

**HOUSTON COMMUNITY COLLEGE
COLEMAN COLLEGE FOR HEALTH SCIENCES**

MEDICAL LABORATORY TECHNICIAN PROGRAM (MLT)

COURSE SYLLABUS

MLAB 1267 – Practicum IV Microbiology/Parasitology/Mycology
Sophomore

CRN 16901, 16902 - Spring 2017

Practicum Rotation Site

HCC Coleman College

Tuesday – Friday, 7:00am – 3:30pm

Credit: 2 Hours

240 Contact Hours

Type of Instruction: Practicum experience

Administrative Notes

Clinical Coordinators

Dock Yates, MLS (ASCP) BB

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Office Hours

MWTh 9:00am - 4:00pm

Course Schedule

Semester:

1/16/2018 – 3/11/2018 (1st 8 weeks)

3/19/18 – 5/13/18 (2nd 8 weeks)

Unique Circumstances

Any student who faces challenges securing their foods or housing and believes this may affect their performance in the course is urged to contact the Dean of Student for support. Furthermore, please notify the professor if you are comfortable in doing so. This will enable us to provide any resources that HCC may possess.

Course Description

Practical, general workplace training supported by an individualized learning plan that is developed by the employer, college, and student. The college and the employer develop and document an individualized plan for the student. The plan relates the workplace training and experiences to the student's general and technical course of study. The guided external experiences are unpaid and course may be repeated if topics and learning outcomes vary.

Course Prerequisite

Department Approval and MLAB 2434, 1231

Course Goal

MLAB 1267 is designed to reinforce the student's knowledge in medical microbiology, parasitology and mycology, and to aid in diagnosis and management of patient health. This course is designed toward terminal vocational training as an MLT. Emphasis will be placed on specimen collection, performing laboratory procedures to identify infectious diseases, performing susceptibility tests, stool collection for parasitic examination, characteristics of cysts and trophozoites, characteristics of fungi and the development of manipulative skills, performing quality control, performing preventive maintenance, infection control, and interpretation of patient results in the above-mentioned areas. Students will perform laboratory procedures in assigned department of the clinical laboratory under the general supervision of clinical instructor.

Course Student Learning Outcomes

1. Apply principles of safety, quality assurance, and quality control.
2. Apply the cognitive theories of Microbiology, Parasitology and Mycology to the practical setting.
3. Perform practical laboratory work skills.
4. Demonstrate ethical and professional behavior.

Student Learning Objectives

- 1.1 Demonstrate safe laboratory practices at all times.
- 1.2 Review the cognitive theories of medical Microbiology, Parasitology, and Mycology and transfer the information to correlate with the practices of the clinical site .
- 2.1 Observe the operation of clinical site equipment and demonstrate the ability to operate the equipment independently.
- 2.2 Perform quality control and all clinical site procedures and practices.
- 3.1 Illustrate ethical and professional behavior by adhering to attendance polices, dress codes, and general rules and regulations.
- 3.2 Demonstrate respect and appropriate interpersonal skills with all health care professionals in the health care setting.

Cognitive Objectives:

It is the responsibility of the student to demonstrate knowledge of the following by scoring 75% or better on a prerotation exam given by HCCS instructor:

