

Medical Laboratory Assisting & Phlebotomy I & II

2020-2021 Syllabus

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CTE Purpose Statement:

Monroe 2-Orleans BOCES Career and Technical Education develops tomorrow's workforce through programs that strengthen the technical, academic and career-readiness skills of today's high school students.

Course Description

- Overall Purpose:** The Medical Laboratory Assisting & Phlebotomy course is a CTE program that will lead to students earning multiple industry recognized certifications and helping them to explore the laboratory science careers. The need locally, regionally and even nationally is extremely high for medical laboratory professionals from the entry level positions like phlebotomists and laboratory assistants to the top at the medical laboratory scientists and pathologists (see below).

U.S. Department of Labor Projected Employment Rochester Finger Lakes Region						
Occupation	2016	2026	Percent Change	Entry Level Wages	Experienced Level Wages	Typical Education Needed
Phlebotomist	730	930	+27%	\$30,6400	\$38,030	Postsecondary non-degree award
Medical & Clinical Laboratory Technician & Technologist	1,200	1,380	+15%	\$33,830	\$78,810	Associate's degree- Bachelor's degree
Biotech Lab Technician	130	150	+15%	\$29,420	\$45,340	Bachelor's degree
Chemical Technician	460	550	+20%	\$40,490	\$72,580	Associate's degree

**Current Medical Laboratory Assisting & Phlebotomy related job listings through Indeed for the Rochester Area:* + 25 Specimen Processors + 72 Phlebotomists + 98 Medical Laboratory Technologists

**In the U.S., the projected annual job openings for Medical Laboratory Assisting & Phlebotomy related careers are:* + 15,800 Phlebotomists + 21,600 Medical Lab Technologists + Biotech Lab Technicians 9,400

- What is in the First Year:** In the first year of the program, students will learn basic laboratory skills, prepare for working in the medical field, complete coursework necessary to earn a National Healthcareer Association (NHA) certification as Certified Phlebotomy Technicians (CPT), begin coursework for medical laboratory assisting, complete coursework in human anatomy and physiology and complete necessary CFM coursework. The students will be able to complete their NHA CPT certification by an unpaid co-op with our local laboratories. This external laboratory experience will allow them to perform the required minimum 30 live venipunctures and 10 finger sticks over the course of several weeks. With the skills and knowledge gained in this course, students are ready for direct employment in the fast-growing entry-level career as a phlebotomist.

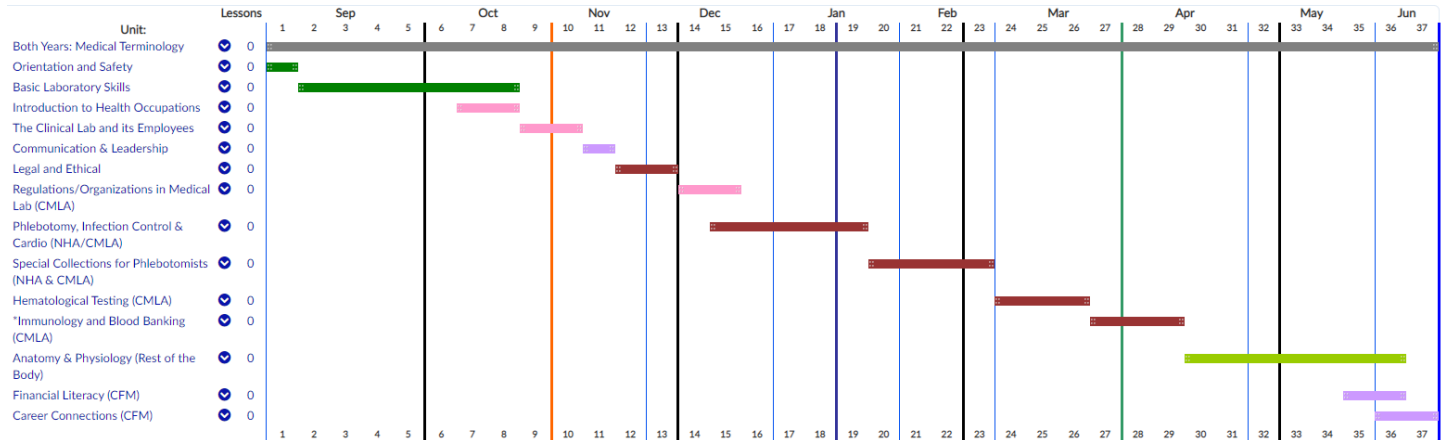
- **What is in the Second Year:** Students will complete the required medical laboratory coursework to earn a American Medical Technologists (AMT) certification as a Certified Medical Laboratory Assistants (CMLA), participate in a minimum of 120 hours in an external laboratory internship (working in the lab, working as a phlebotomist, working on the customer service side of the lab) to meet the requirements of the CMLA certification, earn an American Red Cross CPR/AED and First Aid certification and prepare for both the Precision Exam Clinical Laboratory Technology industry based assessment and the CMLA certification. The students will apply their transferable laboratory skills from the entire course to performing basic biotechnological skills while learning content related to genetics, genetic testing and gene therapy. Students can go directly to employment in several fast-growing, in-demand careers as a phlebotomist, laboratory assistant, lab service employee or chemical technician and are well prepared to go to college for additional training.
- **The Power of our Industry Connections:** Every day we work with over 25 companies and 6 educational intuitions in the industries that we support. One powerful aspect of the course is to have these people from industry to come into the classroom and present about their industries/companies/colleges. We also are able to throughout the year go on fields trips and even shadowing/co-op experiences to see what it is like to work in our industries with the student's own eyes, ears, nose, mouth & hands.
- **Biological/Medical Vocabulary Words Are No Longer An Issue:** Students will be learning how to interpret medical terminology through the knowledge of prefixes, roots and suffixes.
- **CTE Credits:** Assuming the student passes this year of the course, the student will receive 4 CTE credits for the course in the first year of the course and 3 CTE credits for the second year of the program (due to longer physical attendance for 2020-2021 school year).
- According to the 16 National Career Clusters Laboratory Technology is a part of the Health Careers and STEM. Career pathways included in these clusters are Diagnostic Services, Biotechnology Research and Development, Science and Mathematics.

