

PUBHEHS 5325 – Principles of Occupational Health Sciences

3 credits – Autumn 2025

Tuesday/11:10 AM-12:30 PM/Online ([ZOOM LINK](#)); Asynchronous Session Released Weekly on Thursdays

Course Instructor

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Instructor's Office Hours

1:00-2:00 PM on Mondays on Zoom ([ZOOM LINK](#)) except when otherwise communicated. The instructor will leave the meeting room after waiting for 15 minutes and no student joins the meeting. Students who want to meet during the meeting time but will only be able to do so after the first 15 minutes should inform the instructor via email. No office hours will be held on Veteran's Day on September 1. The instructor can also meet at other times if requested via email and agreed with the instructor.

Faculty Feedback & Response Time:

The following gives you an idea of my intended availability during the course:

- **Grading:** You can generally expect feedback within 7 days.
- **E-mail:** I will reply to e-mails (sent directly to me or via Carmen) within 48 hours on school days.

Graduate Teaching Assistant (GTA)

Anthony Akande, akande.16@osu.edu, 1:00-2:00 PM on Mondays on Zoom ([ZOOM LINK](#))

GTA Responsibilities

The GTA assigned to the course will hold regular office hours and meet in-person for any students who need help with class material. The TA may assist with scoring assignments; however, final grades will be assigned by the professor. **Any questions regarding grading should be directed to the professor and not the TA.**

Course Description

This course focuses on the principles and practice of occupational health, including, among other topics, a history of the discipline and in-depth consideration of occupational exposure hazards including types, sources, exposures, and associated health impacts and disease risk. Students will be taught about identification, evaluation, and controls of workplace hazards. The knowledge about these principles will be further reinforced through the use of case-based scenarios.

Prerequisites

None.

Course Learning Objectives

1. Define occupational health, including the Industrial Hygiene Tetrad
2. Apply the Industrial Hygiene Tetrad to characterize various processes and operations and related occupational (workplace) and environmental (community) exposure issues and/or disease concerns.
3. Categorize hazardous agents and factors as physical, biological, chemical, and ergonomic.
4. Discuss corporate/industrial and other workplace sector professional and ethical responsibilities.
5. Summarize major applicable regulations and corresponding agencies.
6. Summarize major approaches to air sampling for hazard evaluation, and administrative, engineering (e.g., ventilation/HVAC), and personal protective equipment (e.g., respiratory/dermal/ocular PPE) for hazard control.
7. Complete and interpret reviews of workplace processes and operations and case-based scenarios relative to sources and types of hazardous agents and factors, as well as application of the Industrial Hygiene Tetrad.

Competencies:

BSPH Degree Specialization in Environmental Public Health

*In addition to the public health foundational competencies, graduates of the BSPH degree program with interdisciplinary specialization in **Environmental Public Health** will be prepared to:*

1. Apply principles of math, chemistry, biology to applied science of environmental public health.
2. Use the Environmental Science Health model to explain environmentally related exposures and human diseases.
3. Summarize management, technical measures and approaches to reduce and prevent environmentally related human diseases.

MPH-EHS Specialization Competencies

Applicable Specialization Competencies for Environmental Health Science: Upon graduation a successful MPH degree student with a specialization in Environmental Health Science should be able to:

1. Explain the significance of the community and workplace environment to public health.
2. Outline the health challenges that natural and anthropogenic contaminants in the environment can pose to population health.
8. Apply various risk assessment, risk management and risk communication approaches for environmental hazards.
9. Explain exposure and the underlying mechanisms of toxicity and infectivity resulting from-chemical, biological and physical agents.
10. Describe federal and state regulatory programs, guidelines and authorities relevant to environmental and occupational health.
11. Access state, federal, and local resources for assessing environmental and occupational health.
12. Compare the principle components and influencing factors in the exposure continuum from source to disease
13. Determine the role of exposure assessment in environmental and occupational health.

A complete list of College of Public Health Competencies is located on the College of Public Health website: <https://cph.osu.edu/students/competencies>.

