



**Human Factors and
Facilitation Training Course
Catalogue**

Document Control

Overview

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Human Factors and Facilitation Training
Course Catalogue
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Table of Contents

- Document Control*.....2
- Introduction*4
- Course Overviews*4
 - Introduction to Human Factors.....5
 - Non-Technical Skills Initial Training.....6
 - Human Factors / Non-Technical Skills Refresher7
 - Facilitation Skills Course (Train the Trainer).....8
 - Human Factors for Systems / Design Engineers9
 - Human Factors for Safety Investigators.....10
 - Leading Safety Critical Teams.....11
 - Bespoke Human Factors Training12
 - Online, Self-Directed Training12

Introduction

This course catalogue provides an overview of the face-to-face / facilitator-led Human Factors and Facilitator Training courses offered by SystemiQ:

- Introduction to Human Factors
- Non-technical Skills Initial Training
- Human Factors or Non-Technical Skills Refresher program
- Facilitation Skills Course (Train the Trainer)
- Human Factors for Design / Project Engineers
- Leading Safety-Critical Teams
- Bespoke HF/NTS training

All courses draw upon contemporary adult learning principles and approaches in their design and are delivered in an interactive style to promote experiential learning.

The courses have been developed by a team of consultants with extensive experience in aviation and rail industry training and development, human factors, safety management, adult learning and instructional design. The team is led by Allison McDonald, a specialist in human factors, safety management and training, with demonstrated success in designing, developing and implementing human factors and non-technical skills training programs, within major airlines and the rail industry.

We look forward to having the opportunity to support your organisation with future Human Factors and Facilitation training.

Course Overviews

Course overviews are provided below for each of the main course offerings. While we focus primarily on the aviation and rail industries, each course is able to be tailored to a specific industry sector, and/or to the needs of a specific organisation, including through the use of local case studies or examples, where sufficient event detail is available to enable meaningful use in training.

All courses are designed and developed based on adult learning principles, and as such contain a mix of theory and practical activities, and utilise interactive experiential learning methods. The preferred class size for all courses is 10-12 participants, however alternative approaches can be considered to meet the operational needs of individual organisations.

Introduction to Human Factors

The Introduction to Human Factors course provides an overview of human factors concepts, human performance and limitations, and a brief introduction to non-technical skills.

Objectives:

After completion of the course, participants will be able to:

- describe the meaning of the term 'human factors' and explain how basic human factors concepts apply within their work environment
- explain the capabilities and limitations of human performance, including basic characteristics of human cognitive and physical performance
- explain the importance of non-technical skills as countermeasures against safety threats and human error
- demonstrate the application of core non-technical skills as relevant to their work environment

Duration: 2 days

Topics:

- Introduction to Human Factors
- Human Performance and Limitations
 - Information Processing
 - Memory
 - Vision and hearing
 - Sleep and fatigue
 - Stress
 - Factors affecting performance - environmental and task
 - Factors affecting performance - organisational
- Threat and Error Management (TEM)
 - TEM Model
 - Threats, Errors and violations
 - Countermeasures
- Non-technical Skills
 - Communication
 - Leadership and Teamwork
 - Problem Solving and Decision Making
 - Situation Awareness
 - Workload Management

Note: For aviation industry courses, content is aligned with CASA requirements where applicable. For rail industry courses, alignment is with the Rail Safety National Law.

Non-Technical Skills Initial Training

Non-Technical Skills Initial training provides a brief overview of human factors concepts, and an in-depth introduction to non-technical skills as countermeasures within the framework of Threat and Error Management (TEM).

Objectives:

After completion of the course, participants will be able to:

- describe the meaning of the term 'human factors' and explain how basic human factors concepts apply within their work environment
- explain the importance of non-technical skills as countermeasures against safety threats and human error
- explain the underpinning theories related to key non-technical skills concepts
- demonstrate the application of non-technical skills as relevant to their work environment

Duration: 2 days

Topics:

- Introduction to Human Factors
- Threat and Error Management (TEM)
 - TEM Model
 - Threats, Errors and violations
 - Countermeasures
- Communication
- Leadership and Teamwork
- Problem Solving and Decision Making
- Situation Awareness
- Workload Management
- Fatigue Management
- Stress Management

Note: For aviation industry courses, content is aligned with CASA requirements where applicable. For rail industry courses, alignment is with the Rail Safety National Law.

Human Factors / Non-Technical Skills Refresher

Human Factors / Non-Technical Skills refresher training is typically a one-day course, which covers a selection of topics, drawn from the following:

- Applied Human Factors
- Human Performance and Limitations
 - Information Processing
 - Attention and perception
 - Memory
 - Vision and hearing
 - Sleep and fatigue
 - Stress
 - Factors affecting performance - environmental and task
 - Factors affecting performance - organisational
- Threat and Error Management (TEM)
 - TEM Model
 - Threats, Errors and violations
 - Countermeasures
- Communication
- Leadership and Teamwork
- Problem Solving and Decision Making
- Situation Awareness
- Workload Management
- Safety Culture / Just Culture
- Managing Surprise / Resilience
- Topical / recent case studies
- Monitoring and cross-checking / verification
- Effective briefings and handovers
- Mental health – basic mental health awareness and supporting others

The selection of topics and focus of content is determined based upon industry ‘hot topics’ and recent industry safety data, or for courses that are provided to a single organisation, the topics are selected by the organisation, according to their current needs or cyclic program.

