

SYLLABUS PART II
EDISON COMMUNITY COLLEGE
MLT-245S-B01FB Clinical Microbiology
M/W/F - 9:00-1:35
4.5 Credit Hours

Faculty: Hannah Shirk, BS MLS(ASCP)cm

AAS in Medical Laboratory Technology, Edison State Community College, 2018

BS in Medical Laboratory Science, University of Arkansas, 2026

Office Hours: Room 416 Piqua Campus | Office Hours: M – F: 2:00p – 3:00p* | T/TH 9:00a - 12:00p

Hours change based on semester course schedule. Subject to change in October 2026

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TEXTBOOK REFERENCE:

Recommended: Clinical Laboratory Microbiology, Kiser/Payne/Taff

ISBN: 978-0-13-092195-6 (Not required)

COURSE DESCRIPTION:

Comprehensive study of clinical, diagnostic Microbiology. The following topics are covered: 1.) Proper recovery and handling of specimens, growth requirements, and identification of organisms. 2) Media selection, isolation techniques, staining, microscopic procedures, as well as antibiotic susceptibility testing for clinically significant organisms. 3) Topics in Virology, Mycology, Parasitic life cycles and host-parasite interactions.

PREREQUISITE:

MLT 121S and a grade of “C” or better, and acceptance into the MLT Program. There is a lab fee for this course.

COURSE OBJECTIVES:

At the end of this course, the student will:

1. Describe the role of the Microbiology lab and explain proper handling and examination of specimens.
2. List types of sterilization, disinfection, and associated principles of infection control.
3. Identify hazards and know safety precautions in the Microbiology lab.
4. Explain culture collection procedures and causes of specimen rejection for specific sites.
5. Collect a throat culture without contaminating the specimen.
6. Streak a plate with a Microbiology specimen onto appropriate culture media according to the source.
7. Pick one colony type from a plate of growth and make a slide for gram staining.
8. Perform a gram stain analysis to determine morphology of bacteria.
9. Describe basic principles of Bacteriology, Mycology, Parasitology, and Virology.
10. Compare different types of media and their respective uses (e.g., nutrient, selective, differential).
11. Explain biochemical test reactions and their use in identification of microbes.
12. Compare methods of antimicrobial susceptibility testing and classify different antimicrobials.
13. List and identify clinically significant microbes.
14. Explain pathogenicity of clinically significant microbes.
15. Discuss structure, characteristics, and life cycle of viruses.
16. Analyze laboratory data to determine the pathogen and choice of antibiotic.
17. Explain how quality control is used in the Microbiology lab.
18. List types of specimens appropriate to identify parasites.
19. Articulate the life cycles, clinical manifestations, and endemic areas of significant parasites.
20. Identify selected parasites when given case history and slides or color plates.

21. Discuss the collection, handling, and examination of specimens for fungal identification.

CLINICAL MICROBIOLOGY SCHEDULE (MLT 245S):

		Monday	Wednesday	Friday
Week 1	Lecture	-Introduction -Safety & Sterilization <i>(Online Lecture BEFORE first class)</i>	-Staphylococcus	-Streptococcus
	Homework	-Introduction -Safety, Disinfection, and Sterilization	-Staphylococcus	Streptococcus -Quiz 1
	Lab	-Gram stains -Direct Smear/Mouth -Direct Smears	-Read Mouth Plates - Staphylococcus	-Streptococcus
Week 2	Lecture	-Biochemicals <i>(Online Lecture)</i> -Enterobacteriales & Stool Pathogens	-Non-Fermenters	-Susceptibility Testing
	Homework	-Biochemical Reactions, -Enterobacteriales	-Non-Fermenters, spirochetes, mycoplasma	-Susceptibility Testing <i>-Midterm on Respondus</i>
	Lab	-Enterobacteriales	-Enterobacteriales continued	Stools Urines
Week 3	Lecture	-Fastidious Organisms	-Gram Positive Bacilli - Anaerobes	-AFB -Mycology
	Homework	-Fastidious Organisms - Chlamydia	-GPB and Anaerobes	-MedTraining -Quiz 2
	Lab	-Haemophilus	-Anaerobic Exercise	-Mycology/Germ Tube
Week 4	Lecture	-Parasitology, Virology	-Organ Systems	<i>FINAL EXAM In Person, lock down browser</i>
	Homework	-Virology, Parasitology - MedTraining	-Self Assessment	All homework due BEFORE final exam/practical or no credit.
	Lab	Unknowns	-Review -Make sure all Direct Smears are complete	<i>LAB PRACTICAL EXAM</i>

*Please note that the Laboratory exercises may change if some take more time than others.

GRADING SCALE & POINT DISTRIBUTION:

Students are required to achieve a 75% in lecture and a 75% in lab to continue in the MLT program.

