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Spring 2021

IE 682-002: Industrial Safety & Health Evaluation

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Course Title: Industrial Safety & Health Evaluation (Industrial Site Visits)

Course Number: IE 682 (ENOH 0564)

Course Location: Video conference and Site visits to industrial facilities.
Webcams are required.

Course Date & Time: Wednesdays; 9:00 AM to 11:00 AM

Course Instructor: Mitchel A. Rosen, PhD
Associate Professor
Rutgers School of Public Health
300 Atrium Drive, Room 106
Somerset, NJ 08873
732-235-9452
mrosen@rutgers.edu

Office Hours: By Appointment

Course Website: Add course website (i.e., canvas.rutgers.edu)

This course is an interdisciplinary course of the New York and New Jersey Education and Research Center. Priority registration is given to NYNJERC Trainees. Others may register with permission of course instructor.

Required Readings:

Listed with each site visit on the syllabus and in Canvas.

Course Description: This course provides a review of major industrial processes and health hazards associated with each. Includes site visits to metropolitan NY/NJ industrial facilities during working hours. Trainees will learn key concepts of industrial hygiene and safety, including hazard recognition and control methods.

Selected Concentration Competencies Addressed: Each Concentration identifies competencies for each degree offered. The competencies addressed in this course for the MPH in Environmental Health Sciences:

- Describe the major environmental health problems facing the general public as well as among specific communities or susceptible, vulnerable sub-populations
- Specify current environmental risk assessment approaches and methods for a particular hazard or risk in a community
- Describe the federal and state regulatory programs relating to environmental (community) protection
- Identify occupational safety and health issues in the workplace
- Apply federal and state regulatory standards which are related to worker safety and health protection.

Please visit the Concentration webpages on the School of Public Health's website at sph.rutgers.edu for additional competencies addressed by this course for other degrees and concentrations.

Course Objectives: By the completion of this course, students will be able to:

- Identify exposure mechanisms to occupational safety and health hazards in industrial facilities
- Develop a basic risk assessment plan for the characterization, management, and remediation of health and safety hazards

Special Circumstances During COVID-19 (For Spring 2021)

The School of Public Health recognizes that students may experience challenges or be negatively impacted due to the COVID-19 pandemic, mental and emotional health toll from systemic racism, altered personal and professional obligations, and other crises existing at the moment in our local, national, and global communities. Students are encouraged to discuss these challenges and circumstances with their instructor, if they feel they may need additional support or temporary accommodations at the beginning or during this course. The course instructor may consider making reasonable temporary adjustments depending on the student's situation. If additional support is needed, students may reach out to the [Office of Student Affairs \(studentaffairs@sph.rutgers.edu\)](mailto:studentaffairs@sph.rutgers.edu) or any of the appropriate referral resources listed on the [Student Connect Canvas page \(Links to an external site.\)](#).

Course Requirements and Grading:

- **Reaction papers:** Each student must prepare a *reaction paper* for each site visited. The reaction paper will be a **maximum of 350 words**. The paper will capture your reaction to the safety and health practices at the site, based on the hazards, worker exposures, and control methods in place at the site. These will be discussed on the video conferences. Class participation and discussion is an important part of the class. **Late papers will not be accepted and you will receive 0 points.**
- **Hazard abatement memo:** Each student must complete one *hazard abatement memos* from the sites visited during this course. Following the completion of the site visit you are required to write a *two-page memo*, from the perspective of a worker, outlining one particular hazard present, its potential health effects, and recommended control(s) to mitigate exposure.
- **Online discussion board:** Each week questions will be posted to Canvas. You are required to respond to the questions I post, and respond to at least one of your classmates post.
- **Class participation:** Discussion and interaction between students is an important part of this class. Engaging in discussion is critical to understanding the interdisciplinary aspects of occupational safety and health. Being prepared for the site visits, and asking questions of our site visit hosts is also an important way to gain knowledge. Your participation will be graded based on attendance, participation in discussions, and questions/comments provided at each site visit.

