JUPITER PRIME

Consulting • Training • Advisory

جوبيتر برايم للاستشارات والتدريب

COURSE BROCHURE

Marine Casualty Investigation and Human Factors Advanced Training Course

jupiterprime.uk

info@jupiterprime.uk

Registered in the United Kingdom and Saudi Arabia

Marine Casualty Investigation and Human Factors Advanced Training Course

Marine Casualty Investigation and Human Factors is a 2-week advanced training course for marine superintendents, HSEQ managers, flag and port state inspectors and casualty investigators who examine collisions, groundings and other serious incidents, and each participant completes a Marine Casualty Investigation Report. Richer bridge data, leaner crews and closer scrutiny from insurers and the public mean that a superficial blame-the-officer finding no longer prevents the next accident. The course is delivered by Jupiter Prime Training.

Why Marine Casualty Investigation and Human Factors Matter Now

Three pressures are changing how casualties are investigated: voyage data recorders and electronic charts that capture far more evidence than paper logs, fatigue and workload problems linked to reduced manning, and owners, insurers and administrations who expect findings that change practice rather than assign blame. An organisation that investigates well learns from near misses and prevents repeat events; one that does not repeats the same bridge errors across its fleet. The course rests on the international code for marine safety investigations and on the Human Factors Analysis and Classification System HFACS, alongside barrier-based causal analysis.

Who Gains Most from Marine Casualty Investigation and Human Factors

- Fleet superintendents responsible for leading company investigations after collisions, groundings and contacts
- HSEQ leads responsible for safety management system findings, corrective actions and trend reporting
- Flag and port state officers responsible for inspecting vessels and opening safety investigations
- Independent casualty investigators responsible for evidence collection and causal reports
- Marine insurance and P&I surveyors responsible for establishing what happened and why

A ship management company gains most when its superintendents and HSEQ staff attend together, because the investigation and the corrective action plan must be owned by the same people who change fleet procedures afterwards.

Marine Casualty Investigation and Human Factors Capabilities

Participants move from the first hours after a casualty to a published report whose recommendations change bridge and engine room practice.

- Specify evidence preservation steps in the first hours after a casualty — masters and superintendents
- Apply voyage data recorder and electronic chart replay to reconstruct a timeline — investigators
- Design witness interview plans that reduce bias and contamination — investigation leads
- Assess fatigue, workload and bridge resource factors with HFACS — HSEQ managers
- Build a causal chart separating immediate causes from underlying conditions — investigation boards
- Communicate safety recommendations that owners and administrations can act on — senior management

Key Marine Casualty Investigation and Human Factors Terms

- Voyage Data Recorder — the ship's protected recorder storing bridge audio, radar images, position, speed and alarm data before a casualty.
- Marine Casualty — an event linked to ship operation that results in death, serious injury, loss of a ship or serious damage.
- Human Factors — the individual, team, organisational and environmental conditions that shape how people perform tasks on board.
- Causal Factor — an event or condition that, if removed, would have prevented the casualty or reduced its severity.
- Bridge Resource Management — the use of all bridge team members, equipment and information to keep a safe navigational watch.
- Safety Recommendation — a proposal arising from an investigation aimed at preventing similar casualties, not at assigning blame or liability.

Marine Casualty Investigation and Human Factors Day by Day

Day 1: Purpose and Framework of Investigation

- Safety Investigation Versus Liability Inquiry — Separating Learning From Blame
- International Code for Marine Safety Investigations — Defining Duties of Interested States
- Casualty Classification Categories — Deciding When an Investigation Is Mandatory
- Company Safety Management System Reporting — Linking Near Misses to Investigations
- Collision, Grounding and Fire Case Profiles — Comparing Investigation Challenges

Day 2: The First Hours

- Immediate Response Checklist — Protecting People, Ship and Evidence
- Voyage Data Recorder Save Procedures — Preventing Overwritten Recordings
- Scene Photography and Damage Mapping — Recording Physical Evidence
- Document Quarantine Lists — Securing Logs, Charts and Checklists
- Notification and Coordination With Authorities — Managing Parallel Inquiries

Day 3: Electronic and Physical Evidence

- Voyage Data Recorder Download and Replay — Reconstructing Bridge Activity
- Electronic Chart and Radar Data — Verifying Track and Target Information
- Engine Data Loggers and Alarm Histories — Testing Machinery Explanations
- Automatic Identification System Tracks — Comparing Shore-Based Records
- Chain of Custody Records — Defending Evidence Integrity

