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CET 323-002: Construction Safety

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COURSE NUMBER	CET 323
COURSE NAME	Construction Safety
COURSE STRUCTURE	(3-0-3) (lecture hr/wk - lab hr/wk – course credits)
COURSE DESCRIPTION	Upon the successful completion of this course, participants will be able to apply principles and training techniques to clearly identify, define, and explain construction industry hazards and acceptable corrective measures in accordance with the 29 CFR 1926 OSHA Construction Regulations for the Construction Industry.
PREREQUISITE(S)	None
COREQUISITE(S)	None
REQUIRED, ELECTIVE OR SELECTED ELECTIVE	Required
REQUIRED MATERIALS	29 CFR 1926 OSHA Construction Industry Regulations & Standards July 2018 Edition
COMPUTER USAGE	Internet
COURSE OUTCOMES (CO)	<p>Student Learning Outcomes:</p> <p>Explain participant administrative responsibilities.</p> <p>Explain best practices in construction occupational safety and health.</p> <p>Recognize current trends in construction workplaces (e.g., Most Frequently Cited, Bureau of Labor Statistics workplace injury, illness, and fatality data).</p> <p>Present selected construction industry topic(s) by focusing on hazards (i.e., how to recognize hazards, how employees can protect themselves from hazards and employer requirements to protect workers from hazards).</p> <p>Explain the application of the Occupational Safety and Health (OSH) Act, including OSHA’s process/policy for inspections in the construction industry.</p> <p>Explain corrective actions for common health hazards using the key parts of 29 CFR 1926 Subparts D and Z.</p> <p>Explain corrective actions for common hazards related to steel erection using the key parts of 29 CFR 1926 Subpart R.</p> <p>Explain corrective actions for common hazards related to cranes using the key parts of 29 CFR 1926 Subpart CC.</p> <p>Explain corrective actions for common hazards related to rigging using the key parts of 29 CFR 1926 Subpart H.</p> <p>Explain corrective actions for common hazards associated with motor vehicles, mechanized equipment, and rollover protective structures using the key parts of 29 CFR 1926 Subparts O and W.</p> <p>Explain corrective actions for common demolition hazards using the key parts of 29 CFR 1926 Subpart T.</p> <p>Explain corrective actions for common confined space hazards in construction using the key parts of 29 CFR 1926 Subparts C, J, and P.</p> <p>Summarize the OSHA recordkeeping requirements.</p> <p>Explain corrective actions for common fall hazards using the key parts of 29 CFR 1926 Subpart M.</p> <p>Explain corrective actions for common excavation hazards using the key parts of 29 CFR 1926 Subpart P.</p> <p>Explain corrective actions for common electrical hazards using the key parts of 29 CFR 1926 Subpart K.</p> <p>Explain corrective actions for common scaffolding hazards using the key parts of 29 CFR 1926 Subpart L.</p> <p>Describe the requirements for Personal Protective Equipment (PPE).</p>

Describe the OSHA and ANSI guidelines for safety and health programs.
Explain corrective actions for common hazards associated with hand and power tools using the key parts of 29 CFR 1926 Subpart I.
Explain corrective actions for common hazards associated with ladders, stairs, and ramps using the key parts of 29 CFR 1926 Subpart X.
Explain requirements related to common fire hazards using key parts of 29 CFR 1926 Subpart F.
Explain corrective actions for common hazards associated with welding and cutting using the key parts of 29 CFR 1926 Subpart J.
Identify the hazards and requirements associated with concrete and masonry construction using key parts of 29 CFR 1926 Subpart Q.

CLASS TOPICS
STUDENT OUTCOMES

OSHA 1903, 1904, 1910, 1926

The Course Learning Outcomes support the achievement of the following CET Student Outcomes and TAC of ABET Criterion 9 requirements:

Student Outcome A - an ability to select and apply the knowledge, techniques, skills, and modern tools of their disciplines to broadly-defined engineering technology activities

Course Learning Outcome – Apply OSHA regulations to construction plans and prepare an OSHA-compliant safety plan.

Student Outcome F - an ability to identify, analyze, and solve broadly-defined engineering technology problems

Course Learning Outcome – Apply OSHA regulations to construction plans and prepare an OSHA-compliant safety plan.

ACADEMIC INTEGRITY

NJIT has a zero-tolerance policy regarding cheating of any kind and student behavior that is disruptive to a learning environment. Any incidents will be immediately reported to the Dean of Students. In the cases the Honor Code violations are detected, the punishments range from a minimum of failure in the course plus disciplinary probation up to expulsion from NJIT with notations on students' permanent record. Avoid situations where honorable behavior could be misinterpreted. For more information on the honor code, go to <http://www.njit.edu/academics/honorcode.php>

MODIFICATION TO COURSE

The Course Outline may be modified at the discretion of the instructor or in the event of extenuating circumstances. Students will be notified in class of any changes to the Course outline.

