



CLBT 2130 Clinical Chemistry Practicum
Course syllabus
Fall Semester 2015

Semester: Fall 2015

Course Title: Clinical Chemistry Practicum

Course Number: CLBT 2130

Credit Hours/ Minutes: 4/9000Minutes

Class Location: clinical site

Class Meets: M-F

CRN: 20289

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

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

Office Location:716 Gillis Building

Email Address: cwilliams@southeasterntech.edu

Phone: 912-538-3183

Fax Number: 912-538-3106

REQUIRED TEXT: *BOC Study Guide 5th ed., ASCP and Polanski review cards, V. Polanski*

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

METHODS OF INSTRUCTION: May include, but not limited to, hands on laboratory work, discussions, study questions, case studies, and handouts. Students will have instruction, demonstration, supervised performance and evaluation by experienced Medical Technologists at the assigned clinical site.

COURSE DESCRIPTION:

Provides students with an opportunity for in-depth application and reinforcement of chemistry principles and techniques in a medical laboratory job setting. This clinical practicum allows the student to become involved in a work situation at a professional level of technical application and requires concentration, practice, and follow through. Topics include: therapeutic drugs and toxicology; automated and manual chemistry; immuno chemistry; special chemistry; safety; correlation of test results to disease states and critical values; instrumentation; documentation/quality control; and process improvement. The clinical practicum is implemented through the use of written training plans, written performance evaluation, and coordinated supervision.

PRE-REQUISITES: CLBT 1070

MAJOR COURSE COMPETENCIES:

1-Therapeutic drugs and toxicology
2-Automated and manual chemistry
3-Immuno chemistry
4-Special chemistry
5-Safety
6-Correlation of test results to disease states and critical values
7-Instrumentation

8-Documentation/quality control
9-Process improvement

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.

Learning Outcomes

Therapeutic drugs and toxicology

Order	Description	Learning Domain	Level of Learning
1	Recognize drugs used to combat specific bacteria or to control a specific disease state.	Cognitive	Analysis
2	Recognize toxic levels of drug and other substance use and the side effects.	Cognitive	Analysis

Automated and manual chemistry

Order	Description	Learning Domain	Level of Learning
1	Perform automated and manual techniques in the testing processes.	Psychomotor	Guided Response

Immuno chemistry

Order	Description	Learning Domain	Level of Learning
1	Explain immuno chemical techniques and the clinical applications.	Cognitive	Comprehension

Special chemistry

Order	Description	Learning Domain	Level of Learning
1	Explain tests associated with special chemistry.	Cognitive	Comprehension

Safety

Order	Description	Learning Domain	Level of Learning
1	Record test results accurately.	Cognitive	Knowledge
2	Adhere to federal, state, and local safety and quality control guidelines.	Cognitive	Synthesis

Correlation of test results to disease states and critical values

Order	Description	Learning Domain	Level of Learning
1	Double check all critical level test results.	Cognitive	Application
2	Associate test results and critical levels to disease processes and management.	Cognitive	Synthesis
3	Report any abnormalities to a supervisor immediately.	Cognitive	Comprehension

Instrumentation

Order	Description	Learning Domain	Level of Learning
1	Maintain all equipment in working order.	Psychomotor	Complex Response
2	Explain how malfunctioning equipment leads to incorrect test results.	Cognitive	Comprehension
3	Verify equipment function as part of a complete check involving an abnormal result.	Cognitive	Application

Documentation/quality control

Order	Description	Learning Domain	Level of Learning
1	Follow and display adherence to quality control guidelines.	Affective	Responding
2	Report test results.	Cognitive	Application