A = 93 – 100%	Mid-term Exam	15 %
B = 83 – 92%	Final Exam	20 %
C = 75 – 82%	Quizzes	5%
D= 65 – 74%	Student Labs	20 %
F = ≤64%	Final Practical Exam	20 %
	Homework	20 %

LABS AND EXAMS:

Because of the fast pace and hands-on nature of laboratories, attendance is expected. Repeat exercises may not occur. (See MLT handbook.)

If an exam is missed, it must be made up in the library (bring photo ID) prior to returning to the next class. Make up exams must be approved by program director, Vickie Kirk. There will be an automatic 10-point deduction for missed exams. Make up exams may be different than the original exam. If a student misses a lab without notice, there will be a 12-point deduction.

HOMEWORK:

There will be homework assignments each week. They are in Blackboard. Assignments are due Sunday evenings at 11:59 pm of the corresponding week, except for the final week. All assignments are due before the final exam. 25% of the points will be deducted for each day an assignment is late.

Once a lab period is completed, lab assignments are due at the beginning of the next lab period.

ATTITUDINAL:

(See Student Handbook)

The following professional behavior/attitudes will be assessed during the semester. Up to 5% of the course grade (0.5% each) will be deducted if the student does not attain the following:

Ability to follow instructions	Interest	Punctuality and Attendance
Organization	Preparedness	Judgement
Flexibility	Professionalism	Communication Skills
Teamwork		

Cell phones are prohibited during class and lab. You may make necessary cell phone calls during class break time.

CORE VALUES:

The Core Values are a set of principles which guide in creating educational programs and environments at Edison. They include communication, ethics, critical thinking, human diversity, inquiry and respect for learning, interpersonal skills, and teamwork. The goals, objectives, and activities in this course will introduce and reinforce those core values whenever appropriate.

Academic Honesty: The academic honesty policy of Edison community College will be upheld.

Academic dishonesty will not be tolerated. Please refer to the student handbook and the Phlebotomy Handbook in Blackboard. <http://stage.edisonohio.edu/digipub/2017-2018StudentHandbook/index.html>
Academic Alerts: The college has a process of alerting advisors that a student is not meeting course standards. Instructors are required to complete an Academic Alert Form as needed to alert advisors who will contact the student to guide the student with the ultimate goal of improving performance.

SERVICES AT EDISON

ACCOMMODATIONS /ACCESSIBILITY AND DISABILITY SUPPORT SERVICES POLICY

Edison State Community College will make reasonable accommodations for students with documented disabilities. If you believe you may need an accommodation based on the impact of a disability, contact the instructor privately with your self-identification letter. If you do not have a self-identification letter, contact Accessibility and Disability Support Services by emailing disabilities@edisonohio.edu or by calling 937.778.7850. Accessibility and Disability Support Services is located on the Piqua Campus in Room 160.

BOOKSTORE SERVICES

The Edison State Bookstore is here for all your educational supplies including textbooks, access codes, technology, and more! Online at <https://edisonohio.ecampus.com>

ADVISING SERVICES

Edison State's career pathway advisors are your partners in success. A career pathway advisor is the first advisor that you will meet with once you have made the decision to further your education. Together, you and your career pathway advisor will:

- Identify the right academic major to set you on your desired career path.
- Identify the courses you'll need to accomplish your academic goals.
- Help you develop a student plan tailored to your lifestyle and work schedule.
- Prepare you to navigate your first semester at Edison State.

You can find your career pathway advisor and faculty advisor information, including their email address, by logging into MyESCC and clicking on Student Planning. Go to Plan and Schedule and click on the Advising tab. You may also call 937-778-7850 to connect via phone call.

CAREER AND JOB SERVICES

Our Career and Job Services advisors are dedicated to helping students and alumni advance their professional development as they make career decisions, develop job search strategies, pursue experiential opportunities, and secure employment. Career and Job Services also provides career assessments, career information, resume and cover letter help, job postings and resources, tips for interviewing and more. Visit <https://www.edisonohio.edu/Career-and-Job-Services/> for more information.

COMPUTERS

If you are working on campus, computers with internet access are available in the internet café. The Library and Tutoring Center has computers and printers available for your use.

HEALTH AND WELLNESS SERVICES

Health and Wellness Services are available on the Edison State Piqua campus. The program is dedicated to providing resources that promote healthy lifestyle choices for our students, faculty and staff.

Student Wellness

College is stressful! Feeling burnt out, anxious, frustrated? When challenges arise, it's helpful to have someone to talk to. We have partnerships established with many local mental health providers and can connect you with area resources.

