Course Description

Introduction to the basic concepts of industrial hygiene from both a qualitative and quantitative approach. Focuses on the areas typically encompassed by industrial hygiene and highlights the specific role played by the industrial hygienist in protecting employee health and safety.

Course Textbook


Course Learning Outcomes

Upon completion of this course, students should be able to:

1. Discuss the history and regulatory background of industrial hygiene, including related standards published by agencies such as OSHA, MSHA, ANSI, and NIOSH.
2. Illustrate how the principles of physics, chemistry, and biological sciences apply to the practice of industrial hygiene.
3. Explain the practice of industrial hygiene and how it fits within an environmental health and safety (EH&S) program.
4. Discuss the management of industrial hygiene issues from the perspectives of anticipation, recognition, evaluation, and control.
5. Identify occupational health hazards that may exist in the workplace, including ergonomic, chemical, biological, radiological, and physical hazards.
6. Perform basic calculations related to industrial hygiene.
7. Evaluate types of hazard controls, including elimination/substitution, engineering, administrative, and personal protective equipment (PPE).

Academic Integrity

Honesty and integrity are taken very seriously at Waldorf University. All students should be familiar with the Waldorf University Academic Integrity Policy (found in the current Student Handbook) and the consequences that will result from breaches of this policy.

Credits

Upon completion of this course, the students will earn three (3) hours of college credit.

Course Structure

1. **Unit Learning Outcomes:** Each unit contains Unit Learning Outcomes that specify the measurable skills and knowledge students should gain upon completion of the unit.
2. **Unit Lesson:** Each unit contains a Unit Lesson, which discusses unit material.
3. **Reading Assignments:** Each unit contains Reading Assignments from one or more chapters from the textbook and/or online articles or ebooks. Suggested Readings are listed in the Unit I, II, III, and VII study guides to aid students in their course of study. The readings themselves may or may not be provided in the course, but students are encouraged to read the resources listed if the opportunity arises as they have valuable information...
that expands upon the lesson material. Students will not be tested on their knowledge of the Suggested Further Readings.

4. **Discussion Boards:** Discussion Boards are a part of all Waldorf courses. Information and specifications regarding these assignments are provided in the Academic Policies listed in the Course Menu bar.

5. **Unit Assessments:** This course contains six Unit Assessments, one to be completed at the end of Units I, II, III, V, VI, and VIII. Assessments are composed of multiple-choice questions and/or written response questions.

6. **Unit Assignments:** Students are required to submit for grading Unit Assignments in Units IV, VII, and VIII. Specific information and instructions regarding these assignments are provided below. Grading rubrics are included with the Unit IV, VII, and VIII Assignments. Specific information about accessing these rubrics is provided below.

7. **Ask the Professor:** This communication forum provides you with an opportunity to ask your professor general or course content related questions.

8. **Student Break Room:** This communication forum allows for casual conversation with your classmates.

**Unit Assignments**

**Unit IV Case Study**

**Analysis of an Air-Sampling Report**

Click [here](#) to view a PDF of a typical sampling report. Compose a two- to three-page analysis that addresses the following questions:

1. What is the purpose of the exposure assessment?
2. Why was the exposure assessment conducted?
3. What type of sampling (personal or area) was conducted, and why?
4. What are the chemicals that were sampled, and what are their hazards?
5. What are the most likely routes of exposure given the nature of the business?
6. Describe the sampling equipment and methods used to collect the sample.
7. Provide an overview of the results, including an explanation of the “additive formula,” and discuss them in relation to the applicable exposure limit.
8. Were there any off-normal or unplanned incidents relative to sample collection?
10. Comment on the thoroughness of the study. Did you feel that the exposure assessment was comprehensive? If not, what additional information would you provide?
11. Comment on who the target audience would be for this report. If you were the plant director of ACME Printing, would you be comfortable with sharing this with an auditor from the Occupational Safety and Health Administration (OSHA)? Do you have any concerns related to sharing this with your employees?

