

PIUI 8008	HSE FOR INFRASTRUCTURE SECTOR	L	T	P	C
Version 1.0		3	0	0	3
Pre-requisites/Exposure	Graduate				
Co-requisites	Good Command in MS Word and MS Powerpoint				

Course Objectives

- a) To be suitable to become as good entrepreneurial personal
- b) To understand regulatory framework in infrastructure in undertaking projects

Course Outcomes

On completion of this course, the students will be able to

CO1: To understand the role of federal and state agencies in enforcement of the Occupational Safety and Health Act.

CO2: Recognize situations that require implementation of OSHA performance-oriented standards

CO3: Analyse and implement a written hazard communication program for exposure to hazardous chemicals

Catalog Description

This course covers recognition, control, and regulation of safety hazards in the workplace. Topics include accident investigation, Workers Compensation, record keeping, training, machine guarding, facilities, personal protection, and fire protection. Upon completion, students should be able to recognize safety hazards and recommend strategies for remediation and compliance.

Course Content

Unit I: 6 lecture hours

Worldwide Developments in HSE Performance, Management And Regulations, Health & Safety Issues in Infrastructure Sector, Environmental Issues due to Infrastructure Sector, Management of HSE, Regulations for HSE.

Unit II: 6 lecture hours

Key technical and managerial issues, Societal Issues And Responses, Factors that affect Cost, Integration of HSE in the Business, Risk Acceptance/Tolerance, due Diligence, Accountability, Liability.

Unit III: 7.5 lecture hours

Integrated Health, Safety and Environmental Management Systems, International Standards, ISO 14001 Certification, EMAS, Verification, Audit, Reporting and Assurance to Stakeholders.

Unit IV: 7.5 lecture hours

Reporting, Monitoring, Embedding - the Private and Public Sectors, Private and Public sector Corporate Governance, Reporting & Monitoring.

Unit V: 12 lecture hours

Techniques available for Identification and Assessment of Risk, Identification of Risk in Contracts and Projects, Risk treatment - Risk Control, Risk Financing (total cost of risk), The Concept of Acceptable Risk, Insurance and Risk.

Text Books and Journals

United States Department of Labor. OSHA General Industry Regulations (29 CFR 1910).
 Washington D.C.: United States Government Printing Office (2007, or any recent edition).
 (Note: equivalent editions published by the North Carolina Department of Labor and private vendors are acceptable.)

Modes of Evaluation: Quiz/Assignment/ presentation/ extempore/ Written Examination Examination Scheme:

Components	Presentation/Assignment/Projects etc	ESE
Weightage (%)	50	50

Relationship between the Course Outcomes (COs) and Program Outcomes (POs)

Mapping between COs and POs		
	Course Outcomes (COs)	Mapped Programme Outcomes
CO1	To understand the role of federal and state agencies in enforcement of the Occupational Safety and Health Act.	PO 1,2, 3, 7,8,9,10, 11,14
CO2	Recognize situations that require implementation of OSHA performance-oriented standards	PO 1,2, 3, 8,9,10, 11, 12,13,14
CO3	analyze and implement a written hazard communication program for exposure to hazardous chemicals	PO 4,5,6, 8,7, 12,13, 14

CourseOutcomes	CO 1	CO 2	CO 3
PO 1	3	3	2
PO 2	3	3	1
PO 3	2	3	2
PO 4	1	2	3
PO 5	2	2	3
PO 6	2	2	3
PO 7	3	1	3
PO 8	3	3	3
PSO 9	3	3	1
PSO 10	3	3	2
PSO 11	3	3	1
PSO 12	2	3	3
PSO 13	1	3	3

PSO 14	3	3	3
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Course Code	Course Title	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PO13	PO14
PIUI 8008	HSE FOR INFRASTRUCTURE SECTOR	2	3	3	2	3	2	2	2	2	1	3	3	3	3
		Students will demonstrate strong conceptual knowledge and execution in soft and hard infrastructure planning, development, management, financing, regulation and governance.	Students will demonstrate effective understanding of infrastructure planning and development, utility & energy management, urban transportation including metro rail, e-vehicle with charging and other modes of urban surface transportation, water supply and sewerage, smart city planning and effective financing urban infrastructure.	Students will demonstrate analytical skills to understand issues with remedial solutions relating to urban infrastructure. of soft and hard infrastructure	Students will exhibit the ability to integrate planning, construction & development, operation & management, financing, regulation and governance of urban infrastructure projects and facilities.	Students will exhibit the ability to integrate technical, economic, social and regulatory frameworks for urban infrastructure sector planning and resource management.	Students will exhibit deployable skills pertinent to urban hard and soft infrastructure sector and smart city development and management.	Students will be able to develop and evaluate alternate managerial choices and identify optimal solutions.	Students will demonstrate effective application capabilities of their conceptual understanding to infrastructure planning, development and management.	Students will be able to exhibit effective decision-making skills, employing analytical and critical thinking ability for planning, development and management of soft and hard infrastructure.	Students will demonstrate effective oral and written communication skills in the professional context.	Students will be able to work effectively in teams and demonstrate team-working capabilities.	Students will exhibit leadership and networking skills.	Students will demonstrate sensitivity towards ethical and moral issues and have ability to address them in the context of urban planning, development and management including cost effective financing and good governance.	Students will demonstrate employability traits in line with the needs of changing hard and soft urban infrastructure sector.

1=weakly mapped
 2= moderately mapped
 3=strongly mapped

Model Question Paper

Name:			
Enrolment No:			
Course: HSE FOR INFRASTRUCTURE SECTOR			
Programme: MBA UISC		Semester: Odd	
Time: 03 hrs.		Max. Marks:100	
Instructions:			
Section A (each carrying 2 marks); Attempt all questions from Section B (each carrying 5 marks). Any Two Questions from Section C (carrying 15 marks). Case Study Section D (30 Marks)			
Section A ()			
Define the following			
1	Outline the risks and suitable control measures while executing high temperature works in a construction site.	[5]	CO1
2	Write about Scaffold erection and prepare a check list for its inspection.	[5]	CO5
3	Identify the personal protective equipments essential for safety of construction workers and discuss its importance in safety.	[5]	CO2
4	Write about the mechanical hazards involved in usage of portable equipments at construction site.	[5]	CO2
SECTION B (Attempt all Questions)			
5	Enlist the importance of tagging and warning signs displayed at construction site with suitable examples.	[5]	CO3
6	Discuss safety aspects of hand tools, power tools and pneumatic tools.	[5]	CO1
7.	How to Prepare EIA?	[5]	CO3
8	Write about safe usage of ladders at construction site and prepare a checklist for ladder inspection.	[5]	CO1

SECTION C (Attempt any Two Questions)			
9.	Write about safety facilities to be made while working at heights in construction site.	[15]	CO2
10.	Write about risks and control measures in rigging activity.	[15]	CO3
11	What are the precautions for usage of grinding, welding and drilling machines?	[15]	CO3
SECTION D (Case Study)			
12	Describe excavation hazards and safe work procedures at construction sites.	[30]	CO2