Process improvement

Order	Description	Learning Domain	Level of Learning
1	Promote teamwork and use organizational skills in	Affective	Characterization

	performing duties in the clinical laboratory.		
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STUDENT REQUIREMENTS: Students are required to wear name badges. Students must pass a pre-test before attending clinical rotation. Students are required to record clinical hours each day and be signed by the clinical preceptor. Each week this time sheet will be faxed to the program director. **Caution: falsification of time sheets or preceptor signatures will result in expulsion from the CLBT program!** Students are expected to complete all clinical hours and assignments by the due dates. A ten point penalty will be assessed for each day a case study or study questions are late. Students are responsible for policies and procedures included in the *STC Catalog/CLT handbook*. Students are responsible for requirements (drug screen, background check, immunizations, Fit test, CPR...) included in the *STC Catalog/CLT handbook*. **No cell phones allowed. Read the infraction section of CLT Handbook. Stay busy during clinical rotation! Learn work flow, instrument operation, QC, and maintenance. If you have any down time- study the Polanski cards IN YOUR POCKET! Preceptors are watching you for prospective job opportunities. Take the initiative to draw patients, put up stock, answer phones, and load the instruments with samples.**

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 5 days a week for 4 weeks, the maximum number of days a student may miss is 2 days during the semester. All hours must be completed.

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 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.

TRADITIONAL ATTENDANCE ADDENDUM: ****For each clinical rotation, which meets 5 days a week for 4 weeks, the maximum number of days a student may miss is 2 days during EACH clinical rotation. All minutes MUST be made up before the end of the semester! CLBT Certification Review course will be the last two weeks of the semester from 8am to 4:00 pm. This course meets for 8 days. Only one day absence is allowed in the Certification Review course. Each day will be dedicated to review of a subject, test given and graded for the course. The Mock Registry will be given the last day of the semester. Students must pass the Mock registry with a 70 or higher in three attempts to complete the CLT program.

I urge you NOT to miss days! You miss valuable information if you are not in attendance! (Note: Three (3) tardies or early departures equal one (1) absence for the course.) If you are 30 minutes late to class, you will receive an absence for the day.

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.

If the student must be absent, the student must call the clinical site preceptor by 7 am and the Program Director (Ms. Williams) by 8am. Daily attendance and punctuality are of the utmost importance for the successful completion of each rotation. The student is expected to arrive and begin work promptly and to stay until the scheduled rotation is complete. Every day at the clinical site is important. This course (weeks 5-8 on lesson plan) requires 9000 minutes of clinical participation (4 weeks at 5 days per week) in addition to skills check list by the preceptor, case study and study questions.

Students who miss more than 2 days for each clinical rotation will be required to bring a doctor's excuse before makeup time will be allowed. All time will be made up!

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: Clinical time missed will be made up at the discretion of the clinical preceptor/ instructor. Case studies and study questions are due on the dates posted on the syllabus. **Late assignments will have 10 points deducted for each day late.**

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 Angel, 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.

GRADING: **A clinical grade of 70 or above is required to pass clinical rotations.** (Grades of 69.9 will not be rounded up). **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

Clinical rotation evaluation 70%
 Case study 20%
 Study questions 10%
 (Complete study questions= 10%;
 Incomplete study questions=0%)

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.*

CHEMISTRY- MAJOR COURSE COMPETENCIES:

1-Therapeutic drugs and toxicology
2-Automated and manual chemistry
3-Immuno chemistry
4-Special chemistry
5-Safety
6-Correlation of test results to disease states and critical values
7-Instrumentation
8-Documentation/quality control
9-Process improvement

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.

CLBT 2090 Phlebotomy/Serology/Urinalysis (weeks 1-3)
CLBT 2130 Clinical Chemistry (weeks 5-8)
CLBT 2110 Hematology and Coagulation (weeks 10-13)
CLBT 2200 Certification Review(weeks 14 and 16)

