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Fundamentals + Advanced Human Factors & Error Management for Safety Critical Industries

11 MODULES | 14-WEEK ONLINE COURSE | 29 April - 19 July 2024 | 30 September - 13 December 2024



Online Program

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Course Information

Key Learning Objectives

Upon completion of this advanced human factors and error management training course, you will be able to:

- Understand the evolution of applied human factors in the workplace, its current scope and how it may contribute to addressing future safety challenges
- Understand human error within the context of significant event investigations
- Incorporate practical proactive error management strategies
- Address human performance limitations that impact effective decision-making and increase the probability of error occurrence
- Identify social and group influences that shape human performance
- Adopt a systematic human factors analysis method for incident investigations to better identify errors and error-producing conditions
- Understand the impact of infrastructure, facility and equipment design on human performance and the pros and cons of automation and advanced technology
- Understand the incidence of mental health issues in the workplace and various strategies to support workers
- Identify cultural influences that shape human performance including the practical application of a fair and just culture approach to consequence management
- Adopt a proactive human factors analysis approach to identify the triggers that may lead to a potential fatal/critical risk event and fix conditions before they cause problems

Who Will Benefit

This human error training program is designed for those individuals seeking a comprehensive understanding of applied human factors in any workplace. Expected participants include:

- Operations and Engineering Senior Managers
- Team Leaders and Supervisors
- Human Resource Managers
- HSE and WHS Managers, Investigators and Auditors
- Industry and WHS Regulators
- Quality, risk, compliance and assurance managers



Course Information

About the Course

"Error is pervasive. The unexpected is pervasive. What is not pervasive are well-developed skills to detect and contain these errors at their early stages".

Karl Weick, Managing the Unexpected

Regardless of industry type or sector, accident statistics appear to be dominated by the contribution of human error. This is hardly surprising since humans are involved in the design, construction, maintenance, operation and management of complex socio-technical systems across any safety critical industry such as transport, mining, construction, oil and gas, power and water utilities, essential and emergency services and healthcare service delivery.

While human error is a normal part of our human makeup, the consequences of errors in any industry can be disastrous and the subject of public outrage, exhaustive inquiries and drawn-out legal action. The cost of human error in the workplace is also considerable:

- BP estimated that the Deepwater Horizon oil spill resulted in costs that exceeded USD \$40 billion.
- According to the International Air Transport Association (IATA), airports have estimated that ramp accidents cost over USD \$10 billion each year.
- The Flight Safety Foundation reports that over 38,000 commercial aircraft land in an unstable condition every year, causing potential maintenance and inspection delays.
- In healthcare, the direct medical costs of preventable clinical incidents arising from human error have been estimated at \$2 billion each year in Australia.

This highly practical advanced 11-week on-line modular program builds on the 7-week Fundamentals of Human Factors and Error Management for Safety Critical Industries program and provides participants with a sound understanding of contemporary human factors issues facing any safety critical industry. Whether you are a safety manager, accident investigator or CEO, our human factor course will provide you with an opportunity to understand the cause and consequences of human error and assist you with identifying practical strategies to design error-tolerant solutions.

Several practical case studies presented throughout the human factor course will reinforce generic human factors issues and management solutions across various industries. A comprehensive suite of practical tools, templates and resources are provided for you to take back and apply in your own workplace.

Meet Your Course Director



Dr Graham Edkins

Organisational Psychologist Dr Graham Edkins is considered one of Australia's leading Safety Management and Human Factors experts and is regularly retained as an independent safety investigator and human factors expert witness for various civil and criminal matters.

As a former Transport Safety Investigator with the ATSB, Manager Human Factors for Qantas Airways, Executive Director of Public Transport Safety Victoria, and Group General Manager for CASA, he brings a wealth of experience and detailed knowledge of contemporary safety regulation, major event investigation and human error management practices.

Dr Edkins has represented both the Victorian and Commonwealth Governments on a number of national forums, including the Standing Committee on Transport (SCOT) Rail Group, Vice Chairman, International Air Transport Association (IATA), Human Factors Working Group, Chair National Rail Safety Regulators Panel and the National Steering Committee for the development of National Rail Model Safety Legislation.

He has successfully designed and delivered customised rail safety investigation and human factors management training programs globally to a variety of public and private sector organisations and cultures.