In addition to addressing the listed questions, you should consider using additional background materials to support your analysis. Materials should be cited using APA formatting style to include in-text citations and a reference list. You should also paraphrase information obtained from outside sources; that is, use your own words. Do not simply cut and paste materials from outside sources. Limit directly quoted materials to no more than three to five sentences for the entire case study overview, and always use quotation marks for direct quotes of outside sources.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

**Unit VII Scholarly Activity**

**Safety Handbook**

As a safety professional, you have been asked to create a handbook explaining the various types of biological agents employees may have contact with in the workplace. In addition, you have been asked to include information regarding the basic exposure mechanisms for biological agents, methods of evaluation and control for biological agents, and methods of sampling for biological agents. You may use the training topics discussed on pages 128-129 of your textbook as a guide. Also, please feel free to use the Waldorf Online Library to locate additional information that you feel should be included in your handbook.

This assignment should consist of no less than three pages, and any outside sources, including your textbook, should be referenced and cited using proper APA formatting.
Keep in mind that much of the information found in your source materials will be technical in nature. As this assignment is a handbook for employees, it is important to paraphrase and use your own words as much as possible. No copying and pasting from your source materials is allowed.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

**Unit VIII Essay**

**White Paper**

You are an industrial hygienist for a major pharmaceutical company. The CEO has contacted you regarding a new product line that will be produced in your facility. The new product involves the handling and use of an engineered nanomaterial. To date, your company’s health and safety program has not had to address any safety concerns associated with handling and use of these materials. Using the Centers for Disease Control document in the Unit VIII Required Reading section as your authoritative source, prepare a three- to five-page “white paper” that provides an overview of engineered materials and includes a discussion of the following:

- background and industry overview of engineered nanomaterials,
- exposure control strategies,
- nanotechnology processes and engineering controls,
- hazard control evaluations,
- health hazards associated with exposures, and
- conclusions and recommendations.

As you prepare your paper, keep in mind that this should be a high-level overview that is understandable to all employees in the organization: from upper management to production workers. As such, it is important to paraphrase and use your own words as much as possible since much of the material from your sources will be technical in nature. No copying and pasting from your source material is allowed. You must use at least 2 sources, one of which can be your textbook. All sources used, including your textbook, should be cited and referenced properly using APA format.

Information about accessing the Blackboard Grading Rubric for this assignment is provided below.

**Submitting Course Papers/Projects**

Once you have completed your papers/projects, submit your completed papers/projects by uploading through the Assignment tab in each unit. Do not e-mail your paper directly to your professor. By using the Assignment tab, your record will automatically be updated to indicate you have submitted your papers/projects and the assignment will be provided to your professor for grading. Instructions for submitting your assignment can be found under the Assignment tab in each unit.

**APA Guidelines**

Waldorf University requires that students use the APA style for papers and projects. Therefore, the APA rules for formatting, quoting, paraphrasing, citing, and listing of sources are to be followed. Information about using APA style can be found in APA Style Help in the Course Menu. This area provides links to internet sites, tutorials, and guides that provide comprehensive information on APA formatting, including examples and sample papers.

**Grading Rubrics**

This course utilizes analytic grading rubrics as tools for your professor in assigning grades for all learning activities. Each rubric serves as a guide that communicates the expectations of the learning activity and describes the criteria for each level of achievement. In addition, a rubric is a reference tool that lists evaluation criteria and can help you organize your efforts to meet the requirements of that learning activity. It is imperative for you to familiarize yourself with these rubrics because these are the primary tools your professor uses for assessing learning activities.

Rubric categories include: (1) Discussion Board, (2) Assessment (Written Response), and (3) Assignment. However, it is possible that not all of the listed rubric types will be used in a single course (e.g., some courses may not have Assessments).
The Discussion Board rubric can be found within Unit I’s Discussion Board submission instructions.

