



Exploring Clinical Public Health Research (ENVH125)

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Course Website: <https://umd.instructure.com/courses/1408763>

Term: Summer 2026

Course Dates: July 13, 2026 - July 31, 2026

Course Times: Lectures: Monday to Friday, 9:00am to 12:00pm
Workshops: Tuesday and Thursday, 1:30pm to 3:30pm

Classroom: SPH 0121

Course Description

Exploring Clinical Public Health Research is a hands-on, three-week summer course designed for high school students (with a biology or chemistry class completed) and early college students who have limited or no experience in public health research and are curious about what happens inside a real research clinic. Students will be focusing on the practical skills and workflows used in clinical public health research, from welcoming participants to collecting and preparing samples for the lab.

Using examples from infectious disease and environmental health studies conducted by the Public Health Aerobiology Lab (PHAB Lab), students will gain insight into how research teams develop and carry out studies, the basics of study structure and design, and how clinical data are collected and managed. Through daily demonstrations and supervised practice, students will learn how to take vital signs, collect simulated samples (nasal swabs, saliva, and blood on training models or skin pads), document procedures, and prepare samples for lab transport. Relevant anatomy will be introduced as needed to support blood sampling and other clinical skills; no prior anatomy knowledge is required. Students will also be introduced to research documentation and data entry in the research database, the basics of chain-of-custody, and the collaborative roles within a research team.

In addition to the core clinical training, the course will also feature targeted workshops for a deeper dive into specific skills and “career café” style chats with experienced professionals, giving students valuable insights into educational and career pathways in healthcare, public health, biomedical science, medicine, or nursing. By the end of the course, students will have a foundational understanding of how research clinics operate and how their new skills connect to future opportunities.

This course is also a recommended course prior to ENVH381 and MIEH309 at UMD, for students who wish to further their research experience with the PHAB Lab during their college years. No prior research experience is required for this course.

Learning Outcomes

After successfully completing this course, you will be able to:

- Explain the role of a research clinic and outline the basic steps of a study, from participant arrival to sample analysis, using examples from research studies conducted from School of Public Health research.
- Work collaboratively to create and refine a simplified grant proposal for a public health study through interactive, puzzle-style activities.

- Understand the clinical significance of proper record keeping through maintaining accurate records by documenting research data and entering information into a databases, and explaining why chain-of-custody matters for data and sample integrity.
- Demonstrate basic techniques for taking vital signs, collecting simulated samples (nasal swabs, saliva, and blood using training models or skin pads), and preparing samples for safe lab transport.
- Understand different majors and career paths in public health and healthcare, and explain how they connect to real-world practice.
- Explain why bioethical standards and regulations are important for protecting people who take part in clinical research.

Required Resources

- Course Website: elms.umd.edu
- Book: No textbook; Recommended reviewing materials will be provided (listed below, but not limited; maybe updated periodically)
 - [Vital sign assessment](#)
 - [Anterior nasal swab collection](#)
 - [Mid-turbinate swab collection](#)
 - [Nasopharyngeal swab collection](#)
 - [Video: Blood sampling](#)
- Application/Software (Indicate that the product is required or recommended. Include the product link and estimated costs). If required and if the application/software has NOT been reviewed by the UMD IT to assess security compliance (accessibility and privacy), please provide an alternative solution for the students to equally succeed and meet the course requirements. The research database, REDCap, will be used for data entry.
- Total Estimated costs of required course materials: **\$40**

Course Structure

This course is designed to provide hands-on experience in a public health clinical research and will be held in person Monday through Friday for three weeks in the School of Public Health (SPH) building. All morning sessions are from 9:30 am to 12:30 pm, combining lectures in the first half of the session and hands-on clinical skills practice during the second half. Workshops will be offered twice per week with a duration of 1-2 hours each to target specific clinical or research skills, role-specific tasks in the research clinic, or career pathways in health-related fields.

Students are expected to actively participate in all class activities. Students may be asked to review provided reading materials or prepare for the next day's skill practice at home. Students should come prepared to engage, collaborate, and practice procedures daily.

Tips for Success in this Course

1. **Participate.** I invite you to engage deeply, ask questions, and talk about the course content with your classmates. You can learn a great deal from discussing ideas and perspectives with your peers and professor. Participation can also help you articulate your thoughts and develop critical thinking skills.