1. Describe what constitutes an adequate specimen for routine stool analysis and parasite identification.
2. Explain the theory, methods and clinical correlation with determination of occult blood, fecal fat, pH and reducing substances.
3. Identify diagnostic and infective forms of parasites such as Amebas, Ciliates, Flagellates, Hemoflagellates, Malaria, Nematodes, Cestodes, and Trematodes.
4. Identify essential components and principle of operation of the automated identification and susceptibility microbiology equipment available at affiliate (Vitek for example) and explain how the equipment determines positivity and negativity of biochemical reaction.
5. Explain the principle for each of the following methods: saline mount, iodine mount, KOH, germ tube, India Ink prep and fungal slide cultures.
6. State reagents used in the Gram Stain, Acid-Fast Stain, Fluorescent AFB Stain, and Fungal stains.
7. Explain the principle for each of the following procedures: catalase, coagulase, Staph latex, Novobiocin susceptibility, bile solubility, Optochin disk, bile esculin, PYR, bacitracin inhibition, carbohydrate fermentation using CTA, carbohydrate fermentation using OF sugars, citrate utilization, growth requirements for X and V factors, Haemophilus ID quad Plate, gelatin liquefaction of nutrient gelatin medium, hippurate hydrolysis, reaction of Enterobacteriaceae on TSI, LIA, indole test, oxidase test, urease test, motility medium, ONPG test, IMVC, arginine dehydrolase, ornithine decarboxylase, lysine decarboxylase, SXT disk, latex agglutination tests for Strep Lancefield Groups, purpose of candle jar, lysine decarboxylase test, arylsulfatase test, 6.5 % NaCl tolerance, n-acetyl L-cysteine-alkaline method, susceptibility testing, MIC and MBC.
8. Describe culture characteristics (colony morphology) biochemical reactions, serological characteristics, toxins produced and differential tests for the following:
 - Gram-positive cocci
 - Gram-negative bacilli
 - Gram-negative diplococci
 - Gram-positive bacilli
 - Anaerobes
 - Fungi
 - Mycobacteria
9. Explain the purpose and selectivity of the following media: Bile Esculin, Bordet Gengou, Blood Agar, BCYE agar, Chocolate Agar, Columbia CNA, Cornmeal, CCFA, CAMPY, Cooked Meat broth, CTA, Decarboxylase, Dnase, EMB, Hektoen Enteric, KIA, Lowenstein Jensen, Lysine Iron Agar, MacConkey Agar, MacConkey Agar with Sorbitol, Mueller Hinton, O-F Medium, Sabourad, 6.5% NaCl, Modified Thayer-Martin, Motility Test medium, Nutrient agar, PEA, PC agar, Regan-Lowe agar, Schaedler's agar, Simmons Citrate, Thioglycolate Broth, TCBS agar, Tellurite agar, Tinsdale agar, Trypticase Soy Broth, TSI, Urea agar and XLD agar.

10. Given the results of serodiagnostic tests, culture/subculture characteristics and biochemical reactions, identify bacterial organism and disease.
11. Given results observed at 24 and 48 hours on any specimen submitted for culture, identify selective media to be inoculated and what results are expected in identifying the organism in question by genus and species.
12. List organisms (both pathogens and nonpathogens) most likely found in the following: blood cultures, primary pneumonias(excluding viruses), sputum, skin, cerebrospinal fluid, normal voided urine, infected urine, wounds, eye infections, ear cultures, gastrointestinal tract, and genital tract.
13. Given a list of bacterial diseases, identify by matching the causative agent or most commonly isolated organism (Genus and species).
14. During any febrile state, identify specimen of choice based on duration of illness and suspected diagnosis.
15. State the agents, routes of transmission, and infectious diseases caused by bacteria, fungi, and parasites.
16. Describe essential components, principles of operation, preventive maintenance, recognize unexpected test results, takes corrective action or refers, and differentiates/resolves technical, instrument, physiologic causes of problems or unexpected test results for all instrumentation.

Psychomotor

Demonstrate competent psychomotor skills as determined by the instructor.

During clinical rotation, the student should:

1. Verify identifications of samples (blood, urine, etc.) by comparing name, room number, date, hospital number, computer number with information on request.
2. After observing routine task, perform task within time limit and standard of performance according to verbal instructions provided by the clinical instructors.
3. Display a professional attitude toward patients and colleagues.
4. Demonstrate interpersonal communication skills with patients, laboratory personnel, other health professionals and with the public.
5. Prepare and mail samples to reference laboratories with appropriate forms.
6. Experience the pace, stress and responsibility of performing tests in the clinical setting.