The Assessment (Written Response) rubric can be found embedded in a link within the directions for each Unit Assessment. However, these rubrics will only be used when written-response questions appear within the Assessment.

Each Assignment type (e.g., article critique, case study, research paper) will have its own rubric. The Assignment rubrics are built into Blackboard, allowing students to review them prior to beginning the Assignment and again once the Assignment has been scored. This rubric can be accessed via the Assignment link located within the unit where it is to be submitted. Students may also access the rubric through the course menu by selecting the “Grades” link.

Again, it is vitally important for you to become familiar with these rubrics because their application to your Discussion Boards, Assessments, and Assignments is the method by which your instructor assigns all grades.

Communication Forums

These are non-graded discussion forums that allow you to communicate with your professor and other students. Participation in these discussion forums is encouraged, but not required. You can access these forums with the buttons in the Course Menu. Instructions for subscribing/unsubscribing to these forums are provided below.

Click here for instructions on how to subscribe/unsubscribe and post to the Communication Forums.

Ask the Professor

This communication forum provides you with an opportunity to ask your professor general or course content questions. Questions may focus on Blackboard locations of online course components, textbook or course content elaboration, additional guidance on assessment requirements, or general advice from other students.

Questions that are specific in nature, such as inquiries regarding assessment/assignment grades or personal accommodation requests, are NOT to be posted on this forum. If you have questions, comments, or concerns of a non-public nature, please feel free to email your professor. Responses to your post will be addressed or emailed by the professor within 48 hours.

Before posting, please ensure that you have read all relevant course documentation, including the syllabus, assessment/assignment instructions, faculty feedback, and other important information.

Student Break Room

This communication forum allows for casual conversation with your classmates. Communication on this forum should always maintain a standard of appropriateness and respect for your fellow classmates. This forum should NOT be used to share assessment answers.

Grading

Discussion Boards (8 @ 2%) = 16%
Assessments (6 @ 6%) = 36%
Unit IV Case Study = 16%
Unit VII Scholarly Activity = 16%
Unit VIII Essay = 16%

Course Schedule/Checklist (PLEASE PRINT)

The following pages contain a printable Course Schedule to assist you through this course. By following this schedule, you will be assured that you will complete the course within the time allotted.
By following this schedule, you will be assured that you will complete the course within the time allotted. Please keep this schedule for reference as you progress through your course.

**Unit I  Overview of Industrial Hygiene**

<table>
<thead>
<tr>
<th>Review:</th>
<th>Unit Study Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read:</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Chapter 6:</strong> Best Practices</td>
</tr>
<tr>
<td></td>
<td><strong>Suggested Reading:</strong> See Study Guide</td>
</tr>
<tr>
<td>Discuss:</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Discussion Board Response:</strong> Submit your response to the Discussion Board question by Saturday, 11:59 p.m. (Central Time)</td>
</tr>
<tr>
<td></td>
<td><strong>Discussion Board Comment:</strong> Comment on another student’s Discussion Board response by Tuesday, 11:59 p.m. (Central Time)</td>
</tr>
<tr>
<td>Submit:</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Assessment</strong> by Tuesday, 11:59 p.m. (Central Time)</td>
</tr>
</tbody>
</table>

**Unit II  Regulatory Issues**

<table>
<thead>
<tr>
<th>Review:</th>
<th>Unit Study Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read:</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Chapter 1:</strong> Regulatory Issues</td>
</tr>
<tr>
<td></td>
<td><strong>Suggested Reading:</strong> See Study Guide</td>
</tr>
<tr>
<td>Discuss:</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Discussion Board Response:</strong> Submit your response to the Discussion Board question by Saturday, 11:59 p.m. (Central Time)</td>
</tr>
<tr>
<td></td>
<td><strong>Discussion Board Comment:</strong> Comment on another student’s Discussion Board response by Tuesday, 11:59 p.m. (Central Time)</td>
</tr>
<tr>
<td>Submit:</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Assessment</strong> by Tuesday, 11:59 p.m. (Central Time)</td>
</tr>
</tbody>
</table>