2. **Manage your time.** Students are often very busy, and I understand that you have obligations outside of this class. However, students do best when they plan adequate time that is devoted to course work. Block your schedule and set aside plenty of time to complete assignments including extra time to handle any technology related problems.
3. **Login regularly.** I recommend that you log in to ELMS-Canvas several times a week to view announcements, discussion posts and replies to your posts. You may need to log in multiple times a day when group submissions are due.
4. **Do not fall behind.** This class moves at a quick pace, and each week builds on the previous content. If you feel you are starting to fall behind, check in with the instructor as soon as possible so we can troubleshoot together. It will be hard to keep up with the course content if you fall behind in the pre-work or post-work.
5. **Use ELMS-Canvas notification settings.** Pro tip! Canvas ELMS-Canvas can ensure you receive timely notifications in your email or via text. Be sure to enable announcements to be sent instantly or daily.
6. **Ask for help if needed.** If you need help with ELMS-Canvas or other technology, IT Support. If you are struggling with a course concept, reach out to me and your classmates for support.

Policies and Resources for Undergraduate Courses

It is our shared responsibility to know and abide by the University of Maryland's policies that relate to all courses, which include topics like:

- Academic integrity
- Student and instructor conduct
- Accessibility and accommodations
- Attendance and excused absences
- Grades and appeals
- Copyright and intellectual property

Please visit www.ugst.umd.edu/courserelatedpolicies.html for the Office of Undergraduate Studies' full list of campus-wide policies and follow up with me if you have questions.

Course Guidelines

Names/Pronouns and Self-Identifications:

The University of Maryland recognizes the importance of a diverse student body, and we are committed to fostering inclusive and equitable classroom environments. I invite you, if you wish, to tell us how you want to be referred to in this class, both in terms of your name and your pronouns (he/him, she/her, they/them, etc.). Keep in mind that the pronouns someone uses are not necessarily indicative of their gender identity. Visit trans.umd.edu to learn more.

Additionally, it is your choice whether to disclose how you identify in terms of your gender, race, class, sexuality, religion, and dis/ability, among all aspects of your identity (e.g., should it come up in classroom conversation about our experiences and perspectives) and should be self-identified, not presumed or imposed. I will do my best to address and refer to all students accordingly, and I ask you to do the same for all of your fellow Terps.

Communication with Instructor:

Email: If you need to reach out and communicate with me, please email me at jgerman@umd.edu. Please DO NOT email me with questions that are easily found in the syllabus or on ELMS (i.e. When is this assignment due? How much is it worth? etc.) but please DO reach out about personal, academic, and intellectual concerns/questions.

While I will do my best to respond to emails within 24 hours, you will more likely receive email responses from me during the week (Monday-Friday) during normal business hours (9am-5pm).

ELMS: I will send IMPORTANT announcements via ELMS messaging. You must make sure that your email & announcement notifications (including changes in assignments and/or due dates) are enabled in ELMS so you do not miss any messages. You are responsible for checking your email and Canvas/ELMS inbox with regular frequency.

Communication with Peers:

With a diversity of perspectives and experience, we may find ourselves in disagreement and/or debate with one another. As such, it is important that we agree to conduct ourselves in a professional manner and that we work together to foster and preserve a classroom environment in which we can respectfully discuss and deliberate controversial questions. I encourage you to confidently exercise your right to free speech—bearing in mind, of course, that you will be expected to craft and defend arguments that support your position. Keep in mind, that free speech has its limit and this course is NOT the space for hate speech, harassment, and derogatory language. I will make every reasonable attempt to create an atmosphere in which each student feels comfortable voicing their argument without fear of being personally attacked, mocked, demeaned, or devalued.

Any behavior (including harassment, sexual harassment, and racially and/or culturally derogatory language) that threatens this atmosphere will not be tolerated. Please alert me immediately if you feel threatened, dismissed, or silenced at any point during our semester together and/or if your engagement in discussion has been in some way hindered by the learning environment.

Major Assignments

Grading Structure

Assignment	Percentage %
Homework <ul style="list-style-type: none">● Review learned skills of the day.● Review provided reading materials.● Prepare for the next day's skill practice by watching recommended videos	5%
Weekly Summaries <ul style="list-style-type: none">● Online knowledge checks● Weekly reflection journal● Weekly sign-off for hands-on procedures	20%
Participation/Engagement <ul style="list-style-type: none">● During group discussions● During hands-on practices● During afternoon workshops	25%
Group Project <ul style="list-style-type: none">● Research Project Proposal Write-up● Proposal Presentation and Review	25%
Final Exam <ul style="list-style-type: none">● On paper● Hands-on clinical procedures	25%
Total	100%

Academic Integrity







For this course, some of your assignments will be collected via Turnitin on our course ELMS page. I have chosen to use this tool because it can help you improve your scholarly writing and help me verify the integrity of student work. For information about Turnitin, how it works, and the feedback reports you may have access to, visit [Turnitin Originality Checker for Students](#).

