

COLUMBUS STATE COMMUNITY COLLEGE

ESSH 1101 - Introduction to Environmental Science, Safety & Health

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Homework 10 – Occupational Safety and Health

Supplemental Readings

1. Are Workers' Compensation programs *always* effective at reducing workplace injuries? Why or why not?
 - Workers compensation programs have been beneficial in reducing workplace injuries and deaths substantially. However, accidents happen so attempting to regulate every hazard out of existence is a foolhardy endeavor.
 - The incorporation of worker compensation had some indirect impacts on both the employer and the employee as well as the consumer. Costs increased for the employer due to new taxes and new training costs. This affected the cost of good to the consumer.
 - Similarly, workers lost money in their take-home pay as a result of workers compensation taxes

2. During what year was the first law passed in the U.S. that dealt with mine safety? What federal law governs the Mine Safety and Health Administration's activities?
 - In 1891, Congress pass the first federal statute governing mine safety.
 - In 1966, Congress passed the Mine Safety Act which established standards for injury and illness records
 - In 1969, Congress passed the Federal Coal Mine and Safety Act which provided regulations for airborne exposure to coal dust (leads to black lung)and quartz
 - The Federal Coal Mine and Safety Act governs the Mine Safety and Health Administration's activities
 - On April 28, 1971, the Occupational Safety and Health Act went into effect

3. About how many workers were killed each year before the Occupational Safety and Health Act was passed? How many workers currently die in the workplace now?
 - In 1970, approximately 14,000 workers were killed every year (38 per day).
 - In 2010, approximately 4,500 workers were killed every year (12 per day).

4. Identify one *responsibility* of an employer under OSHA, and one worker *right* under OSHA.
 - It is the responsibility of the employer to provide a safe and healthy work environment
 - The employee has the right to safe and healthy work environment
 - The General Duty clause governs both entities for safe working conditions

5. Give two ways that OSHA carries out the mission of protecting workers.
 - OSHA has standards governing specific types of work (maritime, constructing, etc.)
 - Provide both the employer and employee with specific rights and responsibilities
 - Mandating safety training
 - Workplace inspections (complaints and general safety compliance)
 - Issue citations for violations
 - OSHA identified three primary methods to protect workers
 - Engineering – using vent hood to remove dust, particulates, and fumes
 - Administrative – manages safety hazards through notifications, training, and reporting
 - Personal Protective Equipment – regulating the use of protective clothing and suits for certain job related activities

6. What is the field of *industrial hygiene*?
 - The recognition that workplace exposure can lead to specific ailments for workers in that industry

7. Explain how Dr. Alice Hamilton was important to the improvement of industrial conditions.
 - Originator of modern industrial hygiene. Recognized that the exposure to certain chemicals, products, fumes, etc. was detrimental to personal health. She led the fight for workplace and worker safety with regard to exposure

8. Identify one example of an air contaminant that could be found in the workplace, and also identify its possible source.
 - Asbestos and coal dust are two air contaminants that can be found in certain workplaces
 - These contaminants are generally found near shipyards and coal mines

9. What is a *biological* hazard? Provide two examples of workplaces where you can find biological hazards.
 - Biological hazards are derived from things that are living
 - Examples include toxins from plant matter (performing outdoor jobs like construction or surveying) and blood borne pathogens (medical fields)

10. What is an *ergonomic hazard*? What types of damage to your body can be caused by ergonomic hazards?

- Ergonomic hazards are present when a worker performs the same physical function repeatedly. These conditions present themselves in every workplace for everything from factory/assembly line workers to office workers.
- The types of damage can range from muscular and skeletal issues, carpal tunnel syndrome, and associated joint pain from repeated stress on the body