674 Leighton Final Project Outline Session 10

**Option 2: Develop a Course Outline**

**In this option you will develop an outline for an entire online (or hybrid) course. You must include:**

Topic - OSHA Construction 10-hour card - 1 unit college class (18 class hours)

**a) A brief description of the class that you are designing. This should include a discussion of the anticipated content, delivery schedule, student characteristics and instructor preferences.**

This class is a hybrid class in several ways. It is taught at a community college, and must meet the college requirements for units, syllabus review, Student Learning Objectives, breaks, and grades. It is also a government regulated class, in that Federal OSHA is under the Department of Labor, and has strict guidelines, that we as Authorized Outreach OSHA Trainers must adhere to, in our face-to-face training classes. With that said, we also have the freedom to conduct our classes as we see appropriate, as long as we fulfill the necessary OSHA requirements. OSHA is a very DRY set of topics to cover. To make it interesting, I have flipped my original all lecture OSHA classes, to be highly interactive, and the students have risen to the challenges, and have excelled in my 2 unit, 30-hour card class, that is now a lecture/lab combination, done in 48 hours. I now am being asked to teach the shorter 10-hour card version. I plan to follow the successful flipped classroom setting in this new class as well. It is a 1-unit class, done in 18-hours, one day a week, for 4 weeks, making the class 4.5 hours long, plus adding in necessary breaks. OSHA views one hour as 60 minutes, not the standard 50 minutes recognized by the school. My school is planning to offer this new class either this summer, or more likely this fall, for sure. Therefore, I am using this short class for this final project. Some of these 18 hours are devoted to school required activities. This time span also allows a student to miss a minor amount of time and, possibly, still obtain the 10-Hour OSHA card by fulfilling both the school, and OSHA requirements if achieving a 70% or better in accumulated points. College students in the Electrical certificate program are required to take this class. We also have students in our Water Industry program, as well as several other related fields in each OSHA class, and some even come straight in from industry. OSHA requires that all must be at least 18 years old. Many students are male. Many are Hispanic, some black, and a few white and/or oriental. The age range is usually 20s through 40s. I have had some older students who were in their 50s, 60s and even into their mid-70s. There might be a female or two in the class, but not in every class. As to instructor's preferences for this class, being a facilitator has proven to be the best role, after the first few hours or weeks when the students begin to take responsibility, and charge of the class. I still set the direction, and pace, at the beginning of each class. I determine what assignments will be covered that day, and/or homework for the following session.

**Topics and objectives for each session in the class.**

OSHA Mandatory Topics: = **7 hours required**

Introduction to OSHA 2 hours

Employer Responsibilities, Employee Rights

How to file a complaint

Helpful worker safety health resources

Provides a sample of a weekly fatality and catastrophe report

Material Safety Data Sheets (MSDS being shorten to SDS)

OSHA Log of Work-Related Injuries and Illnesses (OSHA Form 300)

**OSHA 2 Hour mandatory PowerPoint presentation (PPT) The above list is part of this PPT**

To make it interactive, students take turns reading individual slides -- **one-way communication**

**Student-Content** Students may volunteer to read slides, or may be chosen to by instructor, to balance out the opportunity, and receive participation points, more evenly

Discussions follow, and/or embedded questions answered, are **two-way communication**

**Student-Instructor** or **Student-Student**

Students may be able to answer the questions from own experience, or may explain to others the reason(s) for that answer. If no clear understanding from class, instructor will explain OSHA's reason-- **Student-Student or Instructor-Student** --**two-way communication**

Activity--Handout #1 embedded in OSHA PPT--**one** and **two-way communication**

**Student-Content** and **Student-Student in** teams of two or three analyze, research, and present findings of situation, to class

**Example of Handout #1**

OSHA Focus on Four Hazards 4 hours

Fall Protection (minimum 1 hour 15 minutes)

Electrocution

Struck by (e.g., falling objects, trucks, cranes)

Caught in/between (e.g., trench hazards, equipment)

See explanation below, with paragraph under Focus Four Hazards

Personal Protective & Lifesaving Equipment (PPL &E) 30 minutes

Health Hazards in Construction (HHC) 30 minutes Sub-total 7 hours

See explanation below, with paragraphs under (PPL &E and HHC)

OSHA Elective topics: = **2 hours required (each class chooses topics among these)**

**Instructor must present at least 2 hours of training on the following topics. At least two topics must be presented. The minimum length of any topic is one-half hour.**