Course goals Career & Technical Education Center

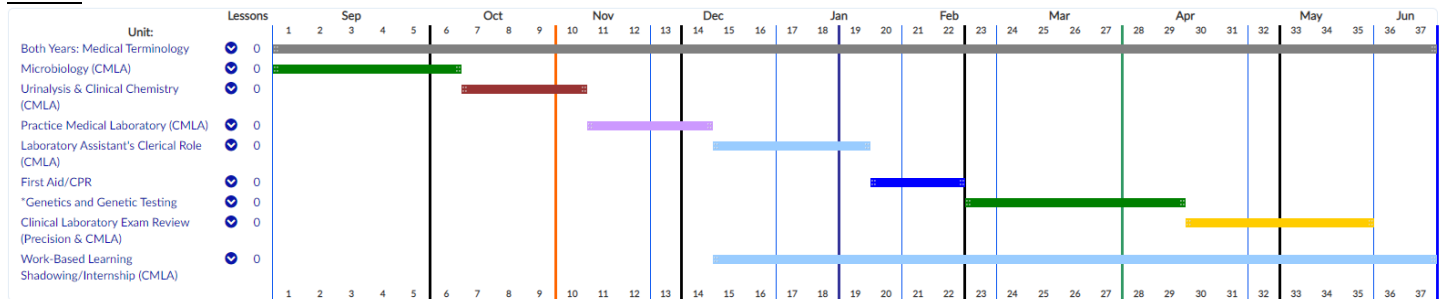
- **College and Career Ready:** The course provides 3 industry certifications and 3 dual credit courses so that students can work at the entry level in the medical laboratory, biotechnology lab or chemical labs immediately upon graduation from high school or have knocked out a course in 3 semesters of the MCC Clinical Laboratory Technician degree program. The teacher will push the student hard academically, socially, and emotionally to grow so that the student can be successful in whatever venture they decide to follow. This includes improving on student's career readiness skills aka the "soft skills" that employers often care about the most.
- **Career Exploration:** The goal of the program is to provide students with experience and industry connections with 3 different but related sections of laboratory science. Often high school students do not know what they want to do when they graduate. With our program we can help students explore a significant portion of the laboratory world. This is made possible with the regular interaction between industry/academic people in our field including some of the top people in our industry. These professionals include chiefs at the CDC, top researchers at NIAID, top fellows at US State Department, Chief Medical Officer of American Society for Clinical Pathology and President of the American Society for Clinical Laboratory Science to name a few. Students will be far more likely to know with certainty if laboratory science is for them or what else they want to do and why.

