

Ergonomic Trained Person for Advanced Ergonomics Risk Assessment

Introduction

Most ergonomics problems are not dramatic. They build slowly. Repetition after repetition. Poor posture hour after hour. Force applied the wrong way for years.

Advanced Ergonomics Risk Assessment moves beyond observation and into structured analysis. This program develops the technical capability to assess complex work activities using recognised methods under the DOSH ERA Guidelines. Participants are trained not just to identify ergonomic risks, but to quantify them, justify control measures, and produce defensible ERA reports.

This is a competency-based program for professionals who are expected to lead ergonomic risk assessments at workplace level.

Program Objectives

This program is designed to enable participants to:

- Understand advanced ergonomics assessment methods corresponding to different risk factors
- Select appropriate assessment tools based on posture, force, repetition, vibration, and environmental exposure
- Conduct advanced ergonomics risk assessments in accordance with DOSH ERA Guidelines
- Recommend practical and proportionate control measures
- Produce structured and defensible Advanced ERA reports

Learning Outcomes

By the end of the program, participants will be able to:

- Differentiate between initial ERA and advanced ERA approaches
- Apply postural assessment methods such as RULA and REBA
- Conduct force assessments using tools such as MAC and RAPP
- Evaluate repetitive work using methods such as OCRA
- Assess workstation design using anthropometry and ROSA principles
- Analyse vibration exposure including whole-body and hand-arm vibration
- Evaluate environmental factors such as noise, temperature, and lighting
- Develop practical engineering and administrative control strategies
- Prepare a complete Advanced ERA report aligned with regulatory expectations

Who Should Attend

This program is suitable for:

- Safety and Health Officers and Executives
- OSH and Ergonomics Consultants
- Safety and Health Committee Members

- Academicians
- Occupational Health Practitioners
- Ergonomics Team Members or Focal Persons

Entry Requirement:

Participants must have completed and passed ERA1 and meet eligibility requirements as specified in the ERA2 curriculum

Methodology

The program integrates:

- Guided technical instruction
- Case-based analysis
- Tool application workshops
- Group exercises and presentations
- Demonstrations of assessment methods
- Structured report-writing practice
- Final examination

Participants work through realistic workplace scenarios to build analytical depth and practical confidence.

Program Outline

Day 1 – From Initial to Advanced Assessment

Session 1: ERA Guidelines and Transition from Initial to Advanced ERA

The program begins with a structured review of the DOSH ERA Guidelines and the foundation established in ERA1. Participants explore the limitations of basic screening tools and the circumstances that require advanced analysis. The focus is on understanding when and why deeper assessment is necessary.

Session 2: Introduction to Advanced ERA Framework

Participants are introduced to the structure of advanced ergonomics assessment. The session clarifies how different ergonomic risk factors require different analytical approaches, and how method selection affects the validity of findings.

Session 3: Selection of ERA Methods

This session builds decision-making capability. Participants learn how to choose appropriate assessment tools depending on task characteristics such as posture, force, repetition, or environmental exposure. The emphasis is on defensible method selection.

Session 4: ERA Tools and Instruments

Participants are introduced to the tools and instruments used in advanced assessments, including measurement devices and observational scoring systems. Practical discussion reinforces correct application and limitations of each tool.

Day 2 – Posture, Force, and Repetition Analysis

Session 5: Postural Assessment Methods

Participants apply structured postural analysis methods such as RULA and REBA. Through guided case examples, they learn how to score body posture risks and interpret results objectively rather than relying on subjective judgment.

Session 6: Force Assessment Methods

The session covers manual handling and force assessment tools including MAC and RAPP. Participants analyse load characteristics, task frequency, and biomechanical demands to determine risk levels.

Session 7: Repetition Assessment Methods

Participants explore repetitive motion risks using methods such as OCRA. The focus is on identifying cumulative strain risks in assembly, packaging, and repetitive task environments.

Continuation exercises reinforce scoring consistency and interpretation accuracy.

Day 3 – Workstation, Vibration, and Environmental Factors

Session 8: Workstation Design Assessment

This session examines workstation evaluation using anthropometric principles and tools such as ROSA. Participants learn how mismatched workstation design contributes to musculoskeletal disorders.

Session 9: Vibration Assessment

Participants assess exposure to whole-body vibration and hand-arm vibration. The discussion includes exposure limits, measurement principles, and control strategies for machinery operators.

Session 10: Environmental Assessment

The program addresses environmental contributors to ergonomic stress, including noise, extreme temperature, and lighting conditions. Participants analyse how environmental stressors interact with physical workload.

Day 4 – Control Measures, Reporting, and Evaluation

Session 11: Advanced ERA Report Writing

Participants are guided through the structure of an advanced ERA report, including documentation of findings, scoring justification, and structured recommendations. Emphasis is placed on clarity, defensibility, and regulatory alignment.

Session 12: Ergonomics Control Measures

The session examines control hierarchy in ergonomics, including engineering redesign, administrative controls, ergonomics management programs, and appropriate use of PPE. Participants learn how to recommend realistic and sustainable improvements.

Session 13: Report Preparation and Presentation

Participants prepare and present their assessment findings. Group feedback sharpens analytical reasoning and communication clarity.

Session 14: Examination and Competency Validation

The program concludes with a formal assessment to validate understanding of advanced ERA principles and methods.