**Unit III  Chemical Hazards**

<table>
<thead>
<tr>
<th>Review:</th>
<th>Unit Study Guide</th>
</tr>
</thead>
<tbody>
<tr>
<td>Read:</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Chapter 3:</strong> Chemical Hazards</td>
</tr>
<tr>
<td></td>
<td><strong>Suggested Reading:</strong> See Study Guide</td>
</tr>
<tr>
<td>Discuss:</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Discussion Board Response:</strong> Submit your response to the Discussion Board question by Saturday, 11:59 p.m. (Central Time)</td>
</tr>
<tr>
<td></td>
<td><strong>Discussion Board Comment:</strong> Comment on another student’s Discussion Board response by Tuesday, 11:59 p.m. (Central Time)</td>
</tr>
<tr>
<td>Submit:</td>
<td></td>
</tr>
<tr>
<td></td>
<td><strong>Assessment</strong> by Tuesday, 11:59 p.m. (Central Time)</td>
</tr>
</tbody>
</table>
# OSH 4301, Industrial Hygiene

## Course Schedule

### Unit IV: Exposure Assessments

**Review:**
- [ ] Unit Study Guide

**Read:**
- Review the following previously assigned readings:
  - [ ] Chapter 1: Regulatory Issues
  - [ ] Chapter 3: Chemical Hazards
  - [ ] Chapter 6: Best Practices

**Discuss:**
- [ ] **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, 11:59 p.m. (Central Time)
- [ ] **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, 11:59 p.m. (Central Time)

**Submit:**
- [ ] **Case Study** by Tuesday, 11:59 p.m. (Central Time)

**Notes/Goals:**

### Unit V: General Principles

**Review:**
- [ ] Unit Study Guide

**Read:**
- [ ] Chapter 2: General Principles

**Discuss:**
- [ ] **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, 11:59 p.m. (Central Time)
- [ ] **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, 11:59 p.m. (Central Time)

**Submit:**
- [ ] **Assessment** by Tuesday, 11:59 p.m. (Central Time)

**Notes/Goals:**

### Unit VI: Physical Hazards

**Review:**
- [ ] Unit Study Guide

**Read:**
- [ ] Chapter 4: Physical Hazards

**Discuss:**
- [ ] **Discussion Board Response:** Submit your response to the Discussion Board question by Saturday, 11:59 p.m. (Central Time)
- [ ] **Discussion Board Comment:** Comment on another student’s Discussion Board response by Tuesday, 11:59 p.m. (Central Time)

**Submit:**
- [ ] **Assessment** by Tuesday, 11:59 p.m. (Central Time)

**Notes/Goals:**
## Course Schedule

### Unit VII  Biological Hazards

**Review:**
- Unit Study Guide

**Read:**
- Chapter 5: Biological Hazards
- **Suggested Reading:** See Study Guide

**Discuss:**
- Discussion Board Response: Submit your response to the Discussion Board question by Saturday, 11:59 p.m. (Central Time)
- Discussion Board Comment: Comment on another student’s Discussion Board response by Tuesday, 11:59 p.m. (Central Time)

**Submit:**
- Scholarly Activity by Tuesday, 11:59 p.m. (Central Time)

**Notes/Goals:**

### Unit VIII  Contemporary Topics and a Basic Industrial Hygiene Calculation

**Review:**
- Unit Study Guide

**Read:**
- See Study Guide for articles and ebook reading assignments

**Discuss:**
- Discussion Board Response: Submit your response to the Discussion Board question by Saturday, 11:59 p.m. (Central Time)
- Discussion Board Comment: Comment on another student’s Discussion Board response by Tuesday, 11:59 p.m. (Central Time)

**Submit:**
- Assessment by Tuesday, 11:59 p.m. (Central Time)
- Essay by Tuesday, 11:59 p.m. (Central Time)

**Notes/Goals:**