Terminal Performance Objectives: It is the responsibility of the student to:

1. Demonstrate a willingness to prepare for the role of a Clinical Laboratory Technician by:
 - a. arriving at clinical affiliate at the assigned time
 - b. observing safety rules and regulations
 - c. keeping records
 - 1) legibly record results
 - 2) record results exactly as determined
 - d. cooperating with the instructor to maintain laboratory and equipment in good condition
 - e. observing clinical affiliate rules and regulations
 - f. adhering to HCCS dress code

2. Demonstrate the ability to perform laboratory tests by:
 - a. following written and verbal instructions
 - b. demonstrating increasing dexterity in the performance of procedures
 - c. demonstrating progressive accuracy, precision and speed
 - d. obtaining results within the limits set for each test

3. Demonstrate a knowledge of theoretical concepts involved in the tests performed in the laboratory by:
 - a. recognizing results which do not correlate and reporting them to the instructor
 - b. associating unusual test results with the condition or disease which might be indicated.

Behavioral

Upon receiving appropriate instructions, the student will demonstrate the following attitudes and behaviors at all times as determined by mid-term and end-term evaluations. During the course of the semester, the students will:

1. attentively attend to verbal and demonstrative instruction
2. follow written and verbal instructions
3. communicate effectively in written and spoken English
4. engage in class/laboratory discussions by asking pertinent questions and responding respectfully to other student's comments
5. demonstrate a willingness to learn and apply new ideas/technical skills to future endeavors
6. demonstrate a positive teamwork ethic by being willing to assist and cooperate with others
7. develop confidence by gradually working independently in a competent manner
8. prioritize and manage work flow within a restricted time frame
9. handle themselves at all times in a professional manner and perform at the highest level of standards
10. demonstrate honesty and integrity and abide by the Medical Code of Ethics
11. demonstrate commitment to the Medical Laboratory Technician profession
12. be punctual to class and do not abuse break times.

Instructional Methods and Materials

The student will use all textbooks, notes, and packets that were received by the student. Textbook of Diagnostic Microbiology, Mahon.

Course Calendar

The student rotation is determined by Coleman College and the Practicum Rotation Site.

Campus Carry Statement

At HCC the safety of our students, staff, and faculty is our first priority. As of August 1, 2017, Houston Community College is subject to the Campus Carry Law (SB11

2015). For more information, visit the HCC Campus Carry web page at <http://www.hccs.edu/district/departments/police/campus-carry/>.

Texas Health Bill 1508

Texas HB 1508 requires the following information be given to students. If you are applying for admission to a program that prepares an individual for an initial occupational license or certification and/or if you later decide to change to a program that prepares you for an initial occupational license or certification, in accordance with state law, please be advised of the following:

1. An individual who has been charged or convicted of an offense or who is on probation may not be eligible for issuance of an occupational license or certification upon completion of the educational program.
2. It is the responsibility of the individual to immediately report to the program any change in status that would affect that individual's eligibility to apply for a license or certification.
3. Local, state or national licensing and certification authorities may issue additional guidelines related to criminal history. Applicants should contact their respective licensing or certification authority for more details.

Most health care programs require all students, admitted to the program, to submit to a national background check which may include fingerprinting. Applicants are encouraged to review all applicable eligibility requirements related to the respective occupational license or certification. Questions related to eligibility requirements should be directed to the individual program and applicable licensing or certification authority.

Accommodations

HCC strives to make all learning experiences as accessible as possible. If you anticipate or experience academic barriers based on your disability (including mental health, chronic or temporary medical conditions), please meet with a campus Abilities Counselor as soon as possible in order to establish reasonable accommodations. Reasonable accommodations are established through an interactive process between you, your instructor(s) and Ability Services. It is the policy and practice of HCC to create inclusive and accessible learning environments consistent with federal and state law. For more information, please go to <http://www.hccs.edu/district/students/disability-services/>

If you have any questions, please contact the Coleman College ADA counselor at 713-718-7685.