PREPARED BY
COURSE COORDINATED BY

Paul McCall
Paul McCall

CLASS HOURS

Monday 6:00 PM – 8:50 PM KUPF 210

OFFICE HOURS (GITC 2103)

Monday 5:30 PM - 6:00 PM KUPF 210

Or by appointment: (908) 541-5018 or plm3@njit.edu (best method to reach me)

COURSE OUTLINE

Lecture	Date	Sections	Topic	Assignment
1	January 27	Introductions, Course Syllabus 1903, 1904	Inspections, Citations, and Proposed Penalties Recording and Reporting Occupational Injuries and Illnesses	Read 1903.1-1903.22 Read 1904.0-1904.46 Read 1910.12-1910.147 HW #1 1903,1904, 1910
2	February 3	1910	General Industry Standards	Read 1926 Subpart A, B, C HW #2, Subpart A, B,C
3	February 10	1926	Review Subpart A, B, C	Read– Subpart CC HW #3, Subpart CC
4	February 17	1926	Review Subpart CC	Read Subpart D HW #4, Subpart D
5	February 24	1926	Review Subpart D	Read Subpart E, F, G HW #5, Subpart E, F, G
6	March 2	1926	Review Subpart E, F, G	Read Subpart H, I, J HW #6, Subpart H, I, J
7	March 9	1926	Review Subpart H, I, J	Read Subpart K, L HW #7, Subpart K, L
8	March 16	1926	Review Subpart K, L	Study for Mid-Term
9	March 23		MID-TERM	Read Subpart M, N HW #8, Subpart M, N
10	March 30	1926	Review Subpart M, N	Read Subpart O, P HW #9, Subpart O, P
11	April 6	1926	Review Subpart O, P	Read Subpart Q, R HW #10, Subpart Q, R
12	April 13	1926	Review Subpart Q, R	Read Subpart S, T HW #11, Subpart S, T
13	April 20	1926	Review Subpart S, T	Read Subpart U, V, W HW #12, Subpart U, V, W
14	April 27	1926	Review Subpart U, V, W	Read Subpart X, Y,Z HW #13, Study for Final Exam
15	May 11	1926	FINAL EXAM	

GRADING POLICY

Note: Grading Policy may be modified by Instructor for each Section in the Course)

Grading: The final grade in this course will be determined as follows:

▪ HW	20%
▪ Attendance	10%
▪ Midterm Exams:	30%
▪ Final Exam:	40%

A	90-100	C	70-74
B+	85-89	D	50-69
B	80-84	F	0-49
C+	75-79		

Note: This course needs to be passed with a grade of C or better. Cannot pass course if you have failing grades on midterm and final exam

STUDENT BEHAVIOR

- No eating or drinking is allowed at the lectures, recitations, workshops, and laboratories.
- Cellular phones must be turned off during the class hours – if you are expecting an emergency call, leave it on vibrate.
- No headphones can be worn in class.
- Unless the professor allows the use during lecture, laptops should be closed during lecture.
- Class time should be participative. You should try to be part of a discussion

COURSE POLICIES

- There will be No make-up EXAMS during the semester. In the event the Final Exam is not taken, under rare circumstances where the student has a legitimate reason for missing the final exam, a makeup exam will be administered. In any case the student must notify the Instructor that the exam will be missed and present written verifiable proof of the reason for missing the exam, e.g., a doctor's note, police report, court notice, etc., clearly stating the date AND time of the mitigating problem.

COURSE EVALUATIONS

- Course evaluations and program surveys are important components of the educational process. Students in this course will complete course evaluation forms distributed during the last day of the course. Evaluation is anonymous.

**STATEMENT ON
ACCOMMODATIONS**

- Reasonable accommodations are made on an individualized basis. It is the responsibility of persons with disabilities, however, to seek available assistance and make their needs known. The University has designated the Disability Resource Center as the campus coordinating office for the provision and delivery of services and reasonable accommodations that ensure the University's programs, services, and activities are accessible to students with disabilities. The Disability Resource Center is available to assist any student who has a qualified and documented disability. Please contact the Disability Resource Center at 480-965-1234 (Voice) 480-965-9000 (TTY) for additional information.

HOMEWORK - IMPORTANT

Homework is **due the week following the date they are assigned (see syllabus), and can be emailed** You can scan the homework as a pdf, save the homework as a .doc, or even take a picture of the homework as a .jpg file. Homeworks will not count if **they are turned in late**. Homework must be handed in individually.