Course Syllabus

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ENVH/INDE 564
RECOGNITION OF HEALTH AND SAFETY HAZARDS IN INDUSTRY
Autumn Quarter, 2024
2 Credits

Instructors: Marty Cohen, ScD, CIH, CSP, (He, Him) mcohen@uw.edu, (mailto:mcohen@uw.edu)
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206-221-3503, **office hours** - flexible

Time: Mondays 1:30 AM – 3:20 PM

Place: Health Sciences Education Building 421 (HSEB 421)

URL: https://canvas.uw.edu/courses/1747757 (https://canvas.uw.edu/courses/1747757)

Introduction: This course is designed to provide an introduction to the recognition of occupational safety and health hazards and approaches to controlling hazards, primarily through tours of representative local industrial facilities. Lectures consist of an introduction to hazard recognition and control strategies, and discussions will address the hazards of the various industries toured.

Learning objectives. At the conclusion of this course, students will be able to:

1. Identify hazards associated with specific industrial processes.

2. Identify alternative control options for several health and safety problems in a wide range of industrial processes.

3. Develop a strategy for conducting a walkthrough assessment of an industrial process.

4. Describe hazards in clear written language associated with industrial processes using specific field observations.

5. Clearly communicate health and safety hazards to various audiences.

6. Identify and communicate how workplace dignity and equity can benefit or harm the health and safety of workers.

NOTE Regarding Field Trips: We will be conducting live trips to work sites. Students will be taken to the sites via UW fleet services vehicles driven by faculty or staff. Students can also drive themselves if it has been preapproved by the instructors. Some site visits may take longer than the allotted time, so

arrangements should be made with faculty to leave the site early or arrive late to your other commitments.

Student Requirements:

1. Complete assigned readings in advance. Ear plug use video on first day is required.
2. Be prepared for the week's lecture or site visit.
3. Students must be prepared and dressed appropriately for all field trips. If not dressed appropriately, student will not be allowed on site. (Not applicable unless going on site)
4. Students complete:

- **Industry Reviews:** A summary of each industry being visited will be due the week of that site visit for the 2nd and 5th site visits only. The summary will include the following sections (please keep them in this order): Definition of Industry, Processes, Hazards, and Exposure Controls and Applicable Health and Safety Standards. For more detail on the written reports, see "Suggested Outline for Industry Reviews" section of the syllabus. These documents should be less than 2 pages in length, excluding references (please use multiple references). For the 3rd and 4th site visits, the same information should be investigated, but a written report is not required. Your knowledge of the industry may be tested during the visit. For an example, see Files>Report Outlines & Examples>ExampleReview in Canvas. A grading rubric is also available in that folder and is called, GRADING_RUBRIC_Industry-Review-Outline-2024.docx.
- **Hazard Identification Exercises:** These exercises will help the students develop skills in hazard and controls identification. These short exercises will be 1 page or less in length and due one week after the site visits. See Hazard Identification Exercises in the syllabus for the questions. Only 4 of these will be required, as 1 will not be required for the 5th site visit for which you write a walkthrough report. A grading rubric is also available in that folder and is called, GRADING_RUBRIC_HazIDExQuestions_2024.docx.
- **Walkthrough Report:** This technical report will summarize the fourth tour. It should describe the company, their health and safety program structures, the company-specific production processes, raw materials used, potential for hazards and exposures, and recommendations for controls. The report should be no longer than 10 pages (excluding references) and should include appropriate bibliographic citations, including primary research sources. The report will be due 2 weeks after the site visit. Please use the structure shown in the guidance document where appropriate (see "Suggested outline for walk-through report" in the syllabus) and submit the report in the Assignment section for "Walkthrough Report". For an example, see Files>Report Outlines & Examples>Example Walkthrough Report.pdf in Canvas. A grading rubric is also located in that folder and is called GRADING_RUBRIC_WalkthroughReportOutline_2024.docx.
- **Final Exam: There will be no final exam, but we may meet on the day of the final at the end of the day for one last, non-mandatory session to discuss the last site visit and the class.**

Grading: Industry reviews (25%), Hazard identification exercises (25%), and Walk-through report (50%).