Text/Readings:

Mandatory eBook (free access via OSU online): Guidotti, T.I. (Editor), *Global Occupational Health* Oxford University Press, Inc., 2011 Available Online via OSU Library Portal/OHIO Link

<https://ebooks.ohiolink.edu/viewer/39b41ee7-4929-4465-a4d6-4974ba1a26dd/14>

Carmen

There is a Carmen site for this course: <https://carmen.osu.edu>. All course materials are available via Carmen.

You will need to use BuckeyePass (buckeyepass.osu.edu) multi-factor authentication to access your courses in Carmen. To ensure that you are able to connect to Carmen at all times, it is recommended that you take the following steps:

- Register multiple devices in case something happens to your primary device. Visit the BuckeyePass - Adding a Device help article for step-by-step instructions (<https://admin.resources.osu.edu/buckeyepass/adding-a-device>)
- Request passcodes to keep as a backup authentication option. When you see the Duo login screen on your computer, click **Enter a Passcode** and then click the **Text me new codes** button that appears. This will text you ten passcodes good for 365 days that can each be used once.
- Download the Duo Mobile application (<https://admin.resources.osu.edu/buckeyepass/installing-the-duo-mobile-application>) to all of your registered devices for the ability to generate one-time codes in the event that you lose cell, data, or Wi-Fi service

If none of these options will meet the needs of your situation, you can contact the IT Service Desk at 614-688-4357(HELP) and IT support staff will work out a solution with you.

Class Format: How this course works

- **Mode of delivery:** This course is 100% online delivery via synchronous and asynchronous Distance Learning (DL) mode. You are required to join sessions on Tuesdays via the Zoom link provided in the syllabus and Carmen at 11:10 am-12:30 pm. The rest of the weekly course activities should be completed as stated in the course schedule and do not require a specific time to log in to Carmen.
- **Pace of online activities:** The pace of the course is as outlined in the course scheduled. Release and due dates of assignments are as specified in the schedule. In general, and in addition to the synchronous sessions, students will be expected to listen to short lectures asynchronously, complete a short quiz and a short case-based project, and submit an addendum to the case-based project on a weekly basis.
- **Credit hours and work expectations:** This is a **3-credit-hour course**. According to Ohio State policy (go.osu.edu/credithours), students should expect around 3 hours per week of time spent on direct instruction (e.g., [synchronous or recorded lectures]) in addition to 9 hours of homework/active learning activities (e.g., [quiz and case-based project]) to receive a grade of (C) average. Specifically for this course, please anticipate:
 - $[(110 \text{ min/week instruction}) + (50 \text{ min/week active learning})] \times 14.5 \text{ weeks} = \sim 2250 \text{ mins}$
 - $(\text{Assigned sci/tech readings} + \text{assigned video viewings} + \text{assigned applied case-based projects}) \times 14 \text{ weeks} = \sim 4500 \text{ mins}$
- **Attendance and participation requirements:** Students are expected to attend all 15 of the synchronous sessions and submit all assignments. Students will lose points as stipulated below if they miss more than one synchronous session except for illness or extenuating circumstances that should be communicated with the professor. Because this is an online course, your weekly ongoing online activity and participation are also important. The following is a summary of students' expected participation:
 - **Participating in online activities for attendance:** You are expected to log in to the course in Carmen/Canvas every week. (During most weeks you will probably log in many times.) If you have a situation that might cause you to miss an entire week of sessions, inform Dr. Adetona as soon as possible.
 - **Participating in asynchronous activities:** As part of your participation, each week you must submit a completed applied case- based project based on the topic-specific

sessions/modules from the preceding week.

- **Attendance of the synchronous online session:** To achieve the objectives of this course and to become a public health professional, attendance is expected in all scheduled synchronous online classes. If a student has an *extenuating* circumstance (e.g. unforeseen medical issues, death in the family, etc.) that prevents them from attending class, they should notify the instructor *before* class. Attendance of synchronous session will be graded as outlined in the section on assignments below.