Cranes, Derricks, Hoists, Elevators and Conveyors 30 minutes

Excavations 30 minutes

Materials Handling, Storage, Use & Disposal 30 minutes

Scaffolds & Walking Surfaces 30 minutes

Stairs and Ladders 30 minutes

Tools – Hand & Power 30 minutes

Sub-total 2 hours

Many of these topics will be covered by individual research reports created, then delivered, by the students for each class. They will pick a topic from the **Elective or Optional Topic list** that the instructorfurnishes, depending on class size, and write a one plus page paper, then, give a 5 to 7 minute oral report. A **PPT** is recommended, but not a requirement. **Demonstration materials** may be brought in as well, by the students. Many students do not know how to create a PPT. I have numerous "How To" videos on my website, to assist them. The class-at-large is asking questions of the presenter, either during or after, which is up to that individual student. With these reports being short, videos are not recommended, unless they too are extremely limited, about one minute or less. The question/discussion time is above the required presentation time. It is important to know, if the student understands, and knows the subject well enough to handle any questions, coming from the audience. It is telling, if that student really did the work on that topic, if the questions can be answered with ease and correctly.

**OSHA Optional topics - 1 hour (each class chooses topics among these)**

**Teach other construction industry hazards or policies and/or expand on the mandatory or elective topics. The minimum length of any topic is one-half hour.**

Fire Protection & Exits 30 minutes

Safety & Health Program 30 minutes

Ergonomics 30 minutes

Confined Spaces 30 minutes

Power Industrial Vehicles 30 minutes

Signs, Signals, & Barricades 30 minutes

Motor Vehicles, Rollover Protective Structures and Overhead Protection 30 minutes

Concrete & Masonry Construction 30 minutes

Welding 30 minutes

Steel Erections 30 minutes

Sub-total 1 hour

Total hours 10 hour

See above with Elective topic paragraph

The reason for the individual class to select the electives or optional topics is that the interests vary accordingly, and it makes that class tailored to those students.

<https://www.osha.gov/dte/outreach/construction/construction_procedures.pdf>

**STUDENT LEARNING OBJECTIVES:**

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

A. Explain workers' rights under OSHA

B. Diagram steps necessary to file an OSHA complaint

C. Describe the responsibilities of an employer

D. Identify, abate, avoid and prevent job related hazards on a job site

E. Utilize helpful worker safety and health resources

<http://www.curricunet.com/SBVC/reports/course_outline_html.cfm?courses_id=3349>

**Description of the technologies used in each session of the class.**

c) Description of the technologies used in each session of the class. Be sure to explain each technology in terms of one vs. two-way communication, media richness/social presence, and why the chosen technology would be appropriate for supporting the indicated interaction.

This class is an OSHA mandatory face to face class that is held in an up-to-date computer lab. However, it is now a hybrid class, since I have made it interactive, rather than strictly lecture. The students do individual work, and/or work in teams of two or three people, for their projects. Some research and activities are done in class, and presented within a short amount of time. Some work may be done as homework, and presented the next class session. The research reports that the students have to create, are prepared over a several week period, and then presented to the class-at-large. The instructor's website might be used as a resource, throughout the class, or when off campus. Students are encouraged to communicate with team members, and the instructor when not in class. Email is highly recommended, especially to reach the instructor. Students use **computers** to search the **Internet** for resources. They should start with **www.osha.gov**. Then, to add to their findings, they go to other websites, such as **YouTube.com,** and might select a short video, to coordinate with their work. In the process, they can use the free downloader at: [**youtubedownload**](file:///C:\Users\Nita%20Leighton\Desktop\2.%20ALL%20CSUSB%20INFO\ETEC%20674\youtubedownload.altervista.org)**.altervista.org.** Some fortunate students have their own **laptops, tablets** or **smart phones**, which they can use in class, in conjunction with the **school’s computers**. These students are the exception to the majority, at this college. There are numerous **websites** that OSHA lists, and I too have other sites available as resources, for the students to investigate. There are a few students per class, that have no computer experience, what so ever. My **classjump.com website** is up continuously, and I encourage the students to browse it, for information on numerous topics, assignments, and announcements. **Videos** and some **PowerPoint presentations** are connected to my website via **DropBox** because of size. Teams are required to exchange contact information, and to work together outside of class, when necessary. **Email or text** exchange seems to be a favorite, with most of these students. I may again try to use **Google Docs**. With such a mixed computer level of learning within the class, it was not a great success, the first time I tried it, several years ago. It will depend on each individual class, as to whether they show an interest and ability.