Units of Study

Year 1



Year 2



Major Projects

- Senior Portfolio
 - Students will not be doing their senior portfolio this year but will be periodically graded on whether they are maintaining their Senior Portfolio folder and logs. This will help make doing the senior portfolio next year much easier as the student will have a collection of work to choose from for their final portfolio.
- Presentations
 - Several times throughout the year student will need to present a poster presentation to our lab member or to other classes/administrators. It will be the student's job to prepare themselves by getting their research completed quickly (even if this means doing some outside of class), organizing their thoughts and create an effective presentation and practicing their presentation several times prior to the presentation day.

Employment Articulation Agreements

Articulation agreements:

- University of Rochester Medical Laboratory: Graduates can gain employment as a level II or level III clinical support technician or as a phlebotomist.
- Rochester Regional Health Medical Laboratory (including ACM Labs): Graduates can gain employment as a specimen processing technician, a specimen management technician, a sterile processing technician or as a phlebotomist.

Certifications

Phlebotomy Certification:

- National Healthcareer Association: Students can earn certification in their **first** year with completion of 30 successful venipunctures on live human arms as part of our Phlebotomy Training co-op. The student will need to pass a 120-question rigorous written exam in the spring of the first year. Once all requirements are met, they will earn their certification when the student turns 18.

CPR/AED/First Aid for the Lay Responder Certification:

- American Red Cross: Students can earn 2-year certification in CPR, AED and first aid.

Certified Medical Laboratory Assistant Certification:

- American Medical Technologists: Students can earn certification in their second year with completion of 120 hours of external laboratory experience at one of our local medical labs as part of the Medical Laboratory Assistant co-op. The student will pass a written exam in the spring of the second year. Once all requirements are met, they will earn their certification when the student turns 18.

Post-Secondary Articulation Agreements & Dual Credits

Articulation agreements:

- Nazareth College: Five students per year get into the Clinical Laboratory Science program with less stringent requirements than they would otherwise need if they didn't take WEMOCO's laboratory science program. Students will also be able to skip several courses due to the experience that they have in the program. Students will also be able to earn a \$2,500 per year for 4 years scholarship due to having taken the program

Dual Enrollment:

- Monroe Community College:
 - CLT100 – Introduction to Medical Laboratory Technology (1 credit)
 - Embedded fully into the program
 - CLT110 – Specimen Processing and Percurement (1 credit)
 - Embedded fully into the program
 - HED 130 - Foundation of Personal Health and Fitness (3 credits)
 - Embedded fully into the program

Dual credit registration ends at the end of the first month of class.

Technical Assessments

- Precision Exam: Clinical Laboratory Technology
 - **Passing the exam and practical plus the portfolio (see above) will lead to student earning the Technical Endorsement sticker for the student's diploma.**

Grading

CTE grades are divided into two main categories: knowledge and performance. Within the knowledge category there will be grades for knowledge activities and knowledge assessments. Knowledge activities are weighted as 20% of the overall CTE grade and knowledge assessments are 30% of the overall CTE Grade. Within the performance category there will be grades for performance activities and performance assessments. Performance activities are weighted as 20% of the overall CTE grade and performance assessments are 30% of the overall CTE Grade. As a result, both knowledge and performance are equally weighted at 50% each.

Attendance/Late policy

Absence (Excused or Unexcused)

Parents: If the student is going to be absent for legitimate reasons please have a note ready for them the day that they come back or email cteattendance@monroe2boces.org or call at (585)352-2477

Students: In the working world an employee can be fired if he or she does not contact his or her boss and does not show up to work. The laboratory technology class is no different. Student are required to either call me at 585-352-2471 (leave a message) or email me at jpayne@monroe2boces.org or on the remind app no matter whether the student's parent has contacted the school. It must be done the day of the student's absence, preferably before class. If the student does not call it will affect the student's career readiness skills score.

E-mail assignments: If students have access to the Internet at home, they may e-mail me at: jpayne@monroe2boces.org and ask for missing work. The student can also e-mail work if possible.

Make Up Policy

The student is expected to be responsible for making up any missed work immediately after returning to school. If the student missed a project or assessment (exam/practical), the student will complete the Make Up or Date Change Exam/Project Form no later than 2 days after returning to class. The form records in writing the due date change and is signed by both teacher and student. Failure to complete the form or not completing the assignment on the date agreed upon will lead to a zero being earned by the student.