Title IX Statement

Houston Community College is committed to cultivating an environment free from inappropriate conduct of a sexual or gender-based nature including sex discrimination, sexual assault, sexual harassment, and sexual violence. Sex discrimination includes all forms of sexual and gender-based misconduct and violates an individual's fundamental rights and personal dignity. Title IX prohibits discrimination on the basis of sex-including pregnancy and parental status-in educational programs and activities. If you require an accommodation due to pregnancy please contact an Abilities Services Counselor. The Director of EEO/Compliance is designated as the Title IX Coordinator and Section 504 Coordinator. All inquiries concerning HCC policies, compliance with applicable laws, statutes, and regulations (such as Title VI, Title IX, and Section 504), and complaints may be directed to:

David Cross

Director EEO/Compliance

Office of Institutional Equity & Diversity

3100 Main

(713) 718-8271

Houston, TX 77266-7517 or Houston, TX 77266-7517 or Institutional.Equity@hccs.edu

Academic Honesty

Plagiarism, cheating, and other forms of academic dishonesty are not only violations of the college system and the rules of this class, but are unethical and unprofessional. Students engaging in any form of academic dishonesty are subject to immediate dismissal from the program. You are expected to be familiar with the College's Policy on Academic Honesty, found in the catalog and student handbook. Students are responsible for conducting themselves with honor and integrity in fulfilling course requirements. Penalties and/or disciplinary proceedings may be initiated by College System officials against a student accused of scholastic dishonesty. "Scholastic dishonesty": includes, but is not limited to, cheating on a test, plagiarism, and collusion.

Cheating on a test includes:

- Copying from another students' test paper;
- Using materials not authorized by the person giving the test;
- Collaborating with another student during a test without authorization;
- Knowingly using, buying, selling, stealing, transporting, or soliciting in whole or part the contents of a test that has not been administered;
- Bribing another person to obtain a test that is to be administered.

Plagiarism means the appropriation of another's work and the unacknowledged incorporation of that work in one's own written work offered for credit.

Collusion mean the unauthorized collaboration with another person in preparing written work offered for credit. Possible punishments for academic dishonesty may include a grade of 0 or F in the particular assignment, failure in the course, and/or recommendation for probation or dismissal from the College System. (See the Student Handbook).

Student Attendance, Repeat Course Fee, Withdrawals

Regular attendance and being on time for clinical is an important part of your preparation for being a dependable employee. Each workplace has attendance and tardy guidelines,

which employees must follow. The MLT program has designed the following guidelines in order to emphasize the importance of this aspect of employment. The guidelines will also assure continuity of instructions since both MLT faculty and clinical instructors believe that sporadic attendance interferes with the learning process. Tardiness and absenteeism places undue hardship on others therefore, must be kept to a minimum.

1. Time on duty refers to the time you are on duty in your assigned work area, properly dressed, and ready to work. All students are to record their time of arrival and departure each day. Attendance records will be checked by clinical trainer and program faculty weekly and must be signed by the clinical instructor and turned in at the end of the rotation.
2. If absent, students must notify the Clinical Instructor by 7:00 am. Be sure to note the person's name and title. You must also call the CLT Program at 713-718-5518 by 8:00 am on the day of the absence. If the Program Director is not available, leave a message on the answering machine. **Failure to notify the clinical instructor and program faculty will result in immediate dismissal from the program.**
3. All absences will be made up double time. This means for every one day a student is absent, the student will make up two days. Three tardies will constitute one clinical absence.
4. If for any reason you leave the area to which you are assigned, it is your responsibility to be certain that the technologist in charge is informed.
5. **PERMISSION TO BE ABSENT FROM PRACTICUM MUST BE OBTAINED FROM THE PROGRAM FACULTY PRIOR TO THE ABSENCE.**
6. Under no circumstances will a student's school schedule be altered to fit work schedules.
7. When HCC is closed for a holiday and this falls on a clinical rotation day, the student will not attend rotation except in order to make up missing days. The student is responsible for informing the rotation site of the impending HCC holiday.

