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COURSE BROCHURE

# Electronic Chart Display and Information System (ECDIS) Training Course

**jupiterprime.uk**

info@jupiterprime.uk

Registered in the United Kingdom and Saudi Arabia

# Electronic Chart Display and Information System (ECDIS) Training Course

Electronic Chart Display and Information System ECDIS Training Course is a 1-week training course for navigational watchkeeping officers and bridge team supervisors, and each participant prepares an ECDIS passage plan and safety parameter verification matrix. Commercial fleet managers depend on precise digital navigation workflows to avoid groundings, navigate restricted waters, and satisfy demanding vetting regimes. Jupiter Prime Training delivers this course to secure disciplined bridge watchkeeping across modern shipping fleets.

## Why ECDIS Matters Now

Commercial maritime operations across container shipping, wet bulk tankers, and