Course Technology

Technology skills needed for this course

- Basic computer and web-browsing skills
- Navigating Carmen (go.osu.edu/canvasstudent)
- CarmenZoom virtual meetings (go.osu.edu/zoom-meetings)

Required equipment

- **Computer:** current Mac (Mac OSX) or PC (Windows 10+) with high-speed internet connection
- **Calculator:** Students should have access to a scientific calculator that can perform basic arithmetic, square roots, logarithms, and exponentiation.
- **Other:** a mobile device (smartphone or tablet) to use for BuckeyePass authentication

Optional equipment (for participation in optional live office hours and/or review sessions)

- **Webcam:** built-in or external webcam, fully installed and tested
- **Microphone:** built-in laptop or tablet mic or external microphone

Required software

- **Microsoft 365 Copilot (formerly Office 365)**

All Ohio State students are now eligible for free Microsoft 365 Copilot (formerly Office 365). Full instructions can be found at go.osu.edu/office365help.

Technology support

For help with your password, university email, Carmen, or any other technology issues, questions, or requests, contact the Ohio State IT Service Desk. Standard support hours are available at and support for urgent issues is available 24/7.

- **Self-Service and Chat support:** <http://it.osu.edu/help>
- **Phone:** 614-688-4357(HELP)
- **Email:** servicedesk@osu.edu

Assignments/Assessments

Quiz: 28%

There are fourteen x five-item quizzes each aligned with the session/module learning objectives for the respective session/module topics that are aligned with program competencies. Quizzes will be administered asynchronously using the course quiz function via the course Canvas page. You may refer to your notes/readings, but quizzes must be completed independently. Quizzes will be available during each applicable week, but once you start you must complete each within 25 minutes (You will have two attempts). Please see the course schedule for specific dates.

Assignments (Applied Case-Based Project 1-12): 48%

Projects require responses to directives related to short case-based scenarios plus session/module topic-specific videos that demonstrate various workplace processes and operations. You will read the case-based scenarios, view the video(s), and respond to corresponding directives. The directives are applicable to the components of the Industrial Hygiene Tetrad – Anticipation, Recognition, Evaluation,

and Control with focus on real and potential environmental and occupational health hazards and related human disease risks. Responses to the directives will be based on content from the applicable online session/module lectures/notes (slides), readings, and videos.

The Applied Case-Based Projects will be administered asynchronously and posted using the assignment function via the course Canvas page. You will complete by providing responses for each project via the Canvas quiz tool function; there is nothing to upload. Each project will include a topic-relevant title, the corresponding objectives and competencies, a realistic case-based scenario, links to process/operation videos, applicable directives focused on the anticipation, recognition, evaluation and control of applicable sources, contaminants, and human exposure hazards, and an online quiz-function assignment for providing responses. Please see the course schedule and course Canvas page for specific release and dates. Applied Case-based Project 12 is comprehensive and will integrate a broader scope of content and principles from the entire course.

Papers (Applied Case-Based Project Addendum – x10): 20%

You must submit an addendum to each applied case-based project (beginning with Applied Case-Based Project 2 and except Applied Case-Based Project 8) summarizing a referenced occupational epidemiological study or technical document that is related to the applied case-based project. See the “Addendum” to the applicable projects on the course Canvas page. Please see project instructions posted on the course site for details.

Attendance: 4%

Students are required to attend all synchronous sessions except there is an extenuating circumstance and the instructor has been informed of such. Each session that is missed without permission will result in the loss of a third of a percentage point.

Grading

Student Evaluation Activities	Points
Module Quizzes (14 x 5 points each)	70
Applied Case-Based Project (12 x 10 points each).	120
Applied Case-Based Project Addendum (10 x 5 points each).	50
Students will <u>lose of two-thirds of a point (a third of a percentage point).</u>	10
Final Grade (Percent)	(X pts./250 pts.) x 100

Final grades will be determined as outlined below:

Grading Scale

A	94 to 100	Outstanding work that reflects mastery of the material and the ability to apply it
A-	90 to <94	Excellent work that reflects mastery of the material
B+	87 to <90	Good work that reflects mastery of most of the material
B	83 to <87	Good work that reflects mastery of some of the material
B-	80 to <83	Good work that reflects mastery of a few aspects of the material
C+	77 to <80	Mediocre work that reflects familiarity with, but not mastery of the material
C	73 to <77	Mediocre work that reflects familiarity with most of the material
C-	70 to <73	Mediocre work that reflects little familiarity with the material
D+	67 to <70	
D	60 to <67	
E	Below 60	

Class Policies

Students, except with extenuating circumstances, are expected to attend all synchronous class sessions and participate in online asynchronous activities as outlined in the course schedule. Students will be encouraged to turn on their cameras during the synchronous session and will be expected to participate in discussions during the session. Uploading the course materials to any external learning platform e.g., Quizlet, Chegg, etc. is not permitted. Please check the attendance and assignment sections of the syllabus for more information.