The University's Code of Academic Integrity is designed to ensure that the principles of academic honesty and integrity are upheld. In accordance with this code, the University of Maryland does not tolerate academic dishonesty. Please ensure that you fully understand this code and its implications because all acts of academic dishonesty will be dealt with in accordance with the provisions of this code. All students are expected to adhere to this Code. It is your responsibility to read it and know what it says, so you can start your professional life on the right path. **As future professionals, your commitment to high ethical standards and honesty begins with your time at the University of Maryland.**

It is important to note that course assistance websites, such as CourseHero, or AI-generated content are not permitted sources unless the instructor explicitly gives permission. Material taken or copied from these sites can be deemed unauthorized material and a violation of academic integrity. These sites offer information that might be inaccurate or biased and most importantly, relying on restricted sources will hamper your learning process, particularly the critical thinking steps necessary for college-level assignments.

Additionally, students may naturally choose to use online forums for course-wide discussions (e.g., Group lists or chats) to discuss concepts in the course. However, collaboration on graded assignments is strictly prohibited unless otherwise stated. Examples of prohibited collaboration include: asking classmates for answers on quizzes or exams, asking for access codes to clicker polls, etc. Please visit the [Office of Undergraduate Studies' full list of campus-wide policies](#) and reach out if you have questions.

Finally, on each exam or assignment you must write out and sign the following pledge: **"I pledge on my honor that I have not given or received any unauthorized assistance on this exam/assignment."** If you ever feel pressured to comply with someone else's academic integrity violation, please reach out to me straight away. Also, **if you are ever unclear** about acceptable levels of collaboration, **please ask!** To help you avoid unintentional violations, **the following table** lists levels of collaboration that are acceptable for each graded exercise. Each assignment will contain more specific information regarding acceptable levels of collaboration.

	 OPEN NOTES	 USE BOOK	 LEARN ONLINE	 GATHER CONTENT With AI	 ASK FRIENDS	 WORK IN GROUPS
Homework Assignments	✓	✓	✓	---	---	---
Knowledge Modules & Weekly Summaries	✓	✓	✓	---	---	---
Group Project	✓	✓	✓	---	✓	✓
Written and Practical Final Exams	✓	✓	---	---	---	✓

Participation

Given the interactive style of this class, attendance will be crucial to note-taking and methods practice, and thus your performance in this class. Attendance is particularly important also because class discussion will be a critical component for your learning.

- Each student is expected to make substantive contributions to the learning experience, and attendance is expected for every session.
- Students with a legitimate reason to miss a live session should **communicate in advance with the instructor, except in the case of an emergency.**
- Students who miss a live session are responsible for learning what they miss from that session.
- Additionally, students must complete all readings and assignments in a timely manner to fully participate in class.

Grades

Final letter grades will be determined as specified below:

Final Letter Grades									
+	97%	+	87%	+	77%	+	67%		
A	93%	B	83%	C	73%	D	63%	F	< 60%
-	90%	-	80%	-	70%	-	60%		

All assessment scores will be posted on the course ELMS page. If you would like to review any of your grades (including the exams), or have questions about how something was scored, please email me to schedule a time for us to meet and discuss.

Late work will not be accepted for course credit so please plan to have it submitted well before the scheduled deadline. I am happy to discuss any of your grades with you, and if I have made a mistake I will immediately correct it. Any formal grade disputes must be submitted in writing and within one week of receiving the grade.

Final letter grades are assigned based on the percentage of total assessment points earned; please understand that being close to a cutoff is not the same as making the cut (89.99 \neq 90.00). It would be unethical to make exceptions for some and not others.

Course Outline

Note: This is a tentative schedule, and subject to change as necessary – monitor the course ELMS page for current deadlines. In the unlikely event of a prolonged university closing, or an extended absence from the university, adjustments to the course schedule, deadlines, and assignments will be made based on the duration of the closing and the specific dates missed.

Week	Date	Topic	Deliverable(s)
1	7/13/26	Foundations of Clinical Research	
	7/14/26	Relevant Anatomy: Nasal & Oral Cavity	- Group Project Worksheet #1 - Reflection journal entry #1
		- Workshop session #1	
	7/15/26	Relevant Anatomy: Vital Signs	- Group Project Worksheet #2
	7/16/26	Blood Pressure Measurement	- Group Project Worksheet #3
		- Workshop session #2	
	7/17/26	SpO ₂ Measurement & Vital Signs	- Sign off on Vital Signs measurement
2	7/20/26	Relevant Anatomy: Venipuncture and Blood Sampling Preparation	- Correctly demonstrate swab collection - Group Project Worksheet #4
	7/21/26	Blood Sampling Practice	- Correctly demonstrate blood sampling - Group Project Worksheet #5
		- Workshop session #3	
	7/22/26	Documentation, Record Keeping & Chain-of-Custody	- Demonstrate proper documentation - Group Project Worksheet #6
	7/23/26	Sample Labeling & Transport	- Demonstrate proper sample labeling and transport
		- Workshop session #4	
	7/24/26	Integrated Practice & Weekly Methods Sign-off	- Reflection journal entry #2
3	7/27/26	Full Vital Signs & Sampling Workflow (except blood sampling)	- Group Project Final Write-up Draft
	7/28/26	Blood Draw Simulation & Chain-of-Custody	- Group Project Final Presentation Outline
		- Workshop session #5	
	7/29/26	Mock Clinic Visit Simulation	- Confidently perform a mock clinic visit
	7/30/26	Group Project Presentation and Discussion	- Reflection journal entry #3 - Final Group Presentation - Final Group Project Write-up
		- Workshop session #6	
	7/31/26	Final Exams	- Final Written Exam - Final Practical Exam

