 165

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 1210

Vidalia Campus: [Helen Thomas hthomas@southeasterntech.edu](mailto:Helen_Thomas_hthomas@southeasterntech.edu), 912-538-3126, Building A, Room 165

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% 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.

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

Exams or labs missed for any reason will be made up at the discretion of the instructor. Exams will be made up the first day back in class. Labs are made up at the instructor's discretion. 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 this includes 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 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:

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" 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 a 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:

ADA/Section 504 - Equity- Title IX (Students) - OCR Compliance Officer	Title VI - Title IX (Employees) - EEOC Officer
Helen Thomas, Special Needs Specialist Vidalia Campus 3001 East 1 st Street, Vidalia Office 165 Phone: 912-538-3126 hthomas@southeasterntech.edu	Lanie Jonas, Director of Human Resources Vidalia Campus 3001 East 1st Street, Vidalia Office 138B Phone: 912-538-3230 Email: Lanie Jonas ljonas@southeasterntech.edu

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.

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

Chapter test average grade (no lab grades will be included) of 70 or higher is required to sit for the final skills lab exam and comprehensive final (grades of 69.99 will not be rounded up). The student must receive a 100% on the skill "What blood types are compatible" and on the lab final skills exam (psychomotor), to take the comprehensive Immunohematology final exam due to the critical nature of this course. The student may have two attempts at the Lab final skills exam. Only one makeup exam will be given for chapter test. If you miss a second test (chapter test or final), 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

Assessment/Assignment	Percentage
Chapter tests	60%
Lab reports	5%
Laboratory Final (Part 1 & 2 avg.)	15%
Comprehensive Final Test	20%

GRADING SCALE

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

CLBT 1060 IMMUNOHEMATOLOGY

LESSON PLAN IS SUBJECT TO CHANGE AT THE DISCRETION OF THE INSTRUCTOR.

WEEK	CHAPTER	CONTENT	ASSIGNMENTS & TESTS DUE	COMP AREA
1 AUG. 13-16	1	Immunology	Cell suspensions, cell washing, grading reactions	Course 2 Core A,C
2 AUG. 19-23	2	Blood bank reagents	ABO & Rh, screen Type and screen/compatible crossmatch Practice sheet- what serum? /what cell? Students draw	Course 1,2,5 Core A,C
3 AUG. 26-30	3	Genetic principles	Type and screen/compatible crossmatch Direct Antiglobulin Test (DAT)	Course 1 Core A,C
4 Sept. 2= Holiday! 3-6	4	ABO	Test 1,2,3 Practice sheet- what serum? /what cell? Type and screen, crossmatch Students draw	Course 2,5 Core A,C
5 Sept. 9- 13	5	Rh	Du Type and screen(positive screen)/panel Identification Rh Handout/ Practice DCE	Course 1,2,4,5 Core A,C
6 Sept. 16-20	6	Other Blood groups	Type and screen, crossmatch: hospital samples Antigen typing and Quality control Handout: Antibody chart "Stress type" timed	Course 1,2,4,5 Core A,B,C
7 Sept. 23-27	7	Antibody Identification	Panels Type and screen, crossmatch Positive Antibody screen and panel Identification	Course 1,2,4,5,6 Core A,B,C
8 30-Oct.4	8	Compatibility Testing	Test 4,5,6,7 Type, screen and crossmatch 100% skills test Compatible types	Course 1-7 Core ABC

WEEK	CHAPTER	CONTENT	ASSIGNMENTS & TESTS DUE	COMP AREA
9 Oct. 7-11	12	Donor Selection and Phlebotomy	Red cross blood drive and info sheet Quality control (QC) and Blood bank (BB) reagents Gel crossmatch/Antibody screen DAT, Du	Course 3,5,6 Core A,B,C
10 Oct. 14-18	13 & 14	Testing of donor blood Blood Component Preparation and Transfusion Therapy	Type, screen and crossmatch	Course 3,4,5,6,7 Core A,B,C
11 Oct. 21-25	10	Adverse Complications of Transfusions	Test 8,12,13,14 Type, screen and crossmatch Transfusion reaction workup	Course 3,4,5,6,7 Core A,B,C
12 Oct.28-Nov.1	11	Hemolytic Disease of the Fetus and Newborn	Rh immune globulin/Rosette test (fetal screen)	Course 1,2,3,6 Core A,B,C
13 Nov. 4-8	15 & 16	Transfusion Therapy in Selected Patients Quality and Safety Issues	QC, BB reagents	Course 1-7 Core A,B,C
14 Nov. 11-15	Review	BB guy.org videos=Review!	Test 10,11,15,16 Type, screen and crossmatch Extra lab time MOCK BB practice final	Course 1-7 Core A,B,C
15 Nov. 18-22	Review	Review all charts, procedures, Polanski cards.	Extra lab time 100% Procedure skills verbal MOCK final Please read <i>The Spirit catches you and you fall down</i> during Christmas break. The book is in our library. It is an excellent example of ethics, cultural diversity, patient compliance of medications, chemistry (therapeutic drugs), and microbiology (infections). This book will help you next semester in chemistry and microbiology. This book will enlighten you of the	Course 7,8 Core A-C

WEEK	CHAPTER	CONTENT	ASSIGNMENTS & TESTS DUE	COMP AREA
			dangerous lack of understanding the public has of the medical field!	
16 Nov. 25-26 27-29 Holiday	Review	Review	Lab Final part 1 Lab Final part 2	Course 7,8 Core A-C
Dec. 2-4	Finals	Finals	Comprehensive Final	Course 7,8 Core A-C

Competency Areas

1. Genetic Theory and clinical applications
2. Immunology
3. Donor unit collection
4. Related lab math
5. Pre-transfusion testing
6. Management of disease states and transfusion reactions
7. Safety and quality control
8. 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.