COURSE OUTLINE

Program Title:	**Hazard Identification Risk Assessment Risk Control (HIRARC)**
OVERVIEW	The HIRARC 2008 guideline, issued by the Department of Occupational Safety and Health (DOSH) Malaysia, provides a systematic approach to identifying workplace hazards, assessing the associated risks, and implementing effective control measures. It forms the foundation of occupational safety practices in compliance with the Occupational Safety and Health Act 1994. The HIRARC process involves three key steps: Hazard Identification, Risk Assessment, and Risk Control, with emphasis on using the hierarchy of control to minimize or eliminate risks. Applicable across all industries, HIRARC promotes proactive safety culture, reduces workplace incidents, and ensures legal compliance while supporting continuous improvement in occupational health and safety management
LEARNING OUTCOME	By the end of this training, participants will be able to: • Understand the concept and purpose of HIRARC as outlined in the 2008 DOSH guideline. • Identify various types of workplace hazards (physical, chemical, biological, ergonomic, etc.). • Conduct risk assessments using a standard risk matrix (likelihood × severity). • Determine appropriate risk control measures based on the hierarchy of controls. • Develop, complete, and review HIRARC documentation accurately. • Apply HIRARC principles to real workplace scenarios to improve safety and reduce risks.
DURATION (days)	2 Days
Durations:	16 hours
TARGET PARTICIPANTS	This training is intended for: • Safety and Health Officers (SHOs) and OSH coordinators • Supervisors, team leaders, and line managers across all industries • Engineers, maintenance, and operations personnel • Human Resource and Compliance officers involved in OSH implementation • Safety committee members and emergency response teams • Anyone involved in job planning, hazard identification, or workplace inspections

Course Content

Introduction & Ice-breaking

Module 1: Introduction to HIRARC

Time: 9:00 AM – 10:00 AM

Content Outline:

1. What is HIRARC?
2. Key Definitions**:**
    - **Hazard:** A source or situation with potential to cause harm (e.g., chemical spill, high noise)
    - **Risk:** The likelihood and severity of harm resulting from a hazard
    - **Control:** The measures taken to eliminate or reduce the level of risk
3. Why HIRARC is Important
4. Legal & Regulatory Framework (Malaysia)
5. HIRARC Process Flow Overview (Preview)

Module 2: Types of Hazards

Time: 10:00 AM – 10:30 AM Learning Objectives:

Content Outline:

1. Overview of Hazard Classification
   Introduce the five primary types of hazards, as recognized in HIRARC guidelines and OSHA principles:
2. Hazard Category Deep Dive
   Intersections Between Hazard Types

Module 3: Hazard Identification Techniques

Time: 10:45 AM – 12:00 PM

Content Outline:

1. Why Hazard Identification Matters
2. Common Methods for Identifying Hazards
3. Hidden vs Obvious Hazards
4. Interactive Activity Ideas

Module 4: Risk Assessment Fundamentals

Time: 12:00 PM – 1:00 PM

Content Outline:

1. What Is Risk?
    - Risk = *Likelihood × Severity*
    - Risk is the potential for harm—not the harm itself
    - Tied directly to the hazard and workplace control measures
2. Understanding Risk Components:
3. Risk Matrix Use
4. Risk Rating & Action Guidelines
5. Interactive Group Activity

Module 5: Risk Control Measures

Time: 2:00 PM – 2:45 PM

Content Outline:

1. What Are Risk Control Measures?

   Hierarchy of Controls (from most to least effective):
   Elimination – Remove the hazard entirely (e.g. outsource a hazardous task)
   Substitution – Replace with something less hazardous (e.g. using water-based paint instead of solvent)
   Engineering Controls – Isolate people from the hazard (e.g. machine guards, fume hoods)
   Administrative Controls – Change the way people work (e.g. SOPs, rotation schedules)
   PPE (Personal Protective Equipment) – Final barrier; reduce exposure, not eliminate risk
2. Choosing the Right Control
3. Evaluating Control Effectiveness

Module 6: HIRARC Form Documentation

Time: 2:45 PM – 3:45 PM

Content Outline:

1. Understanding the HIRARC Form Layout
   How to Complete a HIRARC Form Step-by-Step
2. Common Pitfalls in HIRARC Forms
3. Interactive Practice Session
   - *Group Case Simulation:*
     - Distribute a sample workplace task (e.g. transferring chemicals, working on scaffold)
     - Participants complete HIRARC form section by section in teams

Module 7: Simulation & Case Study Workshop

Time: 4:00 PM – 5:00 PM

Content Outline:

1. Purpose of Simulation in Safety Training
2. Scenario-Based Group Exercises
   - Divide participants into small groups
   - Provide each group with a tailored workplace scenario (industry-specific)
   - Examples:
     - *Working at height on scaffold*
     - *Chemical transfer from drum to process line*
     - *Repairing machinery inside confined space*
     - *Loading/unloading operations in a warehouse*
     - Complete HIRARC form
3. Group Presentation & Review
   - Each group presents their analysis in 5–7 minutes
   - Facilitator provides feedback on:
     - Hazard identification completeness
     - Accuracy of risk assessment
     - Appropriateness of recommended controls

Module 1: Fundamentals of Job Hazard Analysis

Time: 9:00 AM – 10:00 AM (DAY 2)
Content Outline:

1. What Is Job Hazard Analysis (JHA).
2. Why Is JHA Important.
3. When Should a JHA Be conducted.
4. Who Should Be Involved in JHA development.
5. JHA vs. HIRARC – What's the Difference.

Module 2: Task Breakdown & Hazard Identification

Time: 10:00 AM – 10:30 AM (DAY 2)
Content Outline:

1. Breaking Jobs into Steps
2. Identifying Hazards in Each Step
3. Recognizing Subtle Hazards
4. Sources of Hazard Information
5. Hands-On Group Activity

Module 3: Evaluating Risks & Control Measures

Time: 10:45 AM – 12:00 PM (DAY 2)
Content Outline:

1. How to Evaluate Risk in JHA
2. Assigning Risk Ratings Step-by-Step
3. Applying the Hierarchy of Control
4. Developing Practical & Measurable Controls
5. Group Activity – Risk Scoring & Control Planning
    - Teams continue with the JHA form they started in Module 2
    - Score risk for each hazard
    - Recommend at least one control for each
    - Apply residual risk rating if control is implemented

Module 4: JHA Form Simulation & Presentation

Time: 12:00 PM – 1:00 PM (DAY 2)
Content Outline:

1. Instructions for Simulation
2. Facilitator Support
3. Group Presentations
4. Feedback & Peer Review

Module 1: Fundamentals of Job Safety Analysis (JSA)

Time: 2:00 PM – 3:00 PM (DAY 2)

Content Outline:

1. What Is a Job Safety Analysis (JSA)?
2. Why Use JSA?
3. When to Conduct a JSA?
4. Who Should Be Involved in JSA?
5. JSA vs. HIRARC – Comparison Table**:**

Module 2: Task Breakdown & Hazard Identification

Time: 3:00 PM – 3:30 PM (DAY 2)

Content Outline:

1. Breaking Jobs Into Logical Steps
2. Hazard Identification Per Step
3. Hazard Recognition Techniques
4. Hidden & Conditional Hazards

Module 3: Evaluating Risks & Control Measures

Time: 3:45 PM – 4:15 PM (DAY 2)

Content Outline:

1. Understanding Risk Evaluation in JSA
    - Risk = Likelihood × Severity
    - Purpose: Helps prioritize which hazards require immediate or long-term action
    - Use 5×5 risk matrix, depending on workplace standards
        - *Likelihood:* Rare → Possible → Frequent
        - *Severity:* Minor injury → Major → Fatality
2. Using the Risk Matrix Effectively
3. Applying the Hierarchy of Control
4. Assigning Residual Risk (Optional**)**

Module 4: JSA Form Simulation & Presentation

Time: 4:15 PM – 5:00 PM (DAY 2)

Content Outline:

1. Group Task Instructions
2. Simulation Period (Facilitator Walkthrough)
3. Team Presentations
4. Trainer & Peer Feedback