



Philadelphia University

Faculty of Engineering - Department of Renewable Energy
Engineering
First Semester 2024/2025

Course Information

Title:	Occupational safety (615351)
Prerequisite:	Drawing and read of engineering plans (615251)
Credit Hours:	3 credit hours (16 weeks per semester, approximately 44 contact hours)
Textbook:	Safety and health for engineers, by Brauer. Roger L., Third Edition, 2016
References:	http://www.osha.gov http://www.cdc.gov
Catalog Description:	The course introduces students to fundamental safety concepts and safety hazards intrinsic in the workplace and to the role of safety engineering in the recognition and control of occupational hazards. Topics include safety definition and general guidelines, job hazard analysis, common injuries and first aid, local and international safety regulations, OSHA standards, safety management, exposure assessment and measurement, industrial hygiene, personal protective equipment, walking-working surfaces, general workplace safety, electrical safety, fire safety, machine guarding. Also, it covers toxic material, radiation, and noise hazards and how they should be reduced.
Website:	https://www.philadelphia.edu.jo/academics/zalmuala/
Instructor:	Dr. Zaid Al Muala Email: zalmuala@philadelphia.edu.jo Office: Engineering building, room 6714, ext:2450. Office hours: Sat.: 09:10 - 11:10 Sun.: 10:10 - 11:10 & 12:40 - 13:40 Mon.: 10:10 - 11:10 & 14:00 - 15:00 Tues.: 10:10 - 11:10 & 12:40 - 13:40

Course Topics

Week	Topic
1	Introduction to safety, accident losses, liability, and safety legislations, and workers compensations
2	Osha, personal and human error, appraising plant safety
3	Hazards and their control
4	Acceleration falls, falling objectives, and other impacts
6	Mechanical injury
7	Heat and temperature
8	Pressure hazards
9	Electrical hazards
10, 11	Fires and fire suppression
11	Explosion and explosives
12	Hazards of toxic materials
13	Radiation, vibration, and noise
14	Environments and confined space entry
15	Review and final exam

Course Learning Outcomes and Relation to ABET Student Outcomes: Upon successful completion of this course, a student should:

1.	Recognize fundamentals safety concepts and safety hazards intrinsic in the workplace	[K1,S1]
2.	Recognize the requirements, responsibilities, and opportunities for the role of safety engineering in the workplace	[K3,S1]
3.	Distinguish local and international safety regulations, OSHA standards	[K2,S2]
4.	Recognize industrial hygiene, personal protective equipment, walking-working surfaces, lockout/tagout, general workplace safety, electrical safety, fire safety, and machine guarding	[K3,C2]
5.	Build the required communication skills to present work, practice teamwork, build self-confidence, and communicate with classmates to analyze processes and collect data.	[S3,C1]
6.	Use of the required analytical skills and techniques from previous courses and this course to solve real-world safety-related problems.	[C2]

Assessment Instruments:

Evaluation of students' performance (final grade) will be based on the following categories:

- Exams:** Two written exams will be given. Each will cover about 3-weeks of lectures
- Quizzes:** 10-minute quizzes will be given to the students during the semester. These quizzes will cover material discussed during the previous lecture(s).
- Homework:** Problem sets will be given to students. Homework should be solved individually and submitted before the due date.
Copying homework is forbidden, any student caught copying the homework or any part of the homework will receive a zero mark for that homework
- Participation:** Questions will be asked during lectures and the student will be assessed based on his/her response
- Final Exam:** The final exam will cover all the class material.

Grading policy:

First Exam	20%
Second Exam	20%
Homework	5%
Quizzes	15%
Final Exam	40%
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Total:	100%

Attendance policy:

Absence from classes and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse, acceptable to and approved by the Dean of the relevant college/faculty, shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

October, 2024