Support Services Available

Edison State has built a network of health professionals to support students. With these partnerships, students who need support in areas such as:

- Recovery and counseling referral
- Housing
- Food
- Physical well-being

Information and Education

We also provide information and education on the topics of:

- Alcohol and drug abuse and prevention
- Sexual assault prevention and awareness
- Building healthy relationships
- Inclusion and belonging
- Survivor support
- Self-care
- Anti-hazing

Getting Help

If you are struggling and need to speak with someone in person, please reach out to Student Affairs, at 937-778-7895 or stop in Room 160 (stop at the front desk).

Emergency Resources

If this is a medical emergency, please call 911. If this is a mental health emergency, please call 988.

LIBRARY SERVICES

The Edison State library is not only a comfortable place to study, we have an expansive collection of online resources available to help you with your research. Check out the library webpage here: <https://www.edisonohio.edu/Library/>. Libguides and short instructional videos are available to help you use these resources and can be found at: <https://libguides.edisonohio.edu/>. Please contact the library staff with any library questions you may have at library@edisonohio.edu, 937-778-7950, or stop in!

MENTAL HEALTH SERVICES

College is stressful! Feeling burned out, anxious, frustrated? When challenges arise that you need help dealing with, it's helpful to have someone to talk to. We have established partnerships with many local mental health providers. If you are struggling and need to speak with someone in person, please reach out to Kara Myers at kmyers1841@edisonohio.edu, 937-778-7832, Suite 136. If you are concerned about a student or colleague, please file a CARE Team form <https://www.edisonohio.edu/CARE-Team-Referral-Form/> so that immediate assistance can be given. This link and the CARE Team website can be found under Campus Services on our home page.

STUDENT RESOURCE CENTER AND CHARGER STATION FOOD PANTRIES

Edison State Community College is proud to assist students needing help to obtain basic necessities. The Student Resource Center and Food Pantry is stocked with all kinds of grab-and-go snacks, meal supplies, toiletries, household needs, and community resources. Stop by and check out our Charger Stations in Room 163 at Piqua, in the student lounge at Troy, in the Brooke-Gould Learning Resource Center at Eaton, and in Room 121 (for personal care items) and pantry items in the student lounge at Greenville. If you need additional assistance, please reach out at ResourceCenter@edisonohio.edu or stop in and see Dr. Jessica Chambers in room 160 in Piqua.

TECHNICAL SUPPORT SERVICES

For Blackboard Assignment issues, the instructor should be the first point of contact *For*

Log-in or other technology issues:

There are several steps you can follow if you have issues logging in to Blackboard or Office.

During business hours:

- Password reset: Log onto office.com with your Edison email and follow the “forgot password” prompts.
- Reach out for help during regular business hours (9-5 Monday-Thursday, 9-4 Friday) ○ email to support@edisonohio.edu ○ call 937-778-8600 and ask for IT Help Desk After hours:
- Password reset: Log onto office.com with your Edison email and follow the “forgot password” prompts
- Go to www.edisonohio.edu into the Resources tab and click "IT Help Desk" then click "Chat".
- Call 937-778-7957 and talk to the off-campus Blackboard company to get help

TITLE IX STATEMENT - Anti-Discrimination, Harassment and Bullying

It is the policy of the College to maintain a learning environment free from bullying, discrimination, sexual harassment or sexual violence. Title IX federal law protects students, employees and third parties with a relationship to the college.

All Edison State Community College employees are required to report all knowledge of incidents that violate the Title IX policy to the Title IX Coordinator or Deputy Title IX Coordinator immediately. Student and employee confidential consultation is available through the Coordinator of Health and Wellness Services.

Title IX Policy and procedure language as well as contact information for the Coordinator of Health and Wellness, Title IX Coordinator and Deputy Title IX Coordinator can be found at www.edisonohio.edu/TitleIX/.

TUTORING SERVICES

All Edison State students are eligible to receive free tutoring and learning support services through our Tutoring Center. Available services include Edison State tutors, both online and in-person, covering a wide variety of courses including various levels of math and paper reviews, online tutoring through OhioLINK eTutoring, distraction-reduced study rooms, and the use of Tutoring Center resources including subject-specific and general study guides. For more information on tutoring services, visit the Tutoring Center in the Library, email us at tutoringcenter@edisonohio.edu, call 937-778-7959, or visit our webpage at <https://www.edisonohio.edu/tutoring-center/>

ADDITIONAL SUPPORT SERVICES

For additional help, please click the ASSIST tab on Blackboard or the Edison State Student Resources folder within your course.

TESTING YOUR FAITH ACT POLICY

Edison State Community College is committed to providing an environment respectful of students' beliefs. Students are permitted to be absent for up to 3 days each semester based on their faith, religion, or spiritual belief system with no academic penalty. Students must complete the Testing Your Faith Act Accommodations Form, <https://www.edisonohio.edu/services-support/registration-records>, located in "Forms" and provide a copy to their individual faculty within 14 days from the start of the course. The entire policy can be found in the student handbook at <https://www.edisonohio.edu/servicessupport/student-resources>.