Copyright Statement

This syllabus and all course materials (e.g., homework assignments, solution keys, course materials) are under copyright by the instructor and cannot be posted elsewhere without written permission.

Generative AI Policy

Given that the learning goals of this class are to learn fundamental principles of occupational health and their applications through provided applied case-based projects and the identification and synthesis of relevant information, the use of generative artificial intelligence (GenAI) tools such as **GenAI platforms such as Copilot or ChatGPT, writers aids like Grammarly, or translation platforms such as Google Translate** is not permitted in this course. Any use of GenAI tools for work in this class may therefore be considered a violation of Ohio State's [Academic Integrity](#) policy and [Code of Student Conduct](#) because the work is not your own. If I suspect that you have used GenAI on an assignment for this course, I will ask you to explain your process for completing the assignment in question. The unauthorized use of GenAI tools will result in referral to the [Committee on Academic Misconduct](#).

Office of Student Life: Disability Services

The university strives to maintain a healthy and accessible environment to support student learning in and out of the classroom. If you anticipate or experience academic barriers based on your disability (including mental health, chronic, or temporary medical conditions), please let me know immediately so that we can privately discuss options. To establish reasonable accommodations, I may request that you register with Student Life Disability Services. After registration, make arrangements with me as soon as possible to discuss your accommodations so that they may be implemented in a timely fashion.

If you are ill and need to miss class, including if you are staying home and away from others while experiencing symptoms of a viral infection or fever, please let me know immediately. In cases where illness interacts with an underlying medical condition, please consult with Student Life Disability Services to request reasonable accommodations. You can connect with them at slds@osu.edu; 614-292-3307; or slds.osu.edu.

Mental Health Services

As a student you may experience a range of issues that can cause barriers to learning, such as strained relationships, increased anxiety, alcohol/drug problems, feeling down, difficulty concentrating and/or lack of motivation. These mental health concerns or stressful events may lead to diminished academic performance or reduce a student's ability to participate in daily activities. The Ohio State University offers services to assist you with addressing these and other concerns you may be experiencing. If you or someone you know are suffering from any of the aforementioned conditions, you can learn more about the broad range of confidential mental health services available on campus via the Office of Student Life's Counseling and Consultation Service (CCS) by visiting ccs.osu.edu or calling [614-292-5766](tel:614-292-5766). CCS is located on the 4th Floor of the Younkin Success Center and 10th Floor of Lincoln Tower. You can reach an on call counselor when CCS is closed at [614-292-5766](tel:614-292-5766) and 24 hour emergency help is also available 24/7 by dialing 988 to reach the Suicide and Crisis Lifeline.

Religious Beliefs or Practices Accommodations

Ohio State has had a longstanding practice of making reasonable academic accommodations for students' religious beliefs and practices in accordance with applicable law. In 2023, Ohio State updated its practice to align with new state legislation. Under this new provision, students must be in early communication with their instructors regarding any known accommodation requests for religious beliefs and practices, providing notice of specific dates for which they request alternative accommodations within 14 days after the first instructional day of the course. Instructors in turn shall not question the sincerity of a student's religious or spiritual belief system in reviewing such requests and shall keep requests for accommodations confidential.

With sufficient notice, instructors will provide students with reasonable alternative accommodations with regard to examinations and other academic requirements with respect to students' sincerely held religious beliefs and practices by allowing up to three absences each semester for the student to attend or participate in religious activities. Examples of religious accommodations can include, but are not limited to, rescheduling an exam, altering the time of a student's presentation, allowing make-up assignments to substitute for missed class work, or flexibility in due dates or research responsibilities. If concerns arise about a requested accommodation, instructors are to consult their tenure initiating unit head for assistance.

