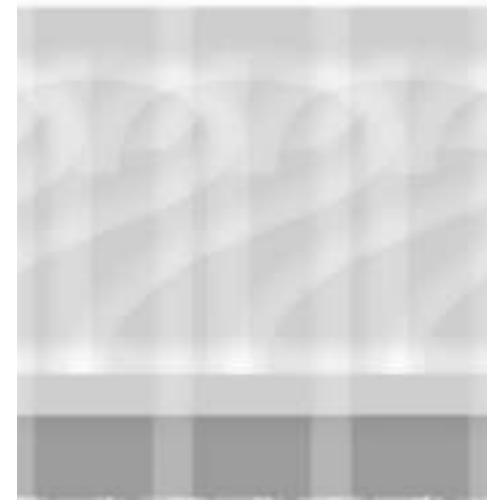


Construction Hazards and Risks Control

Lecture Title: – Advanced Construction Hazards & Risk Assessment Techniques

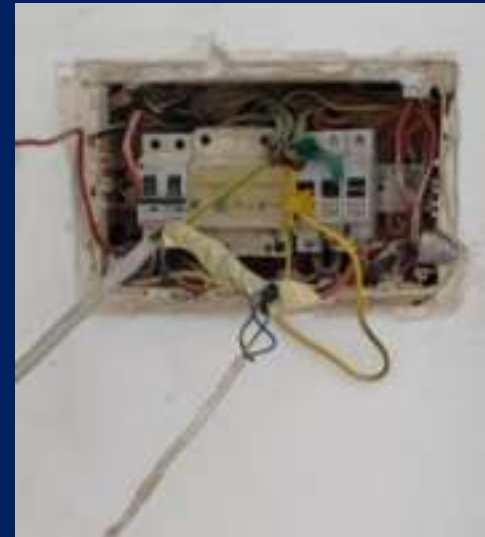
Lecturer: Katia Fenech

Date: 9th October 2024



**Undergraduate Diploma in
Occupational Health and Safety**

- **Electrical Hazards:**
- Electrocution from faulty wiring, exposed cables, unprotected circuits.
- **Preventative Measures:** Proper insulation, regular electrical inspections, lockout/tagout (LOTO) procedures.



- **Heavy Machinery & Moving Vehicles:**
- Cranes, forklifts, trucks moving around the site pose serious risks.
- **Safety Tips:** Use of spotters, site traffic management plans, and daily inspections of machinery.



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Certifications

CREATE A SPHERE OF SAFETY
PREVENT STRUCK-BY INCIDENTS

Best Practices for Safe Crane Lifts

EXTEND ALL OUTRIGGERS, USE PROPER CRIBBING, AND ENSURE USE OF APPROPRIATE CHARTS TO HELP MAINTAIN STABILITY

ENSURE CRANE HAS ANTI-TWO BLOCK DEVICE TO PREVENT TWO-BLOCKING

ENSURE PROPER SLING ANGLES OF 45-60 DEGREES

USE TAG LINES AND PUSH STICKS TO KEEP THE LOAD UNDER CONTROL

NEVER STAND UNDERNEATH A SUSPENDED LOAD!

USE CLEAR SIGNALS TO COMMUNICATE WITH THE CRANE OPERATOR

SET UP BARRICADES ALL THE WAY AROUND THE CRANE

For more information on preventing struck-by incidents, visit: www.cpwr.com/struck-by-hazards

CDC
National Institute for Occupational Safety and Health
NIOSH

CPWR
THE CENTER FOR PREVENTING STRUCK-BY INCIDENTS
RESEARCH AND TRAINING

21 ACADEMY

www.21Academy.edu

- **Hazardous Substances:**

- Exposure to asbestos, silica dust, lead, chemicals like solvents or adhesives.

- **Control Measures:** Ventilation systems, protective clothing, asbestos abatement programs, proper labelling of hazardous materials, ensure Safety Data Sheet is at hand.



Safety Data Sheet

- [safety_data_sheets_for_hazardous_chemicals_information_sheet.pdf \(hsa.ie\)](#)
- [Safety Data Sheets | Free SDS Database | Chemical Safety](#)



Legislation

- Chapter 424 of 2000 –Occupational Health and safety Authority Act



- LN 88 of 2028 -Work Place (Minimum Health and Safety Requirements for Work at Construction Sites) Regulations,

5. The project supervisor shall:

Project
supervisor:
Duties.

(1) take account of the general principles of prevention concerning health and safety referred to in the Act and subsidiary regulations as appropriate, during the various stages of designing and preparing the project, in particular:

(a) when architectural, technical and, or organizational aspects are being decided, in order to plan the various items or stages of work which are to take place simultaneously or in succession;

(b) when estimating the period required for completing such work or work stages.