**Games and simulations** in terms of doing them on the computer are not viable for this OSHA class. However, in some ways, in my current 30-Hour class, students must read, research, and interpret the situation, such as with the Fatal Facts reports. I allow the students to add minor information to them, to make the individuals appear more real. When the teams present, they are taking the Employer side, the Employee side, and OSHA's side. So, this could really be considered a simulation. They are figuring out what went wrong, why it happened, who was responsible, and how it could have been prevented, if possible. I am planning t do a minor amount of this in 10-Hour class as well. Remember OSHA dictates that these must be face-to-face classes**.** Investigating **gamification** might be an asset to help teach students more about the computer. However, with extremely limited time, for the quantity of material that needs to be covered, this does not seem to be a good fit for either OSHA class.

Now, with this new OSHA class being added to my schedule, I will be creating a new section to my website, devoted just to it, so not to confuse the 10-Hour card class, with the 30-Hour card class information. When students are doing research, this would be considered **one-way communication.** When anyone is presenting to the class it is **one-way communication**. When engaged in discussions, because of presentations, or even reading of **PPT** slides it is **one or** **two-way communication**. Being interactive this class can flip either way at any moment. Having stated before the use of various technologies within this class is due to what is happening at a given moment and by whom. One student may have a great ability to research a topic on the **Internet,** and in short order come up with research materials to back up his findings, **photos** or **videos** to illustrate the given topic, then be able to present, all done in about 15-20 minutes. Other students may need several hours, to just get enough material gathered, to start his report, because he lacks computer experience, or confidence. This is why teams are always shifting, to hopefully never have one very weak team, or a very strong team, against each other. Students left to create their own teams, tend to seek out others, who are similar to their level of development.

A **PPT** tends to be a succinct way to do a lecture for an on-line or hybrid class. It is also a way for the students to be able to review the material numerous times, at their leisure. They can go through it quickly or at their own pace, and gain from it what is necessary. To make sure that these PPTs met the **ADA** compliance standards I would have them evaluated by Bobby at the Center for Applied Special Technology. They do webpages, but in turn I would think they would do PPTs also. PPTs can have audio added to them, where the student can just click onto the speaker, if he/she wants to hear the presentation. There really are no costs, if you already have Microsoft Office on your computer. Adding audio may cost if you do not do it yourself. You also can use the free download program Audacity which is very user friendly for adding audio.

Since this short OSHA class is still a required face-to-face class, there is a great deal of **social presence,** and **media richness**, incorporated with each session. Granted technologies play a part in this interactive class, such as using PowerPoint presentations or videos. It is the interaction with the individual students that make the difference, and brings the topics to life. The use of demonstration materials is always an added dividend, to any presentation. It gives the student something to do, while in front of the class, and it allows the class real visuals, no matter what item is being shown. These too are forms of technology. Most of my classes are all male students. My current 30-hour OSHA class started with 21 students, on the roll. Two were females. The class has a very mixed cultural background. We are at the half way point, in the class, and students have dropped out, as expected. I now have only one female, and 13 students remaining. My female student is one of my leaders in this class. There is much **body language**, and **many visual cues** throughout this class. When the students break up into small teams, it is fun to circulate and/or sit back, and **watch the dynamics surface**, compared to the whole class. These smaller groups tend to be **far more expressive**, **and willing to interact** with each other. These teams are always shifting. I change them often, and watch to see **who will surface** during the next presentations. None of this would come across in the same way, if the students were to use any type of technology, like a homemade video instead of **their live performance**. Many students do not have that kind of ability, or desire to experiment with such. To even do a written paper, let alone a PPT, is an overwhelming, major stretch, for many of them.

**Introduction to OSHA** is done via a 2-hour OSHA created PowerPoint (PPT) presentation - Mandatory for all Outreach Trainers, who must use it for each OSHA class. Within this PPT are review questions, and handouts examples that coordinate with the required handouts for participants, which are also included in their custom notebook I assembled, which the students purchase at the SBVC bookstore, instead of a textbook. See explanation above with the outline of OSHA Mandatory topics.

