

OPERATION CREW RESOURCE MANAGEMENT



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TRAINING CENTER



Introduction

High-risk operations succeed or fail on how crews communicate, decide, and coordinate under pressure. The Operation Crew Resource Management Course applies the proven CRM principles used in aviation to industrial, oil and gas, marine, and process operations. Participants learn how to manage human error, build shared situational awareness, run effective briefings, and challenge unsafe decisions respectfully. Furthermore, the course covers workload management, fatigue, automation awareness, and structured debriefing. As a result, teams leave able to reduce operational incidents, strengthen safety culture, and improve decision quality in normal and emergency conditions alike.

Operation Crew Resource Management Course Objectives

- Apply Crew Resource Management (CRM) principles to industrial and process operations.
- Recognise and manage human error using the SHELL model and error taxonomy.
- Build shared situational awareness through structured communication.
- Run effective pre-shift and pre-task briefings using standard briefing formats.
- Apply assertiveness and graded assertiveness techniques to speak up safely.
- Use closed-loop communication, readback, and standard phraseology.
- Manage workload, fatigue, and stress using fatigue risk management principles.
- Understand automation and human-machine interface limitations.
- Apply decision-making models such as FOR-DEC and DECIDE in time-critical situations.
- Lead structured debriefings and after-action reviews that drive learning.

Course Methodology

- Interactive workshops led by operational safety and CRM practitioners.

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- Simulator-style scenario exercises with real-time pressure conditions.
- Case studies of industrial incidents and near-misses analysed through CRM lenses.
- Role-play of briefings, challenges, and handovers.
- Group exercises using SHELL, FOR-DEC, and error management tools.
- Structured debriefing practice after each scenario.
- Capstone simulation: managing a multi-crew operational emergency.

Who Should Take This Course

- Control room and plant operators.
- Offshore and refinery operations crews.
- Shift supervisors and team leaders.
- Marine, drilling, and process safety personnel.
- Maintenance and turnaround teams.
- HSE officers supporting operational crews.

Operation Crew Resource Management Course Outlines

Day 1: Foundations of Crew Resource Management

- Origins of CRM in aviation and its transfer to industrial operations.
- Human factors and the SHELL model of interaction.
- Threat and error management (TEM) concepts.
- Safety culture, just culture, and reporting behaviour.
- Roles, authority gradients, and crew coordination.
- Barriers to speaking up and how to remove them.



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- Exercise: mapping human factors in a real operation.

Day 2: Communication and Situational Awareness

- Standard phraseology and closed-loop communication.
- Readback, hearback, and confirmation discipline.
- Building and maintaining shared situational awareness.
- Detecting loss of awareness and attention narrowing.
- Handover protocols and shift change communication.
- Communication under high workload and noise.
- Workshop: running a structured operational briefing.

Day 3: Assertiveness, Leadership, and Teamwork

- Assertiveness versus aggression in safety-critical settings.
- Graded assertiveness and structured challenge techniques.
- Situational leadership and shared decision authority.
- Managing authority gradients and hierarchy effects.
- Cross-checking, monitoring, and mutual backup.
- Conflict management within operational crews.
- Role-play: challenging an unsafe instruction.

Day 4: Workload, Fatigue, and Human Performance

- Workload management and task prioritisation.
- Fatigue causes, effects, and fatigue risk management systems.
- Stress response and performance under pressure.
- Shift design and alertness considerations.



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- Automation awareness and mode confusion.
- Managing distraction and interruption in control rooms.
- Exercise: designing a fatigue mitigation plan.

Day 5: Decision-Making, Emergency Response, and Debriefing

- Decision models: FOR-DEC and DECIDE in practice.
- Emergency response coordination and role clarity.
- Managing startle, surprise, and fixation.
- Structured debriefing and after-action review methods.
- Reporting near-misses and building learning loops.
- Measuring CRM effectiveness in operations.
- Capstone simulation: multi-crew emergency response.

Conclusion

By successfully completing Operation Crew Resource Management, participants will have acquired practical knowledge of human factors, situational awareness, assertive communication, fatigue management, and structured decision-making. They will understand how crews prevent, trap, and mitigate errors before consequences escalate. In addition, they will gain skills in briefing, debriefing, and emergency coordination. Gentex Training Center builds this programme around realistic scenarios, so crews return ready to operate more safely and consistently.

FAQs





Q1 What is the "Operation Crew Resource Management" course about?

It applies Crew Resource Management principles to industrial and process operations. Participants learn human error management, situational awareness, assertive communication, workload and fatigue control, and structured decision-making. The course targets safer coordination in both routine and emergency conditions.

Q2 What are the key benefits of the "Operation Crew Resource Management" course?

It reduces operational incidents by improving communication, challenge, and monitoring behaviour across crews. Participants gain practical briefing and debriefing skills and stronger shared awareness. Organisations benefit from a healthier safety culture, better near-miss reporting, and more reliable emergency response.

Q3 What skills will I gain from the "Operation Crew Resource Management" course?

Participants gain human error and threat management, situational awareness and communication, assertiveness and crew coordination, and structured decision-making and debriefing.



Q4 What tools, methods, or standards are covered in the "Operation Crew Resource Management" course?

The course covers the SHELL model, threat and error management (TEM), error taxonomy, closed-loop communication and readback discipline, graded assertiveness, fatigue risk management systems, automation and mode awareness, the FOR-DEC and DECIDE decision models, handover protocols, and after-action review methods.

Q5 How is the "Operation Crew Resource Management" course applied in real-world practice?

Crews apply it by running pre-shift briefings, using closed-loop communication during critical tasks, and challenging unsafe instructions through graded assertiveness. They also manage fatigue, coordinate emergency roles, and debrief every shift and incident to capture lessons for the next operation.