In the event of bad weather, the student is advised to listen to local radio or television stations for information about school closure.

Repeat Course Fee

The State of Texas encourages students to complete college without having to repeat failed classes. To increase student success, students who repeat the same course more than twice, are required to pay extra tuition. The purpose of this extra tuition fee is to encourage students to pass their courses and to graduate. Effective fall 2006, HCC will charge a higher tuition rate to students registering the third or subsequent time for a course. If you are considering course withdrawal because you are not earning passing grades, confer with your instructor/counselor as early as possible about your study habits, reading and writing homework, test taking skills, attendance, course participation, and opportunities for tutoring or other assistance that might be available.

Withdrawals

Students are responsible for officially withdrawing from classes. The last day to drop with a “W” is for CRN 54955 is 2/20/18 and for CRN 54957 is 4/23/18 before 4:30 pm. Students who fail to withdraw from a class before this date will receive a grade of “F”. Before you withdraw from your course, please take the time to meet with the instructor to discuss why you feel it is necessary to do so. The instructor may be able to provide you with suggestions that would enable you to complete the course. Your success is very important.

To help you avoid having to drop/withdraw from any class, contact your professor regarding your academic performance. You may also want to contact your counselor to learn about helpful HCC resources (e.g. online tutoring, child care, financial aid, job placement, etc.). HCC has instituted an Early Alert process by which your professor may “alert” you and the counselors that you might fail a class because of excessive absences and/or poor academic performance.

- **Students should check HCC’s Academic Calendar by Term for drop/withdrawal dates and deadlines. Student may also check the course syllabus for the withdrawal date.**
- **If a student decides to drop or withdraw from a class upon careful review of other options, the student can drop online prior to the deadline through their HCC Student Service Center:**

<https://hccsaweb.hccs.edu:8080/psp/csprd/?cmd=login&languageCd=ENG>

Course Withdrawals-First Time Freshmen Students-Fall 2007 and Later

Under Section 51.907 of the Texas Education Code “an institution of higher education may not permit a student to drop more than six courses, including any course a transfer student has dropped at another institution of higher education.” Beginning in fall 2007, the Texas Legislature passed a law limiting first time entering freshmen to no more than **SIX** total course withdrawals **throughout** their educational career in obtaining a certificate and/or degree.

HCC Student Services Information

Early alert: HCC has instituted an Early Alert process by which your professor will “alert” you through written contact actions and through counselors of concerns that you might fail a class because of excessive absences and/or poor academic performance. It is your responsibility to visit with your professor or a counselor to learn about what, if any, HCC interventions might be available to assist you – online tutoring, child care, financial aid, job placement, etc. – to stay in class and improve your academic performance.

EGLS₃ -- Evaluation for Greater Learning Student Survey System

At Houston Community College, professors believe that thoughtful student feedback is necessary to improve teaching and learning. During a designated time, you, the students, will be asked to answer a short online survey of research-based questions related to

instruction. The anonymous results of the survey will be made available to your professors and division chairs for continual improvement of instruction. Look for the survey as part of the Houston Community College Student System online near the end of the term.