Note: For aviation industry courses, content is aligned with CASA requirements where applicable. For rail industry courses, alignment is with the Rail Safety National Law.

Train the Trainer: Refresher courses are also available for HF/NTS facilitators, to build capability of an organisation’s internal trainers. The courses can include a selection of the above content, plus personal presentation and group facilitation skills.

Facilitation Skills Course (Train the Trainer)

The Facilitation Skills course provides in-depth training for facilitators who train others in a classroom, simulator or practical on-the-job training environment. The course is suitable for trainers with any level of prior training experience, including trainers with very limited experience in training delivery. All participants are provided with opportunities to practice their facilitation skills and receive individual coaching and feedback.

Objectives:

After completion of the course, participants will be able to:

- demonstrate effective communication and personal presentation skills when facilitating training
- explain the principles of adult learning
- demonstrate effective facilitation skills
- apply strategies for managing challenging group dynamics

Duration: 2 days

Topics:

- Adult learning principles
- Understanding different teaching and learning styles
- Facilitation techniques
- Communication tools for effective facilitation
- Managing challenging behaviour
- Personal presence and confidence – vocal, physical and postural techniques
- Facilitation practice
- Individual coaching and feedback

Human Factors for Systems / Design Engineers

Human Factors for Systems / Design Engineers provides an overview of human factors concepts as they apply to the design of systems and processes, and the management of significant operational change projects. The course gives an overview of human performance and limitations, human factors methodologies and tools, and provides participants with an opportunity to apply human factors principles and methods. Suitable for engineers, safety assurance professionals, software engineers, project managers, and others involved in design projects.

Objectives:

After completion of the course, participants will be able to:

- explain how the discipline of human factors and human factors integration is applied within major engineering projects
- describe the concept and process of user-centred design
- explain the capabilities and limitations of human performance, including basic characteristics of human cognitive and physical performance
- describe the main human factors activities involved in a major engineering project or design process, and how they align with a generic project lifecycle
- demonstrate the application of human factors methods and tools, to support a major engineering project or design process
- integrate human factors regulatory requirements throughout a project's lifecycle
- manage sources of human factors risk throughout all stages of a project

Duration: 2 days

Topics:

- Introduction to Human Factors
- Human factors regulatory requirements and standards
- Planning human factors integration
- Human factors assurance
- Understanding user requirements
- Identifying human factors issues and risks
- Human-centred design process
- Human performance and limitations
- Anthropometrics
- Usability
- Task analysis
- User testing

Human Factors for Safety Investigators

Human Factors for Safety Investigators provides an overview of human factors concepts as they apply to the investigation and reporting of safety occurrences and incidents. The course gives an overview of human performance and limitations, human factors methodologies and tools that can be applied during investigations, systems thinking for investigations, and interviewing skills. The course provides participants with an opportunity to apply human factors principles and methods.

Objectives:

After completion of the course, participants will be able to:

- explain how the discipline of human factors is applied within safety investigations
- conduct effective investigation interviews
- gather human factors related data during investigations
- explain the capabilities and limitations of human performance, including basic characteristics of human cognitive and physical performance, as they apply to safety investigations
- describe the process for integrating human factors within investigations
- demonstrate the application of human factors methods and tools, to support a safety investigation
- integrate human factors regulatory requirements within the investigation process
- integrate systems thinking within the context of safety investigations

Duration: 3 days

Topics:

- Introduction to Human Factors
- A systemic approach to investigations
- Human performance and limitations
- The investigation process
- Gathering data / evidence relating to HF
- Common HF issues arising in safety investigations
- Case study
- Interviewing skills
- Integrating HF methods or tools in the investigation analysis

Note: For aviation industry courses, content is aligned with CASA requirements (where applicable). For rail industry courses, alignment is with the Rail Safety National Law and AS7470:2016.

Leading Safety Critical Teams

The Leading Safety Critical Teams course provides leadership skills for managers of operational safety critical teams, with a particular focus on interpersonal skills and managing psychosocial risk (including strategies for mental health support).

Objectives:

After completion of the course, participants will be able to:

- demonstrate effective communication and interpersonal skills when interacting with members of their team
- explain the principles of effective job and task design, to promote motivation and performance
- provide effective feedback and coaching to their team members
- explain the concept of psychosocial risk, and identify and assess risks relevant to their workplace
- apply strategies for mental health support (e.g. mental health first aid) as applicable within the scope of their role as managers

Duration: 3 days

Topics:

- Problem solving and decision making
- Communication
- Active listening and empathy
- Job and task design
- Motivation
- Feedback
- Coaching
- Leading distributed teams
- Change management
- Just culture
- Human factors
- Psychosocial risk management
- Mental health support

Bespoke Human Factors Training

We can provide bespoke human factors and non-technical skills courses to suit the specific requirements of an organisation. Course design can utilise a set of learning objectives or topics provided by the organisation. Alternatively, we can complete a detailed Risk-Based Training Needs Analysis to determine training needs, and tailor learning objectives to the outputs of the needs analysis.

Online, Self-Directed Training

We also provide a range of online, self-directed training courses for individuals, through our web-based learning portal, SystemiQ Academy.

A catalogue and pricing is available at: <https://academy.systemiq.global/pages/courses>