**OSHA--Focus on Four Hazards** is a combination of **PPTs**, **videos**, **Fatal Fact sheets, handouts** and **OSHA** **Facts Sheets**, notebook information, class activities/presentations, and homework assignments. The videos are a collection acquired by the instructor from OSHA and other government agencies. Some short videos have been taken from **YouTube** or similar sites. The use of **demonstration** **materials** comes from the instructor's collection, and volunteer student's supplying items, usually based on their work. These items are also various types of technologies, which are being used in this class. This can be a combination of **Student-Content, Student-Instructor or Student-Student**, with **one and two-way communication** in this interactive class. There are several homework assignments and class activities that make for class researches, and presentations, usually in teams of two or three. Class discussions and questions are intermixed throughout. As the instructor, I become more a facilitator, the more confident the class becomes. These classes usually have **students with many years of experience**. Therefore, it is worth my sitting back, and listening to what they tell the younger students. The **real-life stories** make the **biggest memorable impact** in each class.

**Example of 4 Fatal Facts Sheets - Topic: Stuck by**

**Example of Fact Sheet - Reducing Falls in Construction Safe use of Stepladders**

**Personal Protective & Lifesaving Equipment** (PP&L E)is a combination of OSHA and custom made **PPTs**, the **OSHA notebook**, **videos** from various sources, and student research reports collecting and showing their own resources and sometimes including handouts for classmates. This can be a combination of **Student-Content, Student-Instructor or Student-Student**, with **one and two-way communication** depending on the presentation and interest of that particular class.

**Health Hazards in Construction (HHC)** is a combination of OSHA and custom made PPTs, the OSHA notebook, videos from various sources, and student research reports collecting and showing their own resources and sometimes, including handouts for classmates. **Instructor-Student** This usually is more a **one-way** **communication**. Many students find it boring, and tune out until pictures are involved. If again, a personal experience can surface, then the students listen more intently. **Student-Student**

**OSHA Elective topics & OSHA Optional topics** is a combination research reports, which each student is required to write, a 1 to 2-page paper, and then, present a 10-minute oral report. Each student can choose to do a PPT, bring in equipment for demonstration, show two to four minute video related to topic or anything else that student thinks may be acceptable, and good to illustrate the point being made. The written and oral report are required, all else is optional. See above paragraph between Elective and Optional topics.

Sources for some or all above areas:

[http//www osha.gov](file:///C:\Users\Nita%20Leighton\Desktop\http\www%20osha.gov) and [http//www.cdc.gov/niosh](file:///C:\Users\Nita%20Leighton\Desktop\http\www.cdc.gov\niosh) (sister organization to OSHA) and <https://www.youtube.com/>

**Explain each technology in terms of one vs. two-way communication, media richness/social presence, and why the chosen technology would be appropriate for supporting the indicated interaction.**

Some **PPT**s are directly from OSHA. Others are from related organizations. If I can't find a satisfactory one, I have made many **PPT**s to fill in areas, or to accommodate the class needs, or time requirements. The PPTs are more interactive than just one-way communication. The students take turns reading each slide out loud, for the class. Then, there are discussions about the slides. Within some PPTs there are photos, and students will tell what they see may be wrong or right, within that slide. Following the slide shows are explanations and questions, and/or more discussions. Many students discuss real life experiences here, to illustrate their points. This would be student-content when interacting with the PPT. In the discussion side, it could be student-student or student-instructor depending on how the flow of the conversation goes. Media richness is covered with the PPTs, because as a class, there is great interaction during delivery of the information, and the questions or discussions that happen immediately. Since much of this is done during the face-to-face part of the class, it is easy to read body language, and hear the different voice inflections, during the two-way delivery of the exchange of ideas, thus making this more personal, than just a computer talking. Social Presence in this class is applied slightly differently, then when using such technologies as Facebook or Twitter. The students are continuously shifting teams, throughout the duration of the class. Reason being, in the business community, one never knows who one might have to work with on a given project therefore, people need to be able to work together, when asked. This also keeps changing the dynamics of the class. It helps balance out the teams too.

**Videos**, many from **YouTube** or other similar sources, like **yahoo or google images** **for photos**, are **one**-**way communication**, **student-content**. When shown in class, I may have a quiz attached, so the students need to take notes, so they will remember what they saw. Then, after the quiz, discussions happens, it could be **student-student or student-instructor** depending on questions asked, and who answers them. The material viewed is again impersonal, since it is not done live, and there cannot be actual feedback from those on any given video. Yet, as to **Media richness**, what occurs in class is real, and beneficial to all who choose to participate. They can experience the **one-on-one cues** from their classmates, or from the instructor, which turns this into a **two-way communication event**.