Fall semester Lesson Plan 2015

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

Week	Chap / Less	Content	Tests Assignments	Comp Area
Week 1 Aug. 17-21				
1		Clinical 2090 Phlebotomy/ UA/Serology	Case study Study questions Polanski review cards Fax time sheet 912-538-3106 Att: Cindy Williams	Phlebotomy / UA/Sero Course 1-6 Core A,B,C
Week 2 Aug. 24-28				
2		Clinical 2090 Phlebotomy/ UA/Serology	Case study Study questions Polanski review cards Fax time sheet 912-538-3106 Att: Cindy Williams	Phlebotomy / UA/Sero Course 1-6 Core A,B,C
Week 3 Aug. 31-4				
3		Clinical 2090 Phlebotomy/ UA/Serology Total: 120 hours	Case study Study questions Polanski review cards Fax time sheet 912-538-3106 Att: Cindy Williams	Phlebotomy / UA/Sero Course 1-6 Core A,B,C
Week 4 Sept. 7 (Holiday)-11				
4		If you have the required 120 hours for this rotation you do not have to report to clinicals this week. Use this week to work on Serology case study, study questions, or make up hours for clinical time.	Case study Study questions Polanski review cards Fax time sheet 912-538-3106 Att: Cindy Williams	
Week 5 Sept.14-18				

5		2130 Clinical Chemistry	Case study Study questions Polanski review cards Fax time sheet 912-538-3106 Att: Cindy Williams	Chemistry Course 1-9 Core A,B,C
Week 6 Sept. 21-25				
6		2130 Clinical Chemistry	Case study Study questions Polanski review cards Fax time sheet 912-538-3106 Att: Cindy Williams	Chemistry Course 1-9 Core A,B,C
Week 7 Sept. 28- Oct. 2				
7		2130 Clinical Chemistry	Case study Study questions Polanski review cards Fax time sheet 912-538-3106 Att: Cindy Williams	Chemistry Course 1-9 Core A,B,C
Week 8 Oct. 5-9				
8		2130 Clinical Chemistry Total: 160 hours	Case study Study questions Polanski review cards Fax time sheet 912-538-3106 Att: Cindy Williams	Chemistry Course 1-9 Core A,B,C
Week 9 Oct. 12-16				
9		If you have the required 160 hours for this rotation you do not have to report to clinicals this week. Use this week to work on Chemistry case study, study questions, or make up hours for clinical time.	Case study Study questions Polanski review cards Fax time sheet 912-538-3106 Att: Cindy Williams	
Week 10 Oct. 19-23				
10		2110 Clinical Hematology/Coagulation	Case study Study questions Polanski review cards Fax time sheet 912-538-3106 Att: Cindy Williams	Hematology course 1-8 Core A-C

Week 11 Oct. 26-30				
11		2110 Clinical Hematology/Coagulation	Case study Study questions Polanski review cards Fax time sheet 912-538-3106 Att: Cindy Williams	Hematology course 1-8 Core A-C
Week 12 Nov. 2-6				
12		2110 Clinical Hematology/Coagulation	Case study Study questions Polanski review cards Fax time sheet 912-538-3106 Att: Cindy Williams	Hematology course 1-8 Core A-C
Week 13 Nov. 9-13				
13		2110 Clinical Hematology/Coagulation Total: Hours 160	Case study Study questions Polanski review cards Fax time sheet 912-538-3106 Att: Cindy Williams	Hematology course 1-8 Core A-C
Week 14 Nov. 16-20				
14		Certification Review at STC Monday- Thursday! 8-4pm	Monday- Phl/UA/Sero review; TEST Tuesday-Chemistry review; TEST Wednesday-Microbiology Review concentrate bacteria; Thursday- Microbiology Review cont. concentrate virus, fungi, and parasites.; TEST Work ethics exam. Serology/Chemistry/Hematology or coagulation case studies are due and will be presented to the class. All study questions due. All clinical site evaluations due. All “number of test” per clinical site rotation due.	Review course 1-12 Core A-C
Week 15 Nov. 23 and 24 (25-27 Holidays!)				
15		Use this week to review all CLT courses!		