Following is the grading scale that will be used:

# grade	Letter	%'age	# grade	Letter	%'age
4	A	100	2.8	B-	83
3.9	A	98	2.7	B-	82
3.8	A-	96	2.6	B-	81
3.7	A-	94	2.5	B-	80
3.6	A-	92	2.4	C+	79
3.5	A-	90	2.3	C+	77
3.4	B+	89	2.2	C+	76
3.3	B+	88	2.1	C	75
3.2	B+	87	2.0	C	74
3.1	B	86	1.9	C	73
3.0	B	85	1.8	C-	71
2.9	B	84	1.7	C-	70

Artificial Intelligence (AI): Do not use AI to write your assignments, unless you are specifically told that it is allowed. You can use AI to help with the research, but you will need to have appropriate references. When using AI, you are a co-author, but we want you to be the sole author, no co-creation of your assignments. The purpose of you taking this course is for you to learn the content, not to get a passing grade (though you will probably get that as well). Learning involves intellectual struggle and happens when you do the work. AI gives an answer, right or wrong, but it comes across as the truth and can use hallucinations (making up references or uses citations that are not real). Students need to be critical consumers of the content.

Writing: One component of your grades for the written assignments will be your ability to clearly convey your ideas and information to the reader. If you are having difficulties, the UW has a good resource to assist students improve their writing skills (**https://depts.washington.edu/owrc/** **(https://depts.washington.edu/owrc/)**). The Department also has a list of writing resources on its Portal (**https://portal.deohs.washington.edu/index.php/academic-support-writing-resources** **(https://portal.deohs.washington.edu/index.php/academic-support-writing-resources)**).

Tips for your writing:

1. The writing required in the class is not creative writing, it is technical writing.
2. All figures, graphs, photos, and tables must be numbered and have a descriptive caption. These should also be referenced in the text.
3. If you have a graphic or table in a report, you'll need to say something about it in the text.
4. Writing must be your own, do not search out old class materials, examples are provided.
5. Do not copy and paste large amounts of text into your reports. Even if you cite it, if there's a lot of it, it's not your writing.

Text Book

Highly Recommended

Burgess, WA. Recognition of Health Hazards in Industry: A Review of Materials and Processes. 2nd edition, New York, John Wiley and Sons. 1995

Attendance: A majority of your grade is dependent upon your presence and active engagement during the site visits.

The class lectures will be recorded and posted to the Canvas site. If you miss a site visit due to illness, you may be able to view 360^{o} videos of a visit to that site from a previous year to guide your assignments. This will not be nearly as informative for you, but will give you a sense of the company and its issues. **It will be the student's responsibility to contact Marty Cohen to get access to these videos.**

End of Year Evaluations: If we get >75% of the class submitting class evaluations, everyone will earn an extra 1 point. Even if you don't really want the point, please complete the evaluation. It's important that I get feedback, either good, bad, or indifferent. I like to use it to improve the class for next year.

Class Participation: You're highly encouraged to participate actively in class discussion, both in the classroom and in the field. Part of your final grade will be based on participation. This presupposes being present during the lectures, being prepared (having read assigned material), and being willing to exchange views with fellow students. Some kinds of "interactions" are especially helpful in class discussion, and these are highly valued. They include:

- Ask questions of our host. We highly encourage you to come up with 1-2 questions in advance for our host of each tour.
- Expressing your view and supporting it with evidence from the assigned reading or from another authoritative source.
- Asking a thoughtful question about something in the reading that was unclear to you.
- Responding to another student's comment by asking a clarifying question, indicating that you listened attentively and want to dig deeper.
- Building on another student's comment in an iterative way.
- Effectively reflecting back and/or summarizing what is being said in the conversation and identifying points of consensus or disagreement.
- Taking things "one step further," that is, commenting on the broader significance of a point in the reading or the discussion, or drawing a link between such a point and an apparently unconnected issue, indicating that you're a systems thinker making connections.

Safety: Call SafeCampus at 206-685-7233 anytime – no matter where you work or study – to anonymously discuss safety and well-being concerns for yourself or others. SafeCampus's team of caring professionals will provide individualized support, while discussing short- and long-term solutions and connecting you with additional resources when requested.

Because this is a field-based class, we will be visiting a number of workplaces with potential hazards. Following the instructors' and host's directions is critical for your safety. Unsafe activities in the field will not be tolerated.

See **Canvas>Files>Field Safety Plans** for safety plans for each site visit. At the beginning of the quarter, they will be generic for that site, but if conditions change prior to the visit, they will be updated.

Statement on Classroom Climate (https://www.washington.edu/teaching/topics/engaging-students-in-learning/responding-to-disruptions-in-the-classroom/) : We are co-creators of our learning environment. It is our collective responsibility to develop a supportive learning environment for everyone. Listening with respect and an open mind, striving to understand others' views, and articulating your own point of view will help foster the creation of this environment. We engage our differences with the intent to build community, not to put down the other and distance our self from the other. Being mindful to not monopolize discussion and/or interrupt others will also help foster a dialogic environment.

