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. Communicate clearly health and safety hazards to various audiences.

Student Requirements:
1. Students must attend lectures and complete assigned readings in advance.
2. Students must be prepared and dressed appropriately for all field trips. If not dressed appropriately, student will not be allowed on site.
3. Students complete:
   A. **Industry Review:** A summary of each industry being visited will be due the week before that site visit. 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. Four of these industry reports will be due, as none will be required for the first site visit. For more detail, see page 5 of the syllabus.
   
   B. **Walk-Through Report:** One paper will be a technical report summarizing one of the tours. It should include a review of pertinent literature on key or major anticipated hazards in the industry as a whole. It should also describe the company, the company-specific production process, health and safety program structure, raw materials used, potential for exposures, and major hazards that are in need of evaluation or control (see attached guidance documents). This paper should be approximately 10-12 pages and should include appropriate bibliographic citations, including primary research sources. Assignments for who will summarize which tours will be made on the first day of class. The paper is due during the last class. Please use the structure shown in the guidance document.
Grading: Industry summaries (40%, 10% each), Final paper (40%), and class participation (20%).

Text Book
Highly Recommended

Disability Notice. If you would like to request academic accommodations due to a disability, please contact Disability Resources for Students Office, 448 Schmitz, 543-8294 (voice) or 543-8295 (TTY). If you have a letter from Disability Resources for Students Office indicating you have a disability that requires academic accommodations, please present the letter to me so we can discuss the accommodations you might need for class.
## Class Schedule

<table>
<thead>
<tr>
<th>Date</th>
<th>Topic</th>
<th>Readings/Assignment</th>
</tr>
</thead>
<tbody>
<tr>
<td>9/30</td>
<td>Introduction/Walkthrough/ Hazard Recognition (NS)</td>
<td>Read: Burgess, Chapter 1</td>
</tr>
<tr>
<td></td>
<td>Foundry Processes/Hazards (MC)</td>
<td>Read : Burton, Chapter 31</td>
</tr>
<tr>
<td>10/7</td>
<td><strong>Factory Tour 1: Northstar Casteel Foundry</strong></td>
<td>Burgess, Chapter 8</td>
</tr>
<tr>
<td>10/14</td>
<td>Review of Foundry Tour Health and Safety Programs/Regulations (NS)</td>
<td>Read: Roach and Rappaport, 1990</td>
</tr>
<tr>
<td>10/21</td>
<td><strong>Factory Tour 2: Buse Lumber Co.</strong></td>
<td>Lumber milling review due</td>
</tr>
<tr>
<td>11/4</td>
<td><strong>Factory Tour 3: Commercial Laundry</strong></td>
<td>Laundry/dry cleaning review due (NS Out)</td>
</tr>
<tr>
<td>11/11</td>
<td>NO CLASS</td>
<td></td>
</tr>
<tr>
<td>11/18</td>
<td>Review: Laundry hazards Personal Protective Equipment (NS)</td>
<td>Read: Neitzel, HPD effectiveness</td>
</tr>
<tr>
<td>11/25</td>
<td><strong>Factory Tour 4: Dyno Battery</strong></td>
<td>Battery Mfg/lead Review due</td>
</tr>
<tr>
<td>12/2 (last class)</td>
<td><strong>Factory Tour 5: Sound Transit Tunnel</strong></td>
<td>Tunnel Construction Review due</td>
</tr>
<tr>
<td>Week of 12/9</td>
<td>Review: Lead Battery and Tunneling Wrap up presentations/discussion</td>
<td>Final paper due</td>
</tr>
</tbody>
</table>
References


SUGGESTED INDUSTRY REVIEW

I. Definition of Industry
   Products
   Employment
   Characteristic of the organizational or management structures

II. Process
   Overview of Process Flow
   Raw Materials and Intermediates
   Component or Unit Processes
   Emissions of potential concern

III. Health and Safety Hazards (Focus on high priority risks and hazards unique to this industry)
   Industry-wide exposure and health effects
      Include at least three epidemiologic or exposure assessment studies
   Unit Process Hazards
   Chemical-specific health effects

IV. Controls and Standards
   Industry-Specific (Vertical) Health or Safety Standards
   Hazard-specific (horizontal) health or safety standards
   Engineering Controls tailored to this industry or process
   PPE required
RECOGNITION OF HEALTH AND SAFETY HAZARDS IN INDUSTRY

SUGGESTED OUTLINE FOR WALK-THROUGH WRITE-UPS

Write-ups should be concise yet complete, written as a report (not bullet points), and should not exceed 15 pages (10-12 pages is best).

I. Introduction
   Company name, location and contact persons
   Purpose and scope of walk-through
   Summary of your pre-walk through process review

II. Management structure
   Personnel: number by area or job, salary and hourly, shifts, etc.
   Union/non-union; if union shop, which unions are represented
   Health and safety management organization
   IH
   Safety
   Medical/nursing
   Employee involvement through committees, etc.
   Required employee training
   Accident and injury rates; modification factor
   OSHA or DOSH citations (check www.OSHA.gov website)

III. Overview of site and process (sketches or maps may be helpful)
   Site layout, size and construction of buildings
   Process Flow
   Raw Materials, Intermediates, Products, Waste or By-products

IV. Process details by unit
   Machine descriptions
   Work station design
   Personnel present / tasks or responsibilities
   Potential hazards identified or expected (emissions, safety hazards, etc.)
   Observed controls

V. Notable health or safety problems requiring attention
   Potential hazard, location, conditions
   Applicable standards
   Known health effects, or possible result of injury
   Recommendations: program enhancements, evaluation, controls, on-going surveillance.