Account shall also be taken, each time this appears necessary, of all health and safety plans and of files drawn up in accordance with sub-regulation (4) or adjusted in accordance with paragraph (e) of sub-regulation (4).

(2) The health and safety plan shall set out the rules applicable to the construction site concerned, taking into account where necessary the industrial activities taking place on the site; this plan shall also include specific measures concerning work which falls within one or more of the categories of Schedule II.



(3) In the case of construction sites on which work is scheduled to last longer than 30 working days and on which more than 20 workers are occupied simultaneously, or on which the volume of work is scheduled to exceed 500 person-days, the project supervisor shall communicate a prior notice drawn up in accordance with Schedule III to the Authority at least four calendar weeks before work starts on the project. Once any work activity on the project commences, a copy of the prior notice shall be clearly displayed on the construction site and, if necessary, periodically updated.

Prior notice.

(4) The project supervisor shall also:

Health and
safety plan.

(a) co-ordinate the implementation of the provisions of this regulation, and shall draw up a health and safety plan prior to the setting up of a construction site;

(b) prepare a file appropriate to the characteristics of the project containing relevant health and safety information to be taken into account during any subsequent works;

Health and
safety file.



(c) coordinate the implementation of the general Coordination principles of prevention and safety:

(i) when technical and, or organizational aspects are being decided, in order to plan the various items or stages of work which are to take place simultaneously or in succession;

(ii) when estimating the period required for completing such work or work stages;

(d) coordinate the implementation of the relevant provisions of these regulations in order to ensure that employers and, if necessary for the protection of workers, self-employed persons:

(i) apply the principles referred to in regulation 9 in a consistent manner;

(ii) where required, follow the health and safety plan referred to in sub-regulation (4) of regulation 5;

(e) make, or cause to be made, any adjustments required to the health and safety plan referred to in sub-regulation (4) of regulation 5 and the file referred to in sub-regulation (4) of regulation 5 to take account of the progress of the work and any changes which have occurred;



(e) make, or cause to be made, any adjustments required to the health and safety plan referred to in sub-regulation (4) of regulation 5 and the file referred to in sub-regulation (4) of regulation 5 to take account of the progress of the work and any changes which have occurred;

(f) organize cooperation between contractors, including successive contractors on the same site, coordination of their activities with a view to protecting workers and preventing accidents and occupational health hazards and reciprocal information as provided for in regulation 7 of the General Provisions for Health and Safety at Work Places Regulations, ensuring that self-employed persons are brought into this process where necessary;

(g) coordinate arrangements to check that the working procedures are being implemented correctly;

(h) take the steps necessary to ensure that only authorized persons are allowed onto the construction site.

6. The project supervisor shall take all the necessary measures for the safeguard of occupational health and safety.



LN 36 of 2003 General Provisions for Health and Safety at Work Places Regulations.

10. (1) It shall be the duty of every employer and of every self-employed person to carry out, or to ensure that is carried out, a suitable, sufficient and systematic assessment of all the occupational health and safety hazards which may be present at the place of work and the resultant risks involved concerning all aspects of the work activity. Such assessments shall consider the risks to the health and safety of workers and of self-employed persons to which they are exposed whilst at work, as well as the risks to the health and safety of other persons, including

Risk assessments.

visitors to the place of work, which risks arise out of, or in connection with the work being carried out, or by the conduct of the undertaking:



Risk Assessment

- Risk assessment is the process of evaluating risks to workers' safety and health from workplace hazards. It is a systematic examination of all aspects of work that considers:
 - What could cause injury or harm;
 - whether the hazards could be eliminated and, if not;
 - What preventive or protective measures are, or should be, in place to control the risks.



Hierarchy of Fall Protection (Q10)

A ranked or graded series of fall protection solutions ranging from the best solution to the worst. In order of best to worst, these solutions are: (Q10)

Hazard Elimination

- The preferred solution to all fall hazards is elimination.
- Can the work be done at ground level

Passive Fall Protection:

- Physical barriers like guardrails around unprotected edges and covers over holes are examples of passive fall protection

Fall Restraint:

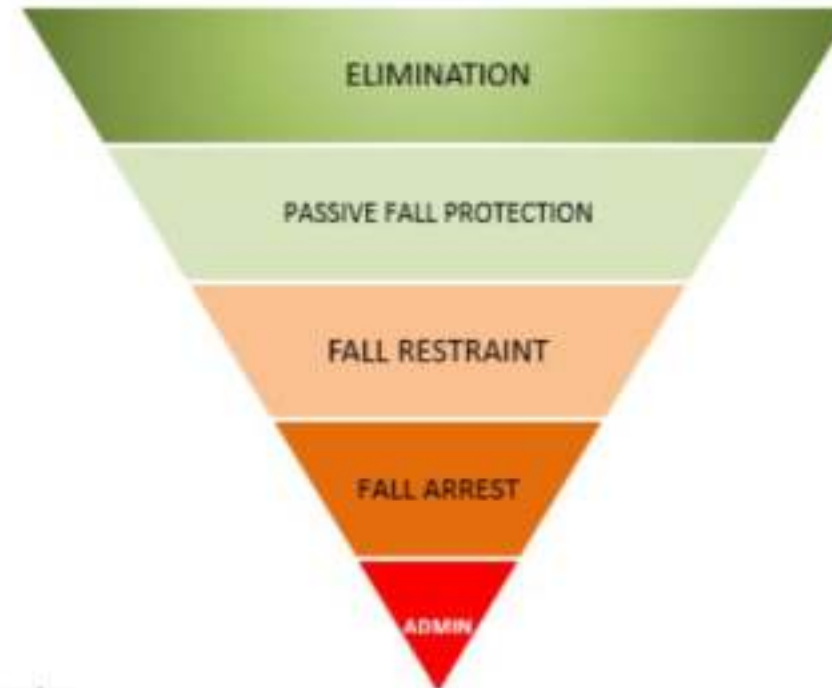
- Fall restraint systems are erected in such a manner that a fall cannot occur.
- Fall restraint systems use PPE to restrict the worker's range of movement so they cannot physically travel to the fall hazard.

Fall Arrest:

- Fall arrest systems are erected in such a manner that a fall can occur but the fall is arrested within acceptable force and clearance margins

Administrative Controls:

- Administrative controls are work practices or procedures that increase a worker's awareness of a fall hazard





Generic Risk Assessment

- A construction generic risk assessment might address common hazards like working at height, machinery operation, and site traffic management.
- A generic risk assessment for office work might cover risks like computer-related injuries, fire safety, and general ergonomics.



Specific Risk Assessment

- Focused on specific tasks or activities, this assessment evaluates the risks associated with performing particular jobs. It examines the processes involved and identifies potential hazards linked to those tasks.



- A specific risk assessment for working with hazardous chemicals would detail the specific chemicals involved, associated health risks, necessary PPE, emergency procedures, and training requirements.
- A risk assessment for a construction project involving scaffolding would focus on the risks associated with scaffold erection, use, and dismantling, along with the specific training and safety measures needed.



Dynamic Risk Assessment

- This assessment is conducted in real-time, often in situations where conditions may change rapidly, such as in emergency response or when working in unpredictable environments. It allows for immediate identification and management of emerging risks.



Suitable

- **Suitable:** A suitable risk assessment is one that is appropriate for the specific hazards and risks present in a particular environment or task. It should take into account the unique characteristics of the workplace/ task, the tasks being performed, and the individuals involved. This means that the assessment must be tailored to effectively identify and address the risks associated with that context.



Sufficient

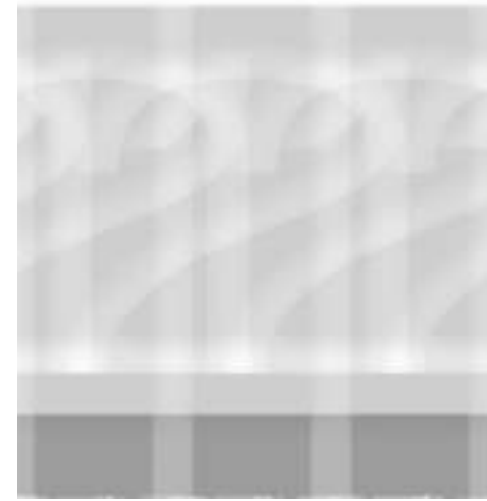
- A sufficient risk assessment is comprehensive enough to cover all relevant hazards and risks. It should provide enough detail to ensure that all potential dangers are identified and evaluated. This includes considering the likelihood of incidents occurring, the severity of potential outcomes, and the effectiveness of existing control measures. A sufficient assessment ensures that all necessary precautions are taken to protect health and safety.



Systematic

- A systematic risk assessment follows a structured and methodical process. This involves clearly defined steps, such as identifying hazards, assessing risks, implementing control measures, and reviewing the assessment regularly. A systematic approach ensures that no steps are overlooked and that the assessment is thorough and repeatable. It also helps in maintaining consistency in how risks are evaluated and managed over time.





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