Week 16 Nov. 30- Dec. 3

16		Certification Review at STC Monday- Thursday!8-4pm	Monday- Hematology Review; TEST Tuesday- Blood bank Review; TEST Wednesday- Serology/Chemistry/Hematology or coagulation case studies are due and will be presented to the class. Review any weak areas; Test taking skills; AMT MOCK MT TEST Thursday- MOCK REGISTRY- you must pass this MOCK registry in 3 attempts with a 70 or higher and the course with a 70 or higher to pass the entire CLT program. All test grades week 14 and 16 are averaged and is 45% of your grade. Work ethics is 5% MOCK registry is 50% of your grade for this course.	Review course 1-12 Core A-C
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Evaluation for Chemistry Clinical Rotation
CLBT 2130

Name: _____ Hospital _____

Dates: From _____ To _____

Please evaluate the performance of this student based on the following criteria:

5 - meets criteria 90-100% of the time; 4 -meets criteria 80 - 89% of the time; 3 - meets criteria 70-79% of the time; 2 - meets criteria 60-69% of the time; 1 meets criteria less than 60% of the time. Procedures for each test protocol are located in the Policy and Procedure Manual located in each department at each clinical facility. Students must pass the clinical skills check off sheet with 70 or greater(C) to pass the course.

I. Skill	Criteria	5=A	4=B	3=C	2=D	1=F
The student successfully performs the following:						
1. Proper handling and distribution of specimens.	Must follow steps in protocol 100% of time.					
2. Perform testing on automated and /or manual instruments	Must obtain within 100% the value obtained by the tech					
3. Dilutions and calculations of serum or body fluids as required.	Must follow the steps of the protocol 100% of the time.					
4. Adhere to all safety guidelines-federal, state and local.	Must follow the steps of the protocol 100% of the time.					
5. Follow and display adherence to quality control guidelines.	Must properly accept/reject QC results 9 out of 10 times.					
6. Proper documentation of Quality control.	Must properly accept/reject QC results 9 out of 10 times.					
7. Demonstrate proficiency of chemistry tests performed at this facility.	Must achieve within 100% of the value obtained by the technologist.					
8. Demonstrate proficiency in pipetting and other measuring skills.	Must follow the steps of the protocol 100% of the time.					
9. Record test results accurately.	Must follow the steps of the protocol 100% of the time.					

10. Double check all critical level test results.	Must follow the steps of the protocol 100% of the time.					
11. Report critical values to a supervisor immediately.	Must follow the steps of the protocol 100% of the time.					
12. Maintain all equipment in working order.	Must demonstrate proficiency in maintaining analyzers.					
13. Demonstrate proficiency sending specimens to reference lab.	Must follow the steps of the protocol 100% of the time.					
II: Knowledge						
The student successfully:						
1. Recognize drugs used to combat specific bacteria or to control a specific disease state.	Must make proper correlation 9 out of 10 times.					
2. Recognize toxic levels of drug and other substance use and the side effects.	Must make proper correlation 9 out of 10 times.					
3. Explain immuno chemical techniques and the clinical applications.	Must make proper correlation 9 out of 10 times.					
4. Explain test associated with special chemistry.	Must make proper correlation 9 out of 10 times.					
5. Associate test results and critical levels to disease processes and management.	Must make proper correlation 9 out of 10 times.					
6. Explain how malfunctioning equipment leads to incorrect test result.	Must make proper correlation 9 out of 10 times.					
7. Understand anticoagulants / serum and the applications to test protocol.	Must make proper correlation of anticoagulant/ serum 100% of the time.					

Comments:



Preceptor signature:

Date:

Chemistry Comparison of clinical sites by test: Students record total test performed Test	Record number performed per rotation
Abuse drug triage	
ACE/Sal	
Alcohol	
Amikacin	
Ammonia	
Amylase	
Anemia profile	
B12	
BHCG	
BMP	
Body fluid glu/protein	
BUN/Creatininte ratio	
Carbamazepine/Tegretol	
Cardiac profile	
Chemistry calibrations (name test)	
Chemistry maintenance (name analyzers)	
Chemistry QC	
Cholesterol	
CMP	
Creatinine clearance	
CRP	
Digoxin	
Dilantin	
Electrolytes	
FE TIBC	
Ferritin	
FLM	
Folate	
Gentamycin	
GGT	
Glucose	
HDL	
Lipase	
Lipid profile	
Liver profile	
MG	
Phenobarb	
Phosperous	

