

Human Factors and Ergonomics in High-Risk Workplaces

COURSE OVERVIEW

This course describes how human capabilities, limitations, and behaviors influence safety, performance, and decision-making in complex operational environments. The curriculum explores how ergonomics principles can be integrated into the design of systems, tools, and processes to reduce human error, enhance efficiency, and ensure well-being in high-risk sectors such as aviation, oil & gas, construction, manufacturing, mining, and healthcare. Participants will learn how to assess human-system interactions, identify ergonomic risks, and apply behavioral and cognitive ergonomics techniques to optimize performance and safety.

WHO SHOULD ATTEND?

This course is designed for Health, Safety, and Environment (HSE) officers, production supervisors, ergonomists, human factors specialists, industrial engineers and process designers, safety inspectors, and risk analysts. It is equally valuable for occupational health professionals, maintenance and reliability engineers, human resources and training managers in industrial sectors, facility and plant managers, regulators and policy makers involved in workplace safety standards.

COURSE OUTCOMES

Delegates will gain the skills and knowledge to:

- Identify and assess human factors that affect performance and safety in high-risk environments.
- Analyze ergonomic risks related to posture, equipment design, and task layout.
- Apply physical, cognitive, and organizational ergonomics to improve workplace design.
- Develop strategies for fatigue management, workload optimization, and operator comfort.
- Integrate human factors and reliability analysis into safety management systems.
- Promote a safety culture by addressing behavioural and psychological influences.

KEY COURSE HIGHLIGHTS

At the end of the course, you will understand;

- The science of human factors and its influence on safety and performance.
- How to use ergonomic assessment tools to identify risk factors in demanding environments.
- The link between human cognition, situational awareness, and error prevention.
- The role of organizational ergonomics in enhancing teamwork and communication.
- Advanced technologies such as wearables, AI monitoring, and smart PPE systems.
- Methods for integrating human factors into process design and safety audits.
- How to investigate human performance issues following incidents and near-misses.

All our courses are dual-certificate courses. At the end of the training, the delegates will receive two certificates.

1. A GTC end-of-course certificate.
2. Continuing Professional Development (CPD) Certificate of completion with earned credits awarded.