Course Outline

MODULE 1:

INTRODUCTION TO HUMAN FACTORS

- Human factors in context
- Human factors: Past, present and future
- The human factors contribution to significant safety accidents
- A simple human factors model

Case study: Off the rails

Course activity: Towards 2040 – What will be the human factors challenges in your industry in the next 20 years?

MODULE 2:

INTRODUCTION TO HUMAN ERROR

- Introduction to human error
- What causes error?
- Different types of errors
- The positive side of error: Human compensatory ability

Course activity: Which error type is it?

MODULE 3:

PRACTICAL ERROR MANAGEMENT STRATEGIES

- Organisational error management strategies
- Managing unintended actions (slips & lapses)
- Managing intended actions (mistakes & violations)
- Error management checklists for inspectors, investigators and auditors

Course activity: Quiz

MODULE 4:

HUMAN PERFORMANCE LIMITATIONS

- Human information processing
- Task demands: Overload and underload
- Fitness for duty
- Managing human performance limitations in rail

Case study: Airtime

Course activity: Participants will examine a flight safety incident to identify human performance limitations and practical management strategies

MODULE 5:

SOCIAL & GROUP INFLUENCES ON PERFORMANCE

- Role, status, authority and conformance
- Strategies to improve team performance

Case study: Safety incident

Course activity: Participants will design a program to manage authority gradients

MODULE 6:

A HUMAN FACTORS ANALYSIS METHOD FOR INCIDENT INVESTIGATION

- Human factors analysis methods
- Errors and Error Producing Conditions (EPCs)
- Reactive Loss of Control Analysis (R-LOCA) model

Case study: Revisiting off the rails

Course activity: Quiz

MODULE 7:

MAJOR COURSE EXERCISE #1 – REACTIVE HUMAN FACTORS ANALYSIS

Participants will be provided with the raw data from a video driven safety incident and be required to:

- Use the R-LOCA model to classify the errors and contributing factors, and
- Identify practical strategies to reduce the potential consequences of any errors identified.

MODULE 8:

DESIGN AND AUTOMATION

- User-centered workplace design principles
- Automation and advanced technology

Case study: Designing for vigilance

Course activity: Participants will design a user-centered driver vigilance system

MODULE 9:

MENTAL HEALTH, WELL-BEING & SUPPORT PROGRAMS

- The incidence of mental health in the workplace
- The impact of mental health on safety
- Practical strategies to support workers

Course activity: Quiz

MODULE 10:

CULTURAL INFLUENCES ON PERFORMANCE

- The influence of safety culture and safety culture maturity
- The essential ingredients of safety culture
- Accountability and just culture

Case study: Safety incident

Course activity: Participants will design a practical cultural improvement program

MODULE 11:

MAJOR COURSE EXERCISE #2 – PROACTIVE HUMAN FACTORS ANALYSIS

- Application of the Proactive Loss of Control Analysis (P-LOCA) method

Course activity: Create your own potential workplace accident

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Easy Ways to Register



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Informa Connect

Academy

Informa Connect Academy is a premier provider of global education and training solutions that caters to a diverse range of professionals, industries, and educational partners. We are dedicated to promoting lifelong learning and are committed to offering learners expert guidance, training, and resources to help them stay competitive in a rapidly changing world.

Our comprehensive range of courses and programmes are tailored to meet the needs of all professionals, from aspiring specialists to seasoned experts. We partner with elite academic organisations and industry leaders with unmatched expertise in their respective fields to deliver an exceptional learning experience.

ON-SITE & CUSTOMISED TRAINING

Informa Connect Academy has a long-standing track record of delivering very successful customised learning solutions achieving real and measurable value for our clients through our senior training consultants. If you have 8+ interested people, an on-site course can be the ideal solution – giving you the opportunity to customise our course content to your specific training needs, as well as attracting significant savings compared to public course costs.

WHY CHOOSE ON-SITE WITH INFORMA CONNECT ACADEMY?

- 1. Custom design** – Together, we will identify the best blended learning solution for your culture, your people and your training objectives.
- 2. Quality assured** – We design market-leading training programs, concepts and methodologies, with a 400+ course portfolio. Our rigorously selected 900+ instructor faculty are recognised experts in their field. Quality of their content and delivery methods is assured through continuous monitoring and evolution.
- 3. On-site training** is a cost effective way to train your people and achieve your defined outcomes.

Speak with **Sushil Kunwar** on **+61 (2) 9080 4370** to discuss your customised learning solution, or email inhouse@informa.com.au



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