The following guidelines can add to the richness of our discussion:

- We assume that persons are always doing the best that they can, including the persons in this learning environment.
- We acknowledge that systematic oppression exists based on privileged positions and specific to race, gender, class, religion, sexual orientation, and other social variables and identities.
- We posit that assigning blame to persons in socially marginal positions is counter-productive to our practice. We can learn much about the dominant culture by looking at how it constructs the lives of those on its social margins.
- While we may question or take issue with another class member's ideology, we will not demean, devalue, or attempt to humiliate another person based on her/his experiences, value system, or construction of meaning.
- We have a professional obligation to actively challenge myths and stereotypes about our own groups and other groups so we can break down the walls that prohibit group cooperation and growth. [Adapted from Lynn Weber Cannon (1990). Fostering positive race, class and gender dynamics in the classroom. *Women Studies Quarterly, 1 & 2, 126-134*.]

We are a learning community. As such, we are expected to engage with difference. Part of functioning as a learning community is to engage in dialogue in respectful ways that supports learning for all of us and that holds us accountable to each other. Our learning community asks us to trust and take risks in being vulnerable.

Here are some guidelines that we try to use in our learning process:

- LISTEN WELL and be present to each member of our group and class.
- Assume that I might miss things others see and see things others miss.
- Raise my views in such a way that I encourage others to raise theirs.
- Inquire into others' views while inviting them to inquire into mine.
- Extend the same listening to others I would wish them to extend to me.

- Surface my feelings in such a way that I make it easier for others to surface theirs.
- Regard my views as a perspective onto the world, not the world itself.
- Beware of either-or thinking.
- Beware of my assumptions of others and their motivations.
- Test my assumptions about how and why people say or do things.
- Be authentic in my engagement with all members of our class.

Bias Concerns

The Office of the Dean has a **student concern policy (https://sph.washington.edu/students/student-concern-policy)**, a faculty concern policy and standard HR procedures for staff concerns. Our 2018 climate survey states that most people in SPH do not report bias incidents because they do not know where to go. Students are encouraged to report any incidents of bias to someone they feel comfortable with, including instructors, advisers or department staff. They can email **dcinfo@uw.edu (mailto:dcinfo@uw.edu%C2%A0)** for immediate follow up. Bias concerns can be anonymously and confidentially reported via the online form found here: **https://sph.washington.edu/about/diversity/bias-concerns (https://sph.washington.edu/about/diversity/bias-concerns)**. Data is collected by the Assistant Dean for EDI and the Director of Program Operations for Student and Academic Services and tracked for resolution and areas are identified for further training.

Illness Protocol (updated 9/13/23)

If you feel ill or exhibit respiratory or other symptoms, you should not come to class. Seek medical attention if necessary and notify your instructor(s) as soon as possible by email. UW Environmental Health & Safety recommends that you wear a well fitting mask while you are symptomatic

Additional recommendations include getting your **annual flu shot (https://wellbeing.uw.edu/flu-vaccination/)** and getting boosted with the updated COVID vaccines (available **at clinics and pharmacies, as well as through UW Medicine (https://www.washington.edu/coronavirus/vaccines/)** and local health agencies).

Please check your email and CANVAS announcements daily BEFORE coming to class. If we need to conduct class remotely because the instructor or a guest speaker is unable to attend in person, we will send all registered students an email and/or post a CANVAS announcement with a Zoom link for remote instruction or a plan for making up the class.

ACCESS AND ACCOMMODATIONS:

Your experience in this class is important to me. It is the policy and practice of the University of Washington to create inclusive and accessible learning environments consistent with federal and state law. If you have already established accommodations with Disability Resources for Students (DRS), please activate your accommodations via myDRS so we can discuss how they will be implemented in this course.

If you have not yet established services through DRS, but have a temporary health condition or permanent disability that requires accommodations (conditions include but not limited to; mental health, attention-related, learning, vision, hearing, physical or health impacts), contact DRS directly to set up an Access Plan. DRS facilitates the interactive process that establishes reasonable accommodations. Contact DRS at **disability.uw.edu (http://depts.washington.edu/uwdrs/)** .