**Computer** research occurs on **osha.gov**, or other related websites, including **YouTube**, if a video is required for class activities, homework and research reports. The students use **flash drives** to transport information from home or classroom computers, to the instructor's computer, for displaying their work. Periodically, this also may happen via a **smart phone**. So, while in research mode primarily it would be considered **one-way communication** where the student is gathering information and working on required activities and assignments. However, it becomes **two-way communication during delivery** of presentation. The **students interact** well as the presenter and audience. They ask questions and inject relevant information to add to the topic to create lively discussions. During this time as the facilitator, I can observe the **media richness** in the multitude of **facial expressions, voice inflections and body language** from those who are and are not participating in these **instant feedback** sessions. Social presence is here in a more **personal nature** rather than through social networking.

The required **custom notebook** created for the class is like a small text. Printed handouts, class activities sheets, and homework assignments are included, with it. Everything is also on the Instructor's website. All information on the website is there for the students to view, or if they wish to download. Like a textbook, this information might be more a **one-way communication** unless the student contacts the instructor for some reason. Many students refer to and interact with the website during and outside of class.

**Demonstration materials** vary according to the topic being discussed. It may be brought in by the instructor, or any student who is presenting that topic. This usually creates a **two-way communication** as a show and tell with some materials being passed around the class, questions asked and answered for immediate feedback. Here again, it would be **one or two-way communication** depending on timing. It would depend on the individuals involved. If a student chooses to sit in class and does not enter into any discussion, or ask any questions then, this could be only a **one-way delivery** of information to that individual. On the other hand, there are students who are always injecting comments or questions, thus making it a two-way communication event. **Media Richness** can play a part with either type of student mentioned here, and it might be the presenter who is furnishing the instant feedback, or transmitting cues to the audience, or it could be the reverse, or a combination of both. Again, **social presence** in this **interactive class is a very major factor for a successful outcome** even without the technological inventions of Facebook or Twitter.

**Identify which of the three types of interactions (student-content, student-instructor, and/or student-student) in an online class are supported by each technology.**

This class will be an **interactive student driven class**. After the required school and OSHA introductory information, then as the instructor, I sit back and become a facilitator for the most part. I may have to step forward to explain the next activity, or homework assignment, but then, I again let the students run with that information, and see what they can produce individually or in teams of 2 or 3.

**PPTs** -- student-content, student-instructor, student-student

**Videos and photos** -- student-content, student-instructor, student-student

**Computer and flash drives** -- student-content, student-instructor, student-student

**Custom notebook, printed handouts, class activities sheets, and homework assignments**-- student-content

**Demonstration materials** -- student-instructor, student-student

**Develop a description of the assessment/evaluation methods for each session of the class.**

In Session 9, we had to create a **test** or a **survey**, if possible, to coordinate with our final project. As I stated within that assignment, I wear two hats in that class, one for the school, and a strict one for Federal OSHA, which has tests already in place. So, I chose to do my Student Learning Objectives (SLOs) for the **test.** Inserted is my Student SLO handout sheet. I also am showing my End of Class Evaluation **survey**. I do not rate or grade it, but I do gain valuable information from it, at the end of every class.

**San Bernardino Valley College Student Learning Objectives**

**OSHA-010-class, demonstration of competency tasks:**

ONLY students who have demonstrated competency in 100% of the stated, Student Learning Objectives (SLOs) can be allowed to earn a passing grade. Schools may not grade on SLOs, but in order to keep their accreditation, schools must evaluate the SLO performance of every student and be able to document that every student, who earned a grade of “C,” or better, demonstrated competency **on each and every SLO** that is listed in the Course Outline of Record (COR) for that class. **Scoring** of SLOs is:

**4**=excellent, --**3**=good, -- **2**=fair -- all passing -- AND -- 1 and 0 =less than competent -- not passing

Each SLO is scored on an individual basis. You must **PASS ALL 5 SLOs**.