A student's request for time off shall be provided if the student's sincerely held religious belief or practice severely affects the student's ability to take an exam or meet an academic requirement and the student has notified their instructor, in writing during the first 14 days after the course begins, of the date of each absence. Although students are required to provide notice within the first 14 days after a course begins, instructors are strongly encouraged to work with the student to provide a reasonable accommodation if a request is made outside the notice period. A student may not be penalized for an absence approved under this policy.

If students have questions or disputes related to academic accommodations, they should contact their course instructor, and then their department or college office. For questions or to report discrimination or harassment based on religion, individuals should contact the [Civil Rights Compliance Office](#). (Policy: [Religious Holidays, Holy Days and Observances](#))

Academic Misconduct

It is the responsibility of the Committee on Academic Misconduct to investigate or establish procedures for the investigation of all reported cases of student academic misconduct. The term "academic misconduct" includes all forms of student academic misconduct wherever committed; illustrated by, but not limited to, cases of plagiarism and dishonest practices in connection with examinations. Instructors shall report all instances of alleged academic misconduct to the committee ([Faculty Rule 3335-5-48.7 \(B\)](#)). For additional information, see the [Code of Student Conduct](#).

Intellectual Diversity

Ohio State is committed to fostering a culture of open inquiry and intellectual diversity within the classroom. This course will cover a range of information and may include discussions or debates about controversial issues, beliefs, or policies. Any such discussions and debates are intended to support understanding of the approved curriculum and relevant course objectives rather than promote any specific point of view. Students will be assessed on principles applicable to the field of study and the content covered in the course. Preparing students for citizenship includes helping them develop critical thinking skills that will allow them to reach their own conclusions regarding complex or controversial matters.

Grievances and Solving Problems

A student who encounters a problem related to his/her educational program has a variety of avenues available to seek resolution. According to University Policies, if you have a problem with this class, you should seek to resolve the grievance concerning a grade or academic practice by speaking first with the instructor or professor. Then, if necessary, you may take your case to the department chairperson. Specific procedures are outlined in [Faculty Rule 3335-8-23](#), the [CPH Graduate Student Handbook](#), and the [CPH Undergraduate Student Handbook](#). Grievances against graduate, research, and teaching assistants should be submitted first to the supervising instructor, then to the chairperson of the assistant's department.

Creating an Environment Free from Harassment, Discrimination, and Sexual Misconduct

The Ohio State University is committed to building and maintaining a community to reflect diversity and to improve opportunities for all. All Buckeyes have the right to be free from harassment, discrimination, and sexual misconduct. Ohio State does not discriminate on the basis of age, ancestry, color, disability, ethnicity, gender, gender identity or expression, genetic information, HIV/AIDS status, military status, national origin, pregnancy (childbirth, false pregnancy, termination of pregnancy, or recovery therefrom), race, religion, sex, sexual orientation, or protected veteran status, or any other bases under the law, in its activities, academic programs, admission, and employment. Members of the university community also have the right to be free from all forms of sexual misconduct: sexual harassment, sexual assault, relationship violence, stalking, and sexual exploitation.

To report harassment, discrimination, sexual misconduct, or retaliation and/or seek confidential and non-confidential resources and supportive measures, contact the Civil Rights Compliance Office:

Online reporting form at <http://civilrights.osu.edu/>,

Call 614-247-5838 or TTY 614-688-8605,

Or Email civilrights@osu.edu

The university is committed to stopping sexual misconduct, preventing its recurrence, eliminating any hostile environment, and remedying its discriminatory effects. All university employees have reporting responsibilities to the Civil Rights Compliance Office to ensure the university can take appropriate action:

- All university employees, except those exempted by legal privilege of confidentiality or expressly identified as a confidential reporter, have an obligation to report incidents of sexual assault immediately.
- The following employees have an obligation to report all other forms of sexual misconduct as soon as practicable but at most within five workdays of becoming aware of such information: 1. Any human resource professional (HRP); 2. Anyone who supervises faculty, staff, students, or volunteers; 3. Chair/director; and 4. Faculty member.

Course Outline

Please see the course schedule on Carmen.

Alignment of Competencies with Assessments

Please see course schedule in Carmen.