Training Course on Human Factors in Safety

Professional Development Training Course Outline

Category	Occupational Health	**Duration**	5 Days
Base Fee	$1,500 USD	**Delivery Mode**	Online / On-site Hybrid

Course Introduction

In today’s high-risk industries, human factors play a critical role in ensuring workplace safety, operational efficiency, and risk management. Human error is cited as the root cause in over 80% of incidents, making it imperative for organizations to understand and integrate human factors into their safety programs. Training Course on Human Factors in Safety is designed to enhance awareness and equip professionals with actionable strategies to reduce risk, prevent accidents, and promote a culture of safety through human-centric design and behavior-based safety systems.

By focusing on ergonomics, cognitive load, fatigue management, communication protocols, safety leadership, and organizational culture, this course empowers participants to identify and mitigate human-related risks across operations. It combines theoretical foundations with practical tools, real-world case studies, and applied exercises to ensure knowledge retention and real-life application. Whether you're in construction, oil & gas, healthcare, aviation, or manufacturing, understanding human factors is critical to enhancing both safety outcomes and regulatory compliance.

Programme Curriculum

Training Course on Human Factors in Safety

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Course Objectives

1. Define human factors in safety and their impact on workplace performance.
2. Identify the main contributors to human error in high-risk environments.
3. Analyze behavior-based safety (BBS) models for error prevention.
4. Implement strategies to mitigate occupational fatigue and cognitive overload.
5. Integrate ergonomic principles to reduce physical strain and injuries.
6. Enhance situational awareness among frontline and supervisory personnel.
7. Improve safety communication protocols and team collaboration.
8. Foster a safety culture through leadership and employee engagement.
9. Conduct human factors analysis using root cause investigation techniques.
10. Evaluate the influence of workplace design on human performance.
11. Apply psychological safety principles to reduce stress and increase alertness.
12. Design human-machine interface (HMI) systems with error reduction in mind.
13. Use real-world case studies to demonstrate successful human factors integration.

Target Audience

1. Safety Managers and Safety Officers
2. Risk Management Professionals
3. Engineers and Technical Staff
4. Occupational Health & Safety Consultants
5. Human Resource Professionals
6. Operations and Maintenance Managers
7. HSE (Health, Safety, Environment) Coordinators
8. Supervisors and Team Leaders in High-Risk Industries

Course Duration: 5 days

Course Modules

Module 1: Introduction to Human Factors in Safety

- Definition and scope of human factors
- Importance of human-centered safety design
- Statistics on human error in safety incidents
- Regulatory and industry standards overview
- Key models and frameworks (SHEL, HFACS)
- **Case Study**: NASA’s Challenger Disaster and human decision errors

Module 2: Human Error Types and Prevention Techniques

- Classification of human errors: slips, lapses, mistakes
- Active vs. latent failures
- Influencing factors: stress, workload, fatigue
- Error reduction strategies and checklists
- Behavior-based safety programs
- **Case Study**: Chernobyl Reactor Meltdown

Module 3: Ergonomics and Workplace Design

- Ergonomic risk factors in industrial settings
- Musculoskeletal disorder prevention

- Human-machine interaction best practices
- Workspace layout optimization
- Tools and lifting techniques
- **Case Study**: Amazon’s warehouse ergonomic interventions

Module 4: Communication and Team Dynamics in Safety

- Safety-critical communication techniques
- Barriers to effective communication
- Cross-functional safety teamwork
- Role of leadership in influencing behavior
- Communication tools and technologies
- **Case Study**: Aviation crew resource management (CRM) failure

Module 5: Fatigue and Stress Management

- Impact of fatigue on safety performance
- Circadian rhythm and shift work implications
- Work-rest cycle planning
- Stress indicators and intervention techniques
- Wellness programs and mental health strategies
- **Case Study**: BP Texas City Refinery Explosion

Module 6: Safety Culture and Psychological Safety

- Elements of a positive safety culture
- Organizational behavior and safety performance
- Encouraging open reporting and feedback
- Psychological safety in high-risk teams
- Leadership accountability in safety
- **Case Study**: DuPont Safety Culture Transformation

Module 7: Human Reliability and Root Cause Analysis

- Human reliability assessment (HRA) methods
- Root cause analysis (RCA) frameworks (5 Whys, Fishbone)
- Identifying systemic vs. individual issues
- Data collection tools for incident analysis
- Improving corrective and preventive actions (CAPA)
- **Case Study**: The Fukushima Nuclear Disaster

Module 8: Technology, AI, and Human Factors

- Impact of automation and AI on human decision-making
- Interface usability testing and HMI design
- AI integration for predictive safety analytics
- Monitoring cognitive load through wearable tech
- Balancing tech advancement with human capabilities
- **Case Study**: Tesla Autopilot and Human Error Interplay

Training Methodology

- Instructor-led interactive lectures with multimedia presentations
- Group discussions and real-time scenario-based simulations
- Role-playing and case study analysis for practical application
- Quizzes, knowledge checks, and interactive assessments

- Access to online resources and post-training support materials

Register as a group from 3 participants for a Discount

Send us an email: info@fineskilltrainingcenter.org or call *+254769199797*

Certification

Upon successful completion of this training, participants will be issued with a globally- recognized certificate.

Tailor-Made Course

We also offer tailor-made courses based on your needs.

Key Notes

a. The participant must be conversant with English.

b. Upon completion of training the participant will be issued with an Authorized Training Certificate

c. Course duration is flexible and the contents can be modified to fit any number of days.

d. The course fee includes facilitation training materials, 2 coffee breaks, buffet lunch and A Certificate upon successful completion of Training.

e. One-year post-training support Consultation and Coaching provided after the course.

f. Payment should be done at least a week before commence of the training, to Fineskill Training Center account, as indicated in the invoice so as to enable us prepare better for you.

Upcoming Scheduled Sessions

Start Date	End Date	Location	Price
23 Nov 2026	27 Nov 2026	Online	$1,000
23 Nov 2026	27 Nov 2026	Physical	$1,500
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$3,000
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$4,500
23 Nov 2026	27 Nov 2026	Physical	$6,000
23 Nov 2026	27 Nov 2026	Physical	$6,000

Ready to enroll or request a customized program? Book online or contact us:

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Email: info@fineskilltrainingcenter.com | Website: www.fineskilltrainingcenter.com