Safety for Industrial Project
CNST 3210

General
Course Instructor: Fred Zayas, B.S., M.S
Course Time: Monday 4:00 – 6:00 PM
Office Hours: By appointment or immediately after class
Contact Information: Blackboard/email

Course Description
The course introduces the student to the Zero Injury Leadership Concept for achieving a zero injury daily outcome on industrial construction projects. The course will include Construction Industry Institute research safety best practices, interactive activities involving safety culture, leadership techniques; behavior based safety, industrial hygiene, environmental concerns as well as industrial safety analysis techniques.

Course Prerequisites
Prerequisite: CNST 3301,

Textbook
ISBN- 978-0-9791685-4-3

Learning Objectives
Upon the completion of the course students will demonstrate the ability to:

1. Establishing and Leading a Safe Culture to achieve a Zero Injury Target in the Construction Industry.
2. Define the elements and key attributes to develop and implement a safety program that will promote Zero Injury concepts in the construction and industrial processing industries.
3. Develop the skills to generate and interpret safety metrics.
4. Develop the skill to generate and understand safety tools and techniques to improve the safety culture in the construction and commercial industry.

In addition to the learning objectives above, this course emphasizes safety and oral/written communication.

Grading
Class Attendance & Participation  25%
Midterm Exam  25%
Final Exam  25%
Quizzes/Homework Assignments  25%
<table>
<thead>
<tr>
<th>Week #</th>
<th>Topic, Note: Safety Moments to begin each class; will be student led.</th>
<th>Homework Assignment(s), Prepare safety topic for each class/Class activity</th>
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<tbody>
<tr>
<td>Class 1</td>
<td>Construction Safety Management – Zero Employee Injury Introduction Course Summary and Concepts.</td>
<td>Homework Assignment -Read Chapters 1-3, Search for an Industrial Construction or Petro/Chemical company mission statement and bring to class. (re-type) Class Activity – What is a safety culture</td>
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<td>Class 2</td>
<td>Chapter 1 The Search For Zero Injury Chapter 2 Redefining Safety Commitment Chapter 3 Defining Zero Injury</td>
<td>Homework Assignment -Read Chapters 4-5, Describe 4 elements of the safety cultural environment at your work place, home life or college campus. Write a safety mission statement for an industrial construction company.</td>
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<td>Class 3</td>
<td>Chapter 4 The Zero Injury Logic Chapter 5 The Zero Injury Research – In Summary</td>
<td>Homework Assignment -Read Chapter 6 &amp; 7 Describe 5 elements that you would engage to improve safety culture in your work place, home or college campus. Define leadership and how it influences a safety culture.</td>
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<td>Class 4</td>
<td>Chapter 6 Corporate Leadership Is Required Chapter 7 Injury Rates and The Cost of Injury</td>
<td>Reading Homework Assignment -Chapters 8-9 Class activity – define corporate leadership and how does it relate to the organizations safety culture. Home Work Assignment - Define how a company achieves</td>
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| Class 5 | Chapter 8 Zero Injury Return on Investment  
| Chapter 9 Zero Accident Injury Research  
| Initial Discussion - Texas City BP Explosion Homework Assignment | Reading Homework Assignment - Chapter 10-12  
Homework Assignment – Review Texas City BP Explosion, identify and list 5 culture findings/observations and 5 equipment findings/observations. Generate one paragraph to describe how the findings relate to the company safety culture at that time. |
| Class 6 | Mid Term Exam (Chapter 1-9) | Mid Term Exam Chapter 1-9 |
| Break | No Class –Break | Read Book Chapters 10-12 |
| Class 7 | Chapter 10 Zero Accident/Injury Research  
Chapter 11 Near Miss Reporting and Introducing the Employment Safety Improvement CARD  
Chapter 12 Demonstrating Care  
BP Texas City Discussion | Reading Homework Assignment - Chapter 13-15  
Class activity – Draw an accident event pyramid and describe how it can be used.  
Class Activity – BP Findings Correlation Activity  
Homework Assignment - Define/Describe how Organizational Safety Fiber relates to the Safety Culture. |
| Class 8 | Chapter 13 Safety Question of the 21st Century  
Chapter 14 Safety is the Fiber Optic Thread  
Chapter 15 Author’s (Mr. Emmitt J. | Reading Homework Assignment - Chapter 16-18  
Homework Assignment - Describe what an evergreen safety culture is and how it can be implemented across an |
| Class 9 | Chapter 16 Taking Management Action  
| Chapter 17 Evergreen Safety Progress  
| Chapter 18 Safety Management System | Reading Homework Assignment - Chapter 19 & 20  
| | Homework Assignment - What are the factors that must be considered when implementing a safety management system? |
| Class 10 | Chapter 19 Safety Management Choices  
| Chapter 20 The Safety Management System | Reading Homework Assignment - Chapter 19 & 20  
| | Homework Assignment - Design an organization chart for a construction company. |
| Class 11 | Chapter 21 Safety Teams  
| Chapter 22 Managing the System Safety Teams  
| Introduction to Job Hazard Analysis | Class Activity – Review organization charts for a safe construction company.  
| | Homework Assignment - locate and bring a sample of a Job Hazard Analysis (JHA) to the next class. Describe 6 attributes of a JHA. |
| Class 12 | Job Hazard Analysis (JHA)  
| Introduction to Incident/Accident Analysis Process, Techniques & Tools | Homework Assignment - Identify and list 3 incident cause analyses techniques/tools. Identify and describe 4 attributes of the analysis tool and 5 techniques used when conducting the cause analysis assessment. |
| Class 13 | The Incident/Accident Analysis Process, Techniques & Tools | Review Chapters 1-22 |
| Class 14 | Achieving Zero Employee Injury Steps Towards Zero & Final Exam Review (Chapters 1-22) | Prepare for final exam |
ACADEMIC HONESTY
The instructor reserves the right to adjust letter grades, upward only, based on individual attendance and class participation if numerical grade warrants such consideration. Each unexcused absence in excess of two during the semester will result in adjustment of the final grade downward by one letter grade. Students who violate University rules on scholastic dishonesty are subject to disciplinary penalties, including the possibility of failure in the course and dismissal from The University. Since dishonesty harms the individual, all students, and the integrity of The University, policies on scholastic dishonesty will be strictly enforced.

STUDENTS WITH DISABILITIES
University of Houston provides, upon request, appropriate academic adjustments for qualified students with disabilities. Any student with a documented disability (physical or cognitive) who requires academic accommodations should contact the Center for Students with Disabilities (713/743-5400) for more assistance.

EXAM POLICY
Exams will include material covered in class discussions and Homework Assignment s. Exam make-up will be given only in the event of a verified emergency or doctor-verified sickness. Homework Assignment s turned in late will be counted off 20 percent per day (only exceptions listed previously). The student is responsible for all reading Homework Assignment s and class handouts whether or not covered in class or listed on the syllabus.

COURSE/INSTRUCTOR EVALUATION
A Start-Stop-Continue survey and a course/instructor evaluation will be conducted during the semester. Any suggestions you have on improving the course, however, are welcome throughout the semester.

For detailed information about Disabilities, Religious Holy Days, the Academic Calendar, and Academic Honesty, and other information, please visit the following website:

http://www.uh.edu/provost/stu/stu_syllabsuppl.html