- **Group presentation:** Each student will be assigned into a group. Your group will be responsible for creating an interdisciplinary in-class presentation. The presentation shall be 60 minutes in length (timing will be part of the grading). Be sure to address industrial hygiene, safety, ergonomics, and medical aspects in your presentation. The presentation shall include:
 - Introduction to/description of the site
 - Basic information about the facility (for example)
 - Location
 - Number of employees
 - Annual sales, etc.
 - Violations found by OSHA or other official inspectors
 - Process map
 - Hazards/how are hazards identified?
 - Controls/What controls are in place? Were they adequate?
 - Health effects of industry and specific site visited
 - Recommendations for improvements in worker health and safety in the plant or facility.

Grading

1. Reaction papers (5) [5 pts each]	25 pts.
2. Hazard abatement memo	10 pts.
3. Online discussion board	15 pts.
4. Course assignments	10 pts.
a. SDS Exercise (2 pts.)	
b. OSHA inspections (2 pts.)	
c. Alice Hamilton (2 pts.)	
d. Injury and illness reporting (2 pts)	
e.	
5. Personal job hazards (paper)	5 pts.
6. Personal job hazards (presentation)	10 pts.
7. Class participation	10 pts.
8. Final group presentation	15 pts.
Total:	100 pts.

- Attendance at video conference sessions and site visits is mandatory.
- Please notify instructor via email if you cannot attend the site visit. It is expected that all students will provide input into the class discussions. It is expected that all readings are read prior to class, and you are ready to discuss them.
- No credit will be given for work handed in after deadline.
- Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com (directly or via learning management system, i.e. Sakai, Blackboard, Canvas, Moodle) for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to

the Usage Policy posted on the Turnitin.com site. Students who do not agree should contact the course instructor immediately.

Grading Policy:

94 – 100	A
90 – <94	A-
87 – <90	B+
84 – <87	B
80 – <84	B-
77 – <80	C+
70 – <77	C
<70	F

Course Schedule:

Week	Date	Course Topic	Online 30	Assignments/ Assessments	Link To Competencies And Assessments
1	Jan 20	Course Introduction. Overview of IH IH Walk through			
2	Jan 27	OSHA Standards Haz Comm Job Hazard Analysis Safety and Health Management		Read: 1. Chapter 30 - Occupational Hygiene, from the Encyclopedia of Occupational Health and Safety 2. OSHA 3143 Information Booklet on Industrial Hygiene 3. Managing Hazards through Hierarchy of Controls	Identify occupational safety and health issues in the workplace (<i>Assessed by reaction papers, group project</i>)
3	Feb 3	OSHA Investigations		Assignment 1 due	
4	Feb 10	Personal Protective Equipment PPE donning and doffing Prepare for Site Visit 1: Brooklyn Brewery		29CFR1910.132- 138 LOTO Machine Guarding Lock out / Tag out Lock out / Tag out OSHA Factsheet Confined Space Entry	
5	Feb 19 (FRIDAY) 9AM- 12noon	NYNJERC Annual Scientific Meeting			
6	Feb 24	Virtual Site Visit: Brooklyn Brewery			
7	March 3	Ergonomics			
8	March 10	Sugar Cane Workers			

9	March 24	Construction Safety and Health			
10	March 31	Virtual Site Visit: Firmenich			
11	April 7	Hospital and healthcare workers		Controlling Health Hazards to Hospital Workers: A Reference Guide	
12	April 14	Virtual Site Visit 3			
13	April 21	Virtual Site Visit 4			
14	April 28	Presentations			
15	May 5	Presentations			

Learning Management System: Canvas will be used extensively throughout the semester for course syllabus, assignments, announcements, communication and/or other course-related activities. It is the student's responsibility to familiarize themselves with Canvas and check it regularly. If you have difficulties accessing Canvas, please inform the instructor and Canvas Support (help@canvas.rutgers.edu). Canvas is accessible at canvas.rutgers.edu.

School of Public Health Honor Code: The School of Public Health Honor Code is found in the School Catalog (sph.rutgers.edu/academics/catalog.html). Each student bears a fundamental responsibility for maintaining academic integrity and intellectual honesty in his or her graduate work. For example, all students are expected to observe the generally accepted principles of scholarly work, to submit their own rather than another's work, to refrain from falsifying data, and to refrain from receiving and/or giving aid on examinations or other assigned work requiring independent effort. In submitting written material, the writer takes full responsibility for the work as a whole and implies that, except as properly noted by use of quotation marks, footnotes, etc., both the ideas and the works used are his or her own. In addition to maintaining personal academic integrity, each student is expected to contribute to the academic integrity of the School community by not facilitating inappropriate use of her/his own work by others and by reporting acts of academic dishonesty by others to an appropriate school authority. It should be clearly understood that plagiarism, cheating, or other forms of academic dishonesty will not be tolerated and can lead to sanctions up to and including separation from the Rutgers School of Public Health.

