

# FUNDAMENTALS OF INDUSTRIAL HYGIENE

## OEHS 6750

**Tuesday & Thursday; 1:00 – 2:20 PM**  
**Room 105, 375 Chipeta Way, Suite A**

**Course Overview:** The course will provide an introduction to technical information as well as discussion and insight into the roles, responsibilities, and requirements for practicing occupational health and safety professionals. The course focuses on the principles of anticipation, recognition, evaluation, and control of hazards in occupational environments.

**Credits:** 3

**Prerequisites:** Algebra, chemistry, biology

**Structure:** Online Lecture, In-Class Discussion

**Course Director:** Darrah K. Sleeth, PhD, MPH, CIH

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Office Hours: By appointment

**Required text:** *The Occupational Environment – Its Evaluation, Control, and Management, 3<sup>rd</sup> Ed.*, American Industrial Hygiene Association, 2011, Daniel H. Anna (ed.) (Available for \$150 from AIHA when you become a student member for \$31). \*\*\**ACGIH TLV Manual* (Included free with ACGIH student membership, which is \$30) and various internet resources will also be accessed during the semester.

### Objectives:

1. Discuss the general principles of anticipation, recognition, evaluation and control, and apply specifics of these principles to common occupational issues.
2. Identify and discuss both classic and emerging occupational health issues: referencing both program management strategies and regulatory requirements.
3. Demonstrate the ability to discuss occupational health and safety in the context of historical and social significance as well as the current impact on the day-to-day responsibilities of the occupational health and safety professional.
4. Explain the role of occupational hygienists in the management of occupational and environmental health and safety programs, and how their role complements the comprehensive allied health team (physicians, nurses, toxicologists, engineers, etc.).
5. Describe common occupational and environmental hygiene equipment and instrumentation, be able to interpret raw data generated from these instruments, and be ready to discuss their application and limitations.

## FUNDAMENTALS OF INDUSTRIAL HYGIENE (OEHS 6750)

Week	Day	Date	Lecture	Readings
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### MODULE 1: GUIDING PRINCIPLES

1	Tues	24-Aug	Introduction & Ethics	Chapter 2
	Thurs	26-Aug	History of Occupational Health	Chapter 1
2	Tues	31-Aug	Industrial Hygiene Paradigm	Chapter 7
	Thurs	2-Sept	Occupational Exposure Limits	Chapter 4
3	Tues	7-Sept	Technical Resources	
	Thurs	9-Sept	Exposure Assessment Programs	Chapter 9

### MODULE 2: CHEMICAL HAZARDS

4	Tues	14-Sept	Gases and Vapors	Chapter 11 & 15
	Thurs	16-Sept	Gases and Vapors	Chapter 11 & 15
5	Tues	21-Sept	Particulates	Chapter 14
	Thurs	23-Sept	Particulates	Chapter 14
6	Tues	28-Sept	Exposure Evaluation	
	<b>Thurs</b>	<b>30-Sept</b>	<b>EXAM I</b>	

### MODULE 3: PHYSICAL HAZARDS

7	Tues	5-Oct	Ionizing Radiation	Chapter 26
	Thurs	7-Oct	Non-Ionizing Radiation	Chapter 25
8	T/Th	12/14-Oct	NO CLASS	
9	Tues	19-Oct	Noise	Chapter 24
	Thurs	21-Oct	Noise	Chapter 24
10	Tues	26-Oct	Thermal Stress	Chapter 27 & 28
	Thurs	28-Oct	Thermal Stress	Chapter 27 & 28

### MODULE 4: BIOLOGICAL HAZARDS

11	Tues	2-Nov	Biological Hazards	Chapter 22
	Thurs	4-Nov	Biological Hazards	Chapter 22
12	Tues	9-Nov	Indoor Air Quality	Chapter 18
	<b>Thurs</b>	<b>11-Nov</b>	<b>EXAM II</b>	

### MODULE 5: HAZARD CONTROL

13	Tues	16-Nov	Ventilation	Chapter 35 & 36
	Thurs	18-Nov	Ventilation	Chapter 37 & 38
14	Tues	23-Nov	Administrative Controls	
	Thurs	25-Nov	NO CLASS	
15	Tues	30-Nov	PPE (Non-Respiratory)	Chapter 39
	Thurs	2-Dec	PPE (Respiratory)	Chapter 40

### MODULE 6: OTHER

16	Tues	7-Dec	Community Exposures	
	<b>Tues</b>	<b>7-Dec</b>	<b>TERM PAPER DUE</b>	
17	Thurs	9-Dec	Occupational Safety	Chapter 52
	<b>Tues</b>	<b>14-Dec</b>	<b>EXAM III (1-3pm)</b>	

**Term Paper Information:** The Term Paper is due electronically no later than **11:59pm on Tuesday, December 7, 2021**. The details will be provided to you at a later date through Canvas. **Please familiarize yourself with the Expectations for Scientific Writing in the MSOH/MOH Policies and Procedures Handbook.** Following those guidelines is essential!