Day 4: Interviewing Witnesses

- Cognitive Interview Technique — Improving Recall Without Leading Questions
- Interview Planning and Sequencing — Avoiding Witness Contamination
- Language and Interpreter Use — Interviewing Multinational Crews Fairly
- Stress, Trauma and Rights of Witnesses — Protecting People During Inquiry
- Statement Comparison Matrix — Resolving Conflicting Accounts

Day 5: Human Factors Analysis

- Human Factors Analysis and Classification System — Classifying Unsafe Acts and Conditions
- Fatigue and Hours of Rest Records — Testing Alertness at the Time
- Bridge Resource Management Breakdowns — Analysing Team Communication Failures
- Situation Awareness and Automation Reliance — Explaining Missed Warnings
- Pilot and Master Relationship — Assessing Shared Decision-Making

Day 6: Causal Analysis Methods

- Sequence of Events Timeline — Establishing What Happened and When
- Barrier Analysis — Identifying Failed and Missing Defences
- Causal Factor Charting — Linking Events to Conditions
- Accimap Systems Analysis — Connecting Shipboard Acts to Company Decisions
- Why-Because Logic Checks — Testing Causal Claims for Completeness

Day 7: Organisational and Technical Factors

- Safety Management System Gap Review — Tracing Procedural Weaknesses
- Manning, Training and Certification Records — Assessing Crew Competence Factors
- Maintenance History and Defect Lists — Linking Equipment Failures to Outcomes
- Commercial Pressure and Schedule Analysis — Revealing Hidden Drivers
- Port, Pilotage and Vessel Traffic Service Factors — Assessing External Contributors

Day 8: Writing Findings and Recommendations

- Findings Hierarchy — Ordering Causes, Contributing Factors and Other Issues
- SMART Safety Recommendations — Directing Actions to Responsible Parties
- Report Structure and Plain Language — Making Findings Usable at Sea
- Draft Report Consultation — Managing Comments From Interested Parties
- Fleet Lessons Learned Bulletins — Sharing Results Across Ships

Day 9: Collision and Grounding Case Analysis

- Collision Regulations Application Review — Testing Lookout, Speed and Action
- Grounding Passage Planning Review — Checking Under-Keel Clearance Decisions
- Tanker and Passenger Ship Case Comparisons — Identifying Sector-Specific Factors
- Corrective Action Tracking — Verifying Recommendations Are Implemented
- Investigation Quality Audit — Measuring Depth and Objectivity of Reports

Day 10: Practising the Marine Casualty Investigation Report

- Evidence Package Assembly — Applying Preservation and Replay Methods to the Case
- Interview Summary Matrix — Applying Witness Techniques to Case Statements
- Human Factors Classification — Applying HFACS to the Case Crew
- Causal Chart Completion — Applying Barrier and Accimap Methods
- Marine Casualty Investigation Report — Completing Findings and Safety Recommendations

Applying Marine Casualty Investigation and Human Factors After the Course

- Test the fleet voyage data recorder save procedure on one vessel and confirm that masters can preserve recordings within the required time.
- Re-examine one recent near miss report with HFACS and barrier analysis, and compare the new findings with the original corrective action.

Marine Casualty Investigation and Human Factors Questions FAQ

What is marine casualty investigation and human factors work, and why does it matter now?

It is the structured examination of ship accidents to find causes and prevent recurrence, with attention to how people perform on board. It matters now because richer electronic evidence and crew workload pressures demand deeper findings than blaming one officer.

Which roles gain most from marine casualty investigation and human factors training?

Superintendents, HSEQ managers, flag and port state officers, independent investigators and insurance surveyors gain most. You will practise every stage from securing evidence to drafting recommendations that change fleet practice.

How does marine casualty investigation and human factors training differ from a general incident investigation course?

It applies investigation methods to ships, using voyage data recorders, collision rules, passage plans and multinational crews. A general course covers root cause basics; this one adds maritime evidence sources and the international framework for safety investigations.

What do you bring back from marine casualty investigation and human factors training?

You bring back a completed investigation report for a collision or grounding case. It shows evidence handling, interview summaries, human factors classification and causal charts that you can adapt as a template for your organisation.

Marine Casualty Investigation and Human Factors: The Way Forward

The Marine Casualty Investigation Report first informs which fleet procedures need to change after a serious event. Superintendents, HSEQ managers and administrations use it to agree corrective actions and responsibilities. After its first use, revisit the human factors section, because fatigue, automation reliance and team communication patterns often reveal themselves only across several investigations rather than in a single report.