Students with Disabilities: Rutgers University welcomes students with disabilities into all of the University's educational programs. In order to receive consideration for reasonable accommodations, a student must apply for Services by first completing a Registration Form with the Rutgers Office of Disability Services (ODS) at ods.rutgers.edu. The student will also be required to participate in an ODS intake interview and provide documentation. If reasonable accommodations are granted, ODS will provide you with a Letter of Accommodations which should be shared with your instructors as early in your courses as possible.

Commitment to Safe Learning Environment: The Rutgers School of Public Health is committed to helping create a safe learning environment for all students and for the School as a whole. Free expression in an academic community is essential to the mission of providing the highest caliber of education possible. The School encourages civil discourse, reasoned thought, sustained discussion, and constructive engagement. Provocative ideas respectfully presented are an expected result. An enlightened academic community, however, connects freedom with responsibility. The School encourages all students to disclose any situations where you may feel unsafe, discriminated against, or harassed. Harassment or discrimination of any kind will be not tolerated and violations may lead to disciplinary actions.

Reporting Discrimination or Harassment: If you experience any form of gender or sex-based discrimination or harassment, including sexual assault, sexual harassment, relationship violence, or

stalking, know that help and support are available. You may report such incidents to the [RBHS Title IX Office](#) or to the School of Public Health's [Office of Student Affairs](#). Rutgers University has staff members trained to support survivors in navigating campus life, accessing health and counseling services, providing academic and housing accommodations, and more. If you experience any other form of discrimination or harassment, including racial, ethnic, religious, political, or academic, please report any such incidents to the School's [Office of Student Affairs](#). The School strongly encourages all students to report any incidents of discrimination or harassment to the School. Please be aware that all Rutgers employees (other than those designated as confidential resources such as advocates, counselors, clergy and healthcare providers as listed in Appendix A to [Policy 10.3.12](#)) are required to report information about such discrimination and harassment to the School and potentially the University. For example, if you tell a faculty or staff member about a situation of sexual harassment or sexual violence, or other related misconduct, the faculty or staff member must share that information with the [RBHS Title IX Coordinator](#). If you wish to speak to a confidential employee who does not have this reporting responsibility, you can find a list of resources in Appendix A to University [Policy 10.3.12](#). For more information about your options at Rutgers, please visit [Rutgers Violence Prevention and Victim Assistance](#).

Graduate Student Computer Policy: Students are required to possess a personal laptop, no older than approximately two years, that must meet minimum requirements which may be found online at: sph.rutgers.edu/student-life/computer-support.html

Policy Concerning Use of Recording Devices and Other Electronic Communications Systems:

When personally owned communication/recording devices are used by students to record lectures and/or classroom lessons, such use must be authorized by the faculty member or instructor who must give either oral or written permission prior to the start of the semester and identify restrictions, if any, on the use of mobile communications or recording devices.

Policy Concerning Use of Turnitin: Students agree that by taking this course all required papers may be subject to submission for textual similarity review to Turnitin.com (directly or via learning management system, i.e. Canvas) for the detection of plagiarism. All submitted papers will be included as source documents in the Turnitin.com reference database solely for the purpose of detecting plagiarism of such papers. Use of the Turnitin.com service is subject to the Usage Policy posted on the Turnitin.com site. Students who do not agree should contact the course instructor immediately.

Withdrawal/Refund Schedule: Students who stop attending their course(s) without submitting a completed [Add/Drop Course](#) form will receive a failing grade. Furthermore, students dropping to zero credits for the semester are considered withdrawn and must submit a completed [Leave of Absence](#) form from the School of Public Health's Office of Student Affairs. The School of Public Health refunds tuition only. Administrative and technology fees are non-refundable. You may find the Withdrawal/Refund Schedule on the School of Public Health website at: sph.rutgers.edu/academics/academic-calendar.html