Extra Credit

Students will be provided with four opportunities to do an extra credit assignment (one per quarter). They must have completed all assignments prior to handing in the extra credit. If the student wants to do extra credit they must request to do it no less than 3 weeks prior to the end of the quarter. The extra credit will only be applied if the quality of the work reaches a B+ level. The students will create a case study for the topic that must be at least 2 pages in length for the main story.

Quarter	PLS I Topics	PLS Topics
1	Basic Laboratory Skills	Microbiology
2	Venipuncture Complications or Blood Staining	Urinalysis
3	Immunology	Restriction Digestion, PCR, or Bacterial Transformation
4	Topic of the student's choice from previous 3 quarters	Microbiology, Biotechnology or topic of the student's choice from previous 3 quarters

Parental Contact

The teacher will be in regular contact with the parents of each student. I want every parent to sign up for remind.com (I highly suggest you download the remind app) using your phone number so that you can receive text messages from remind. Please use this method as our primary method of contact but parents are always welcome to contact the teacher by email (jpayne@monroe2boces.org). **If contact information changes, please inform the teacher immediately.**

Text This Remind Class Code: _____ to 81010 to setup your account.

Once the student returns: It is the student's responsibility to make up any assignments or tests in a timely manner (usually equal to the number of days student were out) when the student returns from an absence.

- Follow this procedure:
- Join the activity in progress. If student don't know what to do, raise the student's hand and wait until I reach student.
- During the last 5 minutes of class or during "down time" collect the assignments from the student folder in the bin in the front of the room.
 - If student missed the notes student will need to watch the notes online at home or school or at the library and show the completed notes to me.
- If student needs to make up a test, student must make arrangements with the teacher during the last 10 minutes of class.

Tardiness

Students are late to class if student are not inside the classroom when the bell rings. If students are late to class they must:

- Walk in quietly making as little noise as possible.
- If they have a pass, they should give it to the teacher
- Take their assigned seat.
- Join the activity in progress. If the student does not know what the class is doing, they should raise their hand and wait for the teacher.
- Continue working (waiting) quietly until the teacher gets to the student's desk.

Textbooks Used

- Warekois & Robinson. (2011). Phlebotomy: Worktext and Procedures Manual (3rd ed). Saunders. ISBN-10: 1437709915
- Brown, J. Kirk. Biotechnology: A Laboratory Skills Course. Hercules, CA: Bio-Rad Laboratories, 2011. Print.
- We will also use a variety of reading from a variety of other sources both online and in print. Students will be encouraged to bring in scientific articles for class discussion.

Dissection of Animal Notice of Opt-Out

The student is currently enrolled in a science course which includes animal dissection; a requirement of the New York State mandated science curriculum. The parent and the student have the right to request an alternate project. Examples of an alternate project include computer simulations or research. The alternative project must be proposed by the student and parents, be clearly related to and of comparable rigor to the laboratory dissection, and subject to the student's teacher's approval.

To be eligible for an alternate project, the parent(s) or legal guardian must submit in writing the nature of the objection and the reasons based on moral or religious grounds and substantiate the objection with detailed information. The objection and request for an alternate project should be submitted at least one school week in advance of the scheduled dissection.

Services and Opportunities Available

- School counselors
 - Help with a variety of personal issues or figuring out how to ensure success in the student's future endeavors.
- Test modifications for IEP's and 504 plans
- Instructional support
- Organizations
 - SkillsUSA
 - Competition, community service, leadership training
 - Looks awesome on a resume
 - NTHS (National Technical Honor Society)
 - Student must have an 85% or higher at home school, a 90% or higher in my class, no referrals, and **have not missed more than 5 days of school.**
 - Looks awesome on a resume
- Scholarships
 - The school offers access to several scholarships for graduating seniors to help with post high school education.

Laboratory Safety

Students will complete a lab safety contract that will be kept on file with the teacher. Students must always work safely whether in the theory room, the lab or outside the classroom. Students who show an inability to act safely will not be allowed to participate in lab activities and may be sent to administration. I have read the above information about the laboratory technology course at WEMOCO and fully understand all of the information. I will contact Mr. Payne if I do not understand something in this document or what is happening in the class.

Student Signature: Click or tap here to enter text.

Date Click or tap here to enter text.

Parent/Guardian Signature Click or tap here to enter text.

Date Click or tap here to enter text.

