Advanced Crew Resource Management and Human Factors Training Course

19 - 23 Oct 2026

Cairo

3700 € (Per Person)

Ref: #AVI8399_270463

Course Introduction / Overview:

This course provides a comprehensive exploration of Crew Resource Management (CRM) and Human Factors, critical disciplines for enhancing safety and efficiency in high-stakes environments. Originating in the aviation industry following extensive research into the causes of accidents, CRM principles focus on optimizing human performance through improved teamwork, communication, and decision-making. We will delve into the foundational work of pioneers like Dr. Robert Helmreich, whose research highlighted the importance of non-technical skills in preventing human error. This program moves beyond theoretical knowledge, offering practical strategies to manage the cognitive and interpersonal challenges inherent in complex operations. Participants will explore key concepts from seminal texts such as "Human Factors in Aviation" to understand how to build resilient teams and foster a proactive safety culture. At BIG BEN Training Center, we have designed this course to be an immersive experience, equipping professionals with the tools to effectively manage threats, mitigate errors, and lead with confidence in any operational setting. This training is essential for any organization committed to achieving the highest standards of operational excellence and safety by mastering the human element.

Target Audience / This training course is suitable for:

- Airline Pilots and Flight Crew Members.
- Cabin Crew and Flight Attendants.
- Air Traffic Controllers and Dispatchers.
- Aircraft Maintenance Engineers and Technicians.
- Aviation Operations Managers and Safety Officers.
- Healthcare Professionals including Surgeons and Anesthesiologists.
- Maritime Bridge Officers and Engine Room Personnel.
- Nuclear Power Plant Operators and Supervisors.
- Emergency Response Team Leaders and Members.

Target Sectors and Industries:

- Commercial and Corporate Aviation.
- Aerospace and Defense.
- Healthcare and Medical Services.
- Maritime and Shipping.
- Oil and Gas Exploration and Production.
- Rail and Ground Transportation.
- Nuclear Energy and Power Generation.
- Governmental bodies including Civil Aviation Authorities and Safety Investigation Boards.

Target Organizations Departments:

- Flight Operations.
- In-Flight Services.
- Safety and Compliance Departments.
- Maintenance and Engineering.
- Training and Development.
- Air Traffic Management.
- Human Resources.
- Quality Assurance.
- Emergency and Crisis Management.

Course Offerings:

By the end of this course, the participants will have able to:

- Analyze the role of human factors in operational safety and efficiency.
- Apply core CRM principles to enhance communication and teamwork.
- Develop superior situational awareness and decision-making skills under pressure.
- Implement effective Threat and Error Management (TEM) strategies.
- Manage the effects of stress, fatigue, and workload on performance.
- Foster a positive safety culture within their teams and organization.
- Improve leadership and followership skills in a dynamic environment.
- Effectively manage automation and human-machine interfaces.
- Conduct effective briefings, debriefings, and performance critiques.
- Resolve conflicts constructively and promote assertive communication.

Course Methodology:

The training methodology at BIG BEN Training Center is designed to be highly interactive, engaging, and practical, ensuring that participants can immediately apply the learned concepts in their professional roles. We move beyond traditional lectures by incorporating a dynamic blend of learning techniques. A significant portion of the course is dedicated to the analysis of real-world case studies from various industries, allowing participants to understand the practical implications of human factors and CRM principles. Facilitated group discussions and collaborative problem-solving exercises encourage the sharing of diverse perspectives and experiences. High-fidelity scenarios and role-playing activities provide a safe environment to practice critical skills such as decision-making, conflict resolution, and communication under pressure. Participants will receive constructive feedback from both the instructor and their peers to foster continuous improvement. The learning environment is supportive and collaborative, encouraging open dialogue and critical thinking. Our approach ensures that participants leave not just with knowledge, but with the confidence and competence to enhance safety and performance within their own operational contexts.

Course Agenda (Course Units):

Unit One: Foundations of Human Factors and CRM

- Introduction to Human Factors and its history.
- The evolution of Crew Resource Management from the cockpit to other industries.
- Understanding the "Dirty Dozen" preconditions for human error.
- The SHEL model (Software, Hardware, Environment, Liveware).
- Human performance and limitations.
- The psychology of error and violation.
- Introduction to Safety Management Systems (SMS).

Unit Two: Communication and Interpersonal Skills

- The art of effective communication in high-stakes environments.
- Barriers to communication and how to overcome them.
- Assertiveness, advocacy, and inquiry techniques.
- Active listening and feedback skills.
- Conflict resolution and negotiation strategies.
- Cross-cultural communication considerations.
- Conducting effective briefings and debriefings.

Unit three: Teamwork and Leadership

- Defining effective teamwork and team dynamics.
- Leadership and followership roles and responsibilities.
- Building and maintaining a shared mental model.
- Coordination and cooperation strategies.
- Managing team roles during normal and abnormal situations.
- Synergy and team performance optimization.
- Case studies on effective and ineffective teamwork.

Unit Four: Cognitive Skills and Decision Making

- Developing and maintaining situational awareness.
- The decision-making process in time-critical situations.
- Recognizing and mitigating cognitive biases.
- Naturalistic and classical decision-making models.
- Problem-solving and contingency management.
- Managing workload and avoiding task saturation.
- Stress and performance management techniques.

Unit Five: Advanced CRM and Safety Culture

- Threat and Error Management (TEM) framework.
- Managing automation and human-machine interaction.
- Fatigue risk management systems (FRMS).
- Developing personal strategies for resilience.
- Understanding and shaping organizational and safety culture.
- The principles of a Just Culture.
- Practical application and course review through a final comprehensive scenario.

FAQ:

Qualifications required for registering to this course?

There are no requirements.

How long is each daily session, and what is the total number of training hours for the course?

This training course spans five days, with daily sessions ranging between 4 to 5 hours, including breaks and interactive activities, bringing the total duration to 20 - 25 training hours.

Something to think about:

As automation and artificial intelligence become more integrated into complex systems, how will the core principles of Crew Resource Management need to evolve to manage the human-AI team dynamic effectively?

What unique qualities does this course offer compared to other courses?

This course distinguishes itself by adopting a holistic and multi-industry perspective on Crew Resource Management and Human Factors. While its roots are in aviation, the curriculum is intentionally designed to be universally applicable, drawing on case studies and best practices from healthcare, maritime, energy, and other high-reliability sectors. This cross-pollination of ideas provides participants with a richer, more nuanced understanding of human performance that transcends any single industry. Furthermore, our focus is less on rote memorization of models and more on the cultivation of a safety mindset. We emphasize the psychological underpinnings of decision-making, teamwork, and error, enabling participants to understand the "why" behind the "what." The program is built on a foundation of practical application, with a significant portion of time dedicated to interactive scenarios, facilitated debriefs, and peer-to-peer feedback, ensuring that skills are not just learned but ingrained. This approach transforms the training from a simple academic exercise into a truly developmental experience that fosters resilient, adaptable, and safety-conscious professionals.