**Grading:** Grades will be assigned according to the following weighting:

Exam I	20%
Exam II	20%
Exam III	20%
Term Paper	<u>40%</u>
	100%

Grades will be assigned on the following scale:

93% - 100%	A
90% - 92.9%	A <sup>-</sup>
87% - 89.9%	B <sup>+</sup>
83% - 86.9%	B
80% - 82.9%	B <sup>-</sup>

**Canvas:** I will be using Canvas to provide students with all class materials, including the syllabus, lecture videos, quizzes, reading assignments, notifications, and other information. Please ensure that you are able to access this site. **It is recommended that you enable important information be forwarded to an email address that you regularly check.**

**Canvas Resources:**

- Canvas Support: [http://support.instructure.com/index.php?title=Main\\_Page](http://support.instructure.com/index.php?title=Main_Page)
- Utah Education Network Canvas Wiki: [http://canvaswiki.uen.org/wiki/Main\\_Page](http://canvaswiki.uen.org/wiki/Main_Page)
- Technology Assisted Curriculum Center: <http://www.tacc.utah.edu/>

**Faculty and Student Responsibilities:** All students are expected to maintain professional behavior in the classroom setting according to the Student Code, spelled out in the Student Handbook. Students have specific rights in the classroom as detailed in Article III of the Code. The Code also specifies proscribed conduct (Article XI) that involves cheating on tests, plagiarism, and/or collusion, as well as fraud, theft, etc. Students should read the Code carefully and know they are responsible for the content. According to Faculty Rules and Regulations, it is the faculty responsibility to enforce responsible classroom behaviors, beginning with verbal warnings and progressing to dismissal from class and a failing grade. Students have the right to appeal such action to the Student Behavior Committee.

<http://www.regulations.utah.edu/academics/6-400.html>

**The Americans with Disabilities Act (ADA):** The University of Utah seeks to provide equal access to its programs, services and activities for people with disabilities. If you will need accommodations in the class, reasonable prior notice needs to be given to the Center for Disability Services, 162 Olpin Union Building, 581-5020. CDS will work with you and the instructor to make arrangements for accommodations. All written information in this course can be made available in an alternative format with prior notification to the Center for Disability Services.

**Addressing Sexual Misconduct:** Title IX makes it clear that violence and harassment based on sex and gender (which includes sexual orientation and gender identity/expression) is a civil rights offense subject to the same kinds of accountability and the same kinds of support applied to offenses against other protected categories such as race, national origin, color, religion, age, status as a person with a disability,

veteran's status or genetic information. If you or someone you know has been harassed or assaulted, you are encouraged to report it to the Title IX Coordinator in the Office of Equal Opportunity and Affirmative Action, 135 Park Building, 801-581-8365, or the Office of the Dean of Students, 270 Union Building, 801-581-7066. For support and confidential consultation, contact the Center for Student Wellness, 426 SSB, 801-581-7776. To report to the police, contact the Department of Public Safety, 801-585-2677 (COPS).

**Campus Safety:** The University of Utah values the safety of all campus community members. To report suspicious activity, call campus police at 801-585-COPS (801-585-2677). You will receive important emergency alerts and safety messages regarding campus safety via text message. For more information regarding safety and to view available training resources, including helpful videos, visit [safeu.utah.edu](http://safeu.utah.edu).

**Diversity/Inclusivity Statement:** It is my intent that students from all diverse backgrounds and perspectives be well served by this course, that students' learning needs be addressed both in and out of class, and that the diversity that students bring to this class be viewed as a resource, strength and benefit. It is my intent to present materials and activities that are respectful of diversity: gender, sexuality, disability, age, socioeconomic status, ethnicity, race, and culture. Your suggestions are encouraged and appreciated. Please let me know ways to improve the effectiveness of the course for you personally or for other students or student groups. In addition, if any of our class meetings conflict with your religious events, please let me know so that we can make arrangements for you. (Source: University of Iowa College of Education)

*Note: This syllabus is not a binding legal contract. It may be modified by the instructor when the student is given reasonable notice of the modification.*