RELIGIOUS ACCOMMODATIONS:

Washington state law requires that UW develop a policy for accommodation of student absences or significant hardship due to reasons of faith or conscience, or for organized religious activities. The UW's policy, including more information about how to request an accommodation, is available at **Religious Accommodations Policy (https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/) (https://registrar.washington.edu/staffandfaculty/religious-accommodations-policy/)** . Accommodations must be requested within the first two weeks of this course using the **Religious Accommodations Request form (https://registrar.washington.edu/students/religious-accommodations-request/) (https://registrar.washington.edu/students/religious-accommodations-request/)** .

ACADEMIC INTEGRITY

Students at the University of Washington (UW) are expected to maintain the highest standards of academic conduct, professional honesty, and personal integrity.
The UW School of Public Health (SPH) is committed to upholding standards of academic integrity consistent with the academic and professional communities of which it is a part. Plagiarism, cheating, unauthorized use of artificial intelligence (AI) tools, and other misconduct are serious violations of the University of Washington Student Conduct Code (WAC 478-121). We expect you to know and follow the university's policies on cheating and plagiarism, and the SPH Academic Integrity Policy. Any suspected cases of academic misconduct will be handled according to University of Washington regulations. For more information, see the University of Washington Community Standards and Student Conduct.

STATEMENT ON DIVERSITY AND INCLUSION:

Diverse backgrounds, embodiments and experiences are essential to the critical thinking endeavor at the heart of University education. In SPH, we are expected:

1. To respect individual differences, which may include, but are not limited to, age, cultural background, disability, ethnicity, family status, gender, immigration status, national origin, race, religion, sex, sexual orientation, socioeconomic status and veteran status.
2. To engage respectfully in the discussion of diverse worldviews and ideologies embedded in course readings, presentations and artifacts, including those course materials that are at odds with personal beliefs and values.
3. To encourage students with concerns about classroom climate to talk to their instructor, adviser, a member of the departmental or SPH EDI Committee, the Assistant Dean for EDI, or the program's director.

Sexual Harassment

Sexual harassment is a form of harassment based on the recipient's sex that is characterized by:

1. Unwelcome sexual advances, requests for sexual favors, or other verbal or physical conduct of a sexual nature by a person who has authority over the recipient when:
   - Submission to such conduct is an implicit or explicit condition of the individual's employment, academic status, or ability to use University facilities and services, or
   - Submission to or rejection of the conduct affects tangible aspects of the individual's employment, academic status, or use of University facilities.
2. Unwelcome and unsolicited language or conduct that creates an intimidating, hostile, or offensive working or learning environment, or has the purpose or effect of unreasonably interfering with an individual's academic or work performance.

If you believe that you are being harassed, or have observed harassment, you can report it to SPH using the **bias concerns link (https://sph.washington.edu/about/diversity/bias-concerns)** . The University also has designated offices to help you: **SafeCampus (https://www.washington.edu/safecampus/)** ; **Office of the Ombud (https://www.washington.edu/ombud/)** ; **Title IX Investigation Office (https://www.washington.edu/titleix/report/)** ; and **University Complaint Investigation and Resolution Office (https://www.washington.edu/compliance/uciro/)** .

ACCREDITATION REQUIREMENTS AND COMPETENCIES MET BY THIS COURSE

Council on Education for Public Health (CEPH) competencies met by this course:

- Recognize, evaluate, and treat human exposures to physical, chemical, or biological hazards at work or in the general environment (MPH-OEM department-level competency)
- Identify and characterize health hazards associated with exposures in the workplace

PRONOUNS:

We share our pronouns because we strive to cultivate an inclusive environment where people of all genders feel safe and respected. We cannot assume we know someone's gender just by looking at them. So we invite everyone to share their pronouns.

LAND ACKNOWLEDGMENT:

The University of Washington acknowledges the Coast Salish people of this land, the land which touches the shared waters of all tribes and bands within the Duwamish, Suquamish, Tulalip and Muckleshoot nations.

Course Summary:

Date	Details	Due
Mon Nov 13, 2023	Boeing Haz ID Exercise (https://canvas.uw.edu/courses/1747757/assignments/9310948)	due by 1:30pm
	Class 7 Reading - Boeing visit (https://canvas.uw.edu/courses/1747757/assignments/9310956)	due by 1:30pm
Mon Nov 27, 2023	Triangle Shirtwaist Fire Video (https://canvas.uw.edu/courses/1747757/assignments/9310979)	due by 1:30pm
	Workplace equity (https://canvas.uw.edu/courses/1747757/assignments/9310980)	due by 1:30pm
Mon Sep 30, 2024	Class 1 Reading (https://canvas.uw.edu/courses/1747757/assignments/9310949)	due by 1:30pm
	How People Interact with Chemicals in the Workplace (https://canvas.uw.edu/courses/1747757/assignments/9310962)	due by 1:30pm
	How to Properly Wear Ear Plugs (https://canvas.uw.edu/courses/1747757/assignments/9310963)	due by 1:30pm
Mon Oct 7, 2024	Class 2 Readings (https://canvas.uw.edu/courses/1747757/assignments/9310951)	due by 1:30pm
	Site Visit 1 - Lead-acid battery mfg. (https://canvas.uw.edu/courses/1747757/assignments/9310970)	due by 1:30pm
Mon Oct 14, 2024	Class 3 Reading (https://canvas.uw.edu/courses/1747757/assignments/9310952)	due by 1:30pm
	Dyno Haz ID Exercise (https://canvas.uw.edu/courses/1747757/assignments/9310960)	due by 1:30pm
Mon Oct 21, 2024	Cement Manufacturing Industry Review (https://canvas.uw.edu/courses/1747757/assignments/9310947)	due by 1:30pm

Date	Details	Due
	Class 4 Reading (https://canvas.uw.edu/courses/1747757/assignments/9310953)	due by 1:30pm
	Site Visit 2 - Cement Manufacturing (https://canvas.uw.edu/courses/1747757/assignments/9310971)	due by 1:30pm
Mon Oct 28, 2024	Cement Manufacturing Haz ID Exercise (https://canvas.uw.edu/courses/1747757/assignments/9559993)	due by 1:30pm
	Class 5 Reading (https://canvas.uw.edu/courses/1747757/assignments/9310954)	due by 1:30pm
Mon Nov 4, 2024	Class 6 Reading (https://canvas.uw.edu/courses/1747757/assignments/9310955)	due by 1:30pm
	SawStop Video (https://canvas.uw.edu/courses/1747757/assignments/9310968)	due by 1:30pm
	Site Visit 3 - Nucor Steel (https://canvas.uw.edu/courses/1747757/assignments/9310972)	due by 1:30pm
	Steel Mill (specifically mini-mills) Review (https://canvas.uw.edu/courses/1747757/assignments/9310977)	due by 1:30pm
Mon Nov 18, 2024	Class 7 Reading (https://canvas.uw.edu/courses/1747757/assignments/9310957)	due by 1:30pm
	Nucor Haz ID Exercise (https://canvas.uw.edu/courses/1747757/assignments/9310966)	due by 1:30pm
	Site Visit 4 - North Star Casteel Foundry (https://canvas.uw.edu/courses/1747757/assignments/9560295)	due by 1:30pm
	Foundry Industry Review (https://canvas.uw.edu/courses/1747757/assignments/9310961)	due by 11:59pm

Date	Details	Due
Mon Nov 25, 2024	Class 8 Reading (https://canvas.uw.edu/courses/1747757/assignments/9310973)	due by 1:30pm
	The Importance of Using a Fit Tested Respirator (https://canvas.uw.edu/courses/1747757/assignments/9310978)	due by 1:30pm
Mon Dec 2, 2024	Site Visit (North Star) Report (https://canvas.uw.edu/courses/1747757/assignments/9310969)	due by 9am
	Commercial Building Construction Review (https://canvas.uw.edu/courses/1747757/assignments/9310958)	due by 1:30pm
	Site Visit 5 - UW Intercollegiate Athletic Center (https://canvas.uw.edu/courses/1747757/assignments/9310974)	due by 1:30pm
Mon Dec 9, 2024	UW ICA Construction Site Haz ID Exercise (https://canvas.uw.edu/courses/1747757/assignments/9310959)	due by 1:30pm
	Class 10 Reading (https://canvas.uw.edu/courses/1747757/assignments/9310950)	
	Lecture of Intro and Battery Mfg (https://canvas.uw.edu/courses/1747757/assignments/9310964)	
	North Star Haz ID Exercise (https://canvas.uw.edu/courses/1747757/assignments/9310965)	
	Participation (https://canvas.uw.edu/courses/1747757/assignments/9310967)	
	Quiz #1 (https://canvas.uw.edu/courses/1747757/assignments/9310946)	
	Quiz #2 (https://canvas.uw.edu/courses/1747757/assignments/9310945)	

Date	Details	Due
	Quiz #3 (https://canvas.uw.edu/courses/1747757/assignments/9310944)	
	Site Visit Questions Form (https://canvas.uw.edu/courses/1747757/assignments/9310975)	
	Space Needle Haz ID Exercise (https://canvas.uw.edu/courses/1747757/assignments/9310976)	