

Safety Management in Construction

Code CEM-805	Credit Hours 3-0
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Course Description

This is an intensive independent study course that gives students a comprehensive understanding of workplace safety and teaches students how to manage safety in workplace. This course discusses all of the primary facets of workplace safety and how they interrelate. The objective of the course is to cover the international safety certifications content that enable student to clear NEBOSH, NEOSH, OSHA international certificate exams. The content includes foundation in health safety, health and safety management systems, risk assessment and controls, health safety monitoring, investigation, recording and audit, and workplace hazards and risk control. Upon successful completion of this course, students should be able to recognize the construction safety hazards associated with various construction processes, materials, and equipment. They will be able to identify the most common causes of accidents and fatalities in hazardous areas of construction and conduct comprehensive risk assessments for safety. Additionally, students will gain a better understanding of NEBOSH standards and the enforceable requirements for worker safety and health, preparing them to appear and perform successfully in the NEBOSH diploma certification exam.

Reference Books

- 1 Hughes P. and Ferret E. (2015) *Introduction to Health and Safety at Work*. The handbook for NEBOSH National General Certificate in Occupational Health and Safety. 6th Edition. Routledge. London.
- 2 Hughes P. and Ferret E. (2021) *International health and safety at work: For the NEBOSH international general certificate in occupational health and safety*. 3rd edition, Routledge.
- 3 Reese C.D. (2018) *Occupational health and safety management: a practical approach*. CRC press.
- 4 Brauer, R.L. (2022) *Safety and health for engineers*. John Wiley & Sons
- 5 Coelho, D.A., Matias, J.C. and Filipe, J.N., (2021) *The Benefits of Occupational Health and Safety Standards*. In Handbook of Standards and Guidelines in Human Factors and Ergonomics (pp. 541-568). CRC Press.

ASSESSMENT SYSTEM FOR THEORY

Quizzes	10%
Assignments	10%
Mid Terms	25%
Term Project	10%
ESE	45%

Teaching Plan

Week No	Topics	Content
1-3	Introduction to health and Safety	Course outline; objectives; teaching plan; assessment method; and concepts review. Scope and nature of health and safety; moral, legal and financial reasons of health and safety; legal framework for the regulation; health and safety acts; legal and organizational health safety roles and responsibilities; and principle of assessing and managing contractors.
3-6	Health and safety management systems – PLAN-DO	Element of health and safety management system; purpose and importance of setting a policy for a health and safety; key features and effective health and safety policy. Organisational health and safety roles and responsibilities; health and safety culture; human factors which influence safety behavior; how health and safety behavior at work can be improved. Principles and practice of risk assessment; general principles of prevention in relation to risk reduction measures; sources of health and safety information; safe system of work; permit-to-work system; emergency procedures and arrangements; effective provision of first aid in the workplace.
7-8	Health and safety management systems – CHECK – monitoring, investigation, and recording	Active and reactive monitoring; accident investigation; recording and reporting incidents. Health and safety auditing; review of health and safety performance.
9	MID TERM EXAM	
10-12	Workplace hazards and risk control	Health, welfare and work environment requirements; violence at work. Substance misuse at work, safe movement of people, working at height, hazards and control measures for works of temporary nature; and construction activities.

13-15	Risks and their control	<p>Safety movement of vehicles in the workplace; driving at work; general requirements for work equipment; hazards and controls for hand-held tools; mechanical and non-mechanical hazards of machinery; and control measures for reducing risk from machinery hazards.</p> <p>Work-related upper limb disorders; manual handling hazards, risk, and control measures; manually operated load handling equipment; powered load handling equipment; noise; vibration; radiation; stress.</p> <p>Principles, hazards, and risk associated with the use of electricity at work; control measures when working with electrical systems or using electrical equipment in all workplace conditions; forms of, classification of and health risks from hazardous substances; assessment of health risks; occupational exposure limits; safe handling and storage of waste</p>
16-17	Fire safety	<p>Fire initiation, classification, spread and legal requirements; fire risk assessment; fire prevention and prevention of fire spread; fire alarm system and firefighting arrangements; and evacuation of a workplace.</p>
18	END SEMESTER EXAM	