**You may resubmit any NEW answers again, for a higher score, if appropriate, and acceptable.**

***!! READ EVERYTHING FIRST !!***

***Please submit your essay answers on separate paper with each SLO.***

***The more you can explain in detail, the better chance for a higher score.***

***Remember to write or type your name on each page***

**This means you MUST ANSWER ALL 5 SLOs completely and accurately**

**COURSE OBJECTIVES FOR STUDENTS:**

**Upon successful completion of the course the student should be able to:**

A. Explain workers' rights under OSHA

B. Diagram steps necessary to file an OSHA complaint

C. Describe the responsibilities of an employer

D. Identify, abate, avoid and prevent job related hazards on a job site

E. Utilize helpful worker safety and health resources

***Please submit your essay answers on separate paper with each SLO.***

***The more you can explain in detail, the better chance for a higher score.***

***You may research the correct answers, also refer to the custom study guide you were given***

***BUT as in class, you must cite where you obtained that information for any given answer***

**Example of Student handout sheet on SLOs**

**Example of End of Class Evaluation Survey**

**Rubric** for the SLOS

Part 1 = Task Description

Performance -- 5 essay/research assignments by each student

**STUDENT LEARNING OBJECTIVES: come directly from the Course Outline of Record for OSHA 010**

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

A. Explain workers' rights under OSHA

B. Diagram steps necessary to file an OSHA complaint

C. Describe the responsibilities of an employer

D. Identify, abate, avoid and prevent job related hazards on a job site

E. Utilize helpful worker safety and health resources

Part 2 = Score (scale)

Describes the student's performance per SLO

**Scoring** of SLOs is:

**4** = excellent, --**3** = good, -- **2** = fair -- all passing --

AND

1 and 0 = less than competent -- not passing

Defining what equates **excellent** is: a student who researches the material as suggested, and writes the answer in great detail, demonstrating major understanding of material. Also, written in proper sentence structure, and presentation form. Student cites where work was found.

Defining what equates **good** is: a student who may research some parts of the material, and then paraphrases the answers to condense the writing to just the basic amount, without adding much detail. Most likely done by hand, not typed, and may or may not give credit for all research used. This student only cites one general location for everything.

Defining what equates **fair** is: a student who does not do any type research, just relies on own knowledge, which might be good enough to get by, but cannot back it up with research and citations. Most answers are only a few sentences long without much detail. Work is done by hand usually, not typed.

Defining what equates **incompetent:** a student barely makes an effort to answer anything. The submission most likely is done in only a few words, and written with no research or citations.

Defining what equates 0 is: a student who submitted nothing for the assignment, within the given time limit.

Part 3 Dimensions

This means you MUST ANSWER ALL 5 SLOs completely and accurately to the best of your ability. You are being scored on your performance and competence. Please submit your essay answers on separate paper, with each SLO written above your answer. The more you can explain in detail, the better chance for a higher score. Remember to write or type your name on each page. If you do each SLO on a separate sheet then, if you need to resubmit anything, it will be clear as to exactly which SLO is in question, and which is being redone. As in class, all resubmissions must be clearly marked as such, in either a different color, or on a new piece of paper, and returned with the original, for comparison. DO NOT REPEAT the original answer again.

Remember you may research for the correct answers. Also refer to the custom study guide you were given. As in class, you must cite where you obtained that information, for any given answer if you did research.

The assessment method for this class is based on an accumulation of point system.

Below is a breakdown of my regular grading/assessment areas for the class. I use an accumulated point system

Students receive points for **participation** in discussions by asking questions, or injection information relevant to topic, weekly. This is 20% of their grade.

Student OSHA and other **quizzes** are worth 5% of their grade. The OSHA quizzes are only 6 questions each, and made up of multiple questions. My quizzes are 10 questions, mainly multiple choice, with a rare true/false used.

Students get points for **presenting their work**, their **research**, the number of **relevant observations** they can glean from the class activities, or homework assignments, and how they would try to prevent, that given accident from occurring by the **citations** of the standards they found in OSHA, to back up what they think is the problem, and how to fix it. This is 25% of their grade. Most weeks

Students are required to do a one-two page **written research report**, then, present it to the class **orally.** If they choose, they may also do a short PowerPoint presentation, show a brief 2 to 4 minute video clip, photos, or bring in demonstration materials, to help illustrate the topic. This report is 25% of their grade.

There will be a required **final exam** consisting of 15-20 multiple choice questions along with a short essay problem on how to resolve a given situation. This is 25% of their grade.

References

[http//www.cdc.gov/niosh](file:///C:\Users\Nita%20Leighton\Desktop\ETEC%20674\Session%207\http\www.cdc.gov\niosh)

<http://www.curricunet.com/SBVC/reports/course_outline_html.cfm?courses_id=3349>

[http//www osha.gov](file:///C:\Users\Nita%20Leighton\Desktop\ETEC%20674\Session%207\http\www%20osha.gov)

<https://www.osha.gov/dte/outreach/construction/construction_procedures.pdf>

<https://www.youtube.com/>