

Site Supervisor for Environment, Health and Safety

01CI1813

Objective of the Course:

- To explain the role and responsibilities of the Supervisor Site EHS.
- To explain the procedures to evaluate and improve EHS concerns at the construction site.
- To discuss about the requirement of special tools box.
- To discuss about maintaining healthy and safe working environment at the construction site.

Credit Earned: 01

Student's learning outcomes:

After successful completion of the course, it is expected that students will be able to,

1. Describe the various types of hazards, accidents and emergencies associated with the workplace and their prevention methods.
2. Explain the importance of EHS based orientation and training programs.
3. Discuss about the identifying of hazards or unsafe site condition and reporting the same to the appropriate authorities.
4. Identify risks and other emergency situations at the workplace and respond accordingly to minimize risk.

Teaching and Examination Scheme

| Teaching Scheme (Hours) | | | Credits | Theory Marks | | | Tutorial/ Practical Marks | | Total Marks |
|----------------------------|----------|-----------|---------|--------------|-----------|------------|---------------------------------|----------------------|----------------|
| Theory | Tutorial | Practical | | ESE (E) | IA (M) | CSE (I) | Viva (V) | Term Work (TW) | |
| 00 | 00 | 02 | 01 | 00 | 00 | 00 | 50 | 00 | 50 |

Detailed Syllabus

| Sr. No. | Title of the unit | Number of Hours |
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| 1 | Introduction to the job role supervisor site EHS | 02 |
| 1.1 | Describe the role and responsibilities of a supervisor site Environment, Health and Safety (EHS). | 01 |

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| 1.2 | Define the personal attributes required in EHS occupation. Explain the future possible progression and career development options of a supervisor site EHS. | 01 |
| 2 | Enforce adherence to safe work practice at site | 03 |
| 2.1 | Discuss about the different safety signs and bulletin boards used at the construction site. Explain the personal protective equipment (PPE) associated with various job roles in construction sector. Describe the various types of hazards, accidents and emergencies associated with the workplace and their prevention methods. | 2 |
| 2.2 | Explain the safe handling procedure for the tools and equipment involved in construction work. Describe the procedures involved in evaluation of EHS concerns. Discuss about the work permit for various construction works such as welding, cutting, grinding etc. Explain the procedure for the waste disposal as per organizational and environmental norms. | 1 |
| 3 | Conduct Orientation and EHS based training of manpower at construction site | 03 |
| 3.1 | Discuss the importance of EHS based orientation and training programs for the workers/ new employees of construction site. Explain the steps to conduct training for the safe uses of equipment, PPE and tools. Describe the procedure to raise service request for tools, materials and equipment as per the organizational norms | 2 |
| 3.2 | Discuss the procedure for site maintenance work as per EHS norms. Explain the procedure to conduct hygiene training programs at the construction site Describe the importance of special tool box talk and procedure for its implementation. | 1 |
| 4 | Prevent unsafe condition of site environment | 03 |
| 4.1 | Discuss the various types of hazardous materials/ wastes associated with a construction site. Explain the EHS protocols and procedure in case of any hazards, accidents or emergencies. Describe the methods for dealing with hazards and accidents at a construction site. Discuss about the limits of responsibility for identifying site accidents or injuries. | 2 |
| 4.2 | Explain the procedure for waste disposal as per organizational and environmental norms Explain the procedure to maintain emergency response plan. Discuss about the tolerance/ minimum levels of dust, air pollution, noise pollution, etc. and methods to control them. | 1 |
| 5 | Investigate and report on safety relevant concerns at a construction site | 03 |
| 5.1 | Discuss about the evaluation of EHS concerns and risks at the construction site. Explain the statutory compliance related to the safety concerns of the construction sites. Describe the techniques to investigate and document the accidents or near-miss taken place at the work place. | 1 |
| 5.2 | Explain all the preventive measures taken to avoid any accidents or near misses at the construction site. Discuss about the identifying of hazards or unsafe site condition and reporting the same to the | 1 |

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| | appropriate authorities. Explain the procedure to obtain EHS permit prior to and post completion of work. | |
| 5.3 | Describe about the responses that could be taken during emergencies. Explain the methods of data analysis for EHS near-miss and accidents cases, and derive possible remedies for same. Discuss about the first-aid requirement of a construction site | 1 |
| 6 | Supervise, monitor and evaluate performance of subordinates at workplace | 03 |
| 6.1 | Discuss the procedures and policies regarding the performance evaluation and appraisal of the construction workers / subordinates. Explain the methods to assign and track the work targets given to the various worker's gangs and subordinates. Describe the checks/ procedures to ensure the quality/ accuracy of the completed work/ task as per standard practices. | 2 |
| 6.2 | Discuss the inclusion of activities and practices into the construction work which are sensitive towards PWD (Person with disabilities), Cultural diversity and gender equality. | 1 |
| 7 | Management safety and healthy workplace | 05 |
| 7.1 | Explain the various types of hazards at construction site and procedures to respond in case of any emergency or accidents. Discuss about the various personal protective equipment (PPE) used during various construction works. Describe the safe work practices to be followed while performing task. Discuss the methods to ensure the workplace safety and good health of workers. Explain the safe ways for using tools, tackles, equipment and materials as specified by Environment, Health and Safety (EHS) department. | 3 |
| 7.2 | Discuss the policies, guidelines and other requirements related to workplace safety as per EHS department/ government norms. Describe the various types of infectious disease, their symptoms and control, at the construction site. Discuss the medical guidelines, national legislation, local policies and protocols regarding spread of infectious disease. | 2 |
| 8 | On-the-job training | 06 |
| 8.1 | Ensure the installation of various sign boards and bulletin boards for safety as per the standards and legal requirements. Demonstrate to implement the safe work practices at construction site. Demonstrate to conduct safety walk /site safety inspection. Ensure the safe access to the scaffold and walkways with all safety installations such as fall protection, safety net etc. Demonstrate to ensure adequate safety measures are followed at the site. Ensure the appropriate personal protective equipment (PPE's) is used by the workers as per health and safety specifications. | 3 |
| 8.2 | Demonstrate the activities to encourage workers to identify unsafe/unhealthful workplace conditions and hazards. Demonstrate to check the sub-contractors work for the EHS compliance. Demonstrate to grant/ obtain EHS department clearance for the respective construction | 3 |

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| | works. Demonstrate to ensure various safety permits for starting the related construction work. | |
| | Total | 28 |

Suggested Theory Distribution

The suggested theory distribution as per Bloom's taxonomy is as per follows. This distribution serves as guidelines for teachers and students to achieve an effective teaching-learning process

| Distribution of Theory for course delivery and evaluation | | | | | |
|---|------------|-------|---------|----------|--------|
| Remember | Understand | Apply | Analyze | Evaluate | Create |
| 5% | 10% | 30% | 30% | 15% | 10% |

Instructional Method and Pedagogy:

1. At the start of course, the course delivery pattern, prerequisite of the subject will be discussed.
2. Laboratories will be taken in the dual mode: within lab as well as on the field.
3. Oral examination will be conducted at the end of the semester as a part of overall evaluation.
4. The course includes a laboratory, where students have an opportunity to build an appreciation for the concepts being taught in lectures.