Responsibilities of Clinical Instructor

1. Instruct by demonstrating clinical laboratory procedure.
2. Orient the student to hospital and departmental protocol and procedures and the location of manuals and reference materials.
3. Supervise the student as he/she gains practical experience performing clinical procedures and practicing skills by:
 - a. observing student performance
 - b. providing guidance and performance feedback as formative evaluation
4. Counsel students concerning non-compliance with hospital policies.
5. Evaluate the student's performance in clinical by:
 - a. verifying the student's ability to function in a clinical laboratory by completing the following forms
 - 1) attendance record
 - 2) laboratory performance evaluation
 - 3) behavioral performance evaluation
 - 4) weekly progress report
 - b. checking off the student as competent to perform all task performed at affiliate by allowing the student to report laboratory results under your supervision
6. Participate in program review process by recommending changes in curriculum, library holdings, textbooks, etc.
7. Have a laboratory representative attend semi-annual advisory committee meetings to plan instruction for the coming year and evaluate the past school year
8. Help recruit students at every opportunity

Responsibilities of Student in Clinical Practicum

1. Review clinical objectives prior to clinical rotation.
2. Report to clinical session on time.
3. Phone prior to start of clinical session when going to be absent or late.
4. Record hours in attendance in designated area.
5. Sign and date evaluations after having clinical instructors complete them.
6. Take the initiative to observe and practice procedures.
7. Take the initiative to seek clarification when needed from procedure manuals, reference material, and/or the clinical instructor.
8. Report laboratory results only after the clinical instructor has checked off the student as being competent to perform the procedure
9. HIPAA is the Health Insurance Portability and Accountability Act (HIPAA), which involves patients' rights to the security and protection of their identifiable patient health information. HITECH is the Health Information Technology for Economic and Clinical Health Act. Its main goal is to

encourage the use of electronic health records (EHRs), which will strengthen Federal privacy and security laws in order to protect identifiable health information from misuse. It is understood by all students in clinical rotations that all identifiable patient health information is private and the security of protected health information will be maintained.

Program/Discipline Requirements

The Program prepares individuals, under the supervision of clinical laboratory scientists/medical technologists, to perform routine medical laboratory procedures and tests and to apply preset strategies to record and analyze data. Includes instruction in general laboratory procedures and skills; laboratory mathematics; medical computer applications; interpersonal and communications skills; and the basic principles of hematology, medical microbiology, immunohematology, immunology, clinical chemistry, and urinalysis.

Program Learning Outcomes:

1. Safely apply techniques according to standard operating procedures in the collection and analysis of biological samples.
2. Demonstrate the cognitive theory necessary to pass the national certification exam and be a successful Medical Laboratory Technician.
3. Integrate ethical and professional behavior in the clinical laboratory setting.
4. Use problem solving skills to integrate laboratory data for patient results.

Course Requirements, Grading Scale, and Grading Criteria

In order to go to the practicum, the student must score 75% or better on a prerotation exam given by HCC instructor. The student must make 75% or higher on the Laboratory Performance grade and the Behavioral Evaluation grade. Laboratory Performance grade and the Behavioral Evaluation grade are given to the student by the rotation site. The student's grade for this course will be determined by the following:

Laboratory Performance Evaluation	25%
Behavioral Evaluation	25%
Pre Rotation Exam	25%
Weekly Communication Log	25%
All BOC Study Questions Complete with 100% accuracy.	

The following grading scale is used for all MLAB courses:

90 - 100	=	A
80 - 89	=	B
75 - 79	=	C
0 - 74	=	F

Please Note: All grades are rounded to the nearest whole number.

The student is required to communicate with the HCC instructor via Blackboard email once a week while at the clinical site (7 weeks). The communication must be a minimum of 10 **detailed** sentences each week and must be grammatically correct with proper

punctuation. Failure to participate fully will result in points being deducted from the student's course grade. **The weekly email is due no later than the following Sunday at 11:59pm. One day late will result in a 5 point deduction. Two days late will result in a 10 point deduction. Three days late will result in a 15 point deduction. Four or more days late will result in a 25 point deduction. Grammatical errors will result in a 5 point deduction.**

The signed weekly progress report is due every week on Monday no later than 5pm. Failure to turn in your weekly progress report may result in dismissal from the program. A rating of "N" for two or more weeks will result in immediate dismissal from the program.

THIS SYLLABUS IS SUBJECT TO CHANGE WITHOUT PRIOR NOTICE.