* For a detailed plan, please review the attached [Daily plan for ENVH125](#).

The course will also offer 6 workshops, 2 per week. These workshops will cover essential topics in clinic public health research and address hot topics that students may be interested in. The list below captures the main topics covered in the workshops.

- Possible career paths in clinical and public health research
- Ethics in human subjects research
- Outbreak investigation
- Technology in public health research
- Data visualization and storytelling
- College and career prep in health fields
- Research being conducted at UMD, including lab tour(s)

Resources & Accommodations

Accessibility and Disability Services

The University of Maryland is committed to creating and maintaining a welcoming and inclusive educational, working, and living environment for people of all abilities. The University of Maryland is also committed to the principle that no qualified individual with a disability shall, on the basis of disability, be excluded from participation in or be denied the benefits of the services, programs, or activities of the University, or be subjected to discrimination. The [Accessibility & Disability Service \(ADS\)](#) provides reasonable accommodations to qualified individuals to provide equal access to services, programs and activities. ADS cannot assist retroactively, so it is generally best to request accommodations several weeks before the semester begins or as soon as a disability becomes known. Any student who needs accommodations should contact me as soon as possible so that I have sufficient time to make arrangements.

For assistance in obtaining an accommodation, contact Accessibility and Disability Service at 301-314-7682, or email them at adsfrontdesk@umd.edu.

Emergency Preparedness

Emergencies on campus can happen at any time. To prepare, visit prepare.umd.edu or use the emergency symbol in the UMD App to review information. Resources for persons with disabilities are available on the [emergency preparedness page of the ADA Coordinator's website](#).

Student Resources and Services

Taking personal responsibility for your own learning means acknowledging when your performance does not match your goals and doing something about it. I hope you will come talk to me so that I can help you find the right approach to success in this course, and I encourage you to visit [UMD's Student Academic Support Services website](#) to learn more about the wide range of campus resources available to you.

In particular, everyone can use some help sharpening their communication skills (and improving their grade) by visiting [UMD's Writing Center](#) and schedule an appointment with the campus Writing Center.

You should also know there are a wide range of resources to support you with whatever you might need ([UMD's Student Resources and Services website](#) may help). If you feel it would be helpful to have

someone to talk to, visit [UMD's Counseling Center](#) or [one of the many other mental health resources on campus](#).

Notice of Mandatory Reporting

Notice of mandatory reporting of sexual assault, sexual harassment, interpersonal violence, and stalking: As a faculty member, I am designated as a "Responsible University Employee," and I must report all disclosures of sexual assault, sexual harassment, interpersonal violence, and stalking to UMD's Title IX Coordinator per University Policy on Sexual Harassment and Other Sexual Misconduct.

If you wish to speak with someone confidentially, please contact one of UMD's confidential resources, such as [CARE to Stop Violence](#) (located on the Ground Floor of the Health Center) at 301-741-3442 or the [Counseling Center](#) (located at the Shoemaker Building) at 301-314-7651.

You may also seek assistance or supportive measures from UMD's Title IX Coordinator, Angela Nastase, by calling 301-405-1142, or emailing titleIXcoordinator@umd.edu.

To view further information on the above, please visit the [Office of Civil Rights and Sexual Misconduct's](#) website at ocrsm.umd.edu.

Basic Needs Security

If you have difficulty affording groceries or accessing sufficient food to eat every day, or lack a safe and stable place to live, please visit [UMD's Division of Student Affairs website](#) for information about resources the campus offers you and let me know if I can help in any way.

Course Evaluation

Please submit a course evaluation through Student Feedback on Course Experiences in order to help faculty and administrators improve teaching and learning at Maryland. All information submitted to Course Experiences is confidential. Campus will notify you when Student Feedback on Course Experiences is open for you to complete your evaluations at the end of the semester. Please go directly to the [Student Feedback on Course Experiences](#) to complete your evaluations. By completing all of your evaluations each semester, you will have the privilege of accessing through Testudo the evaluation reports for the thousands of courses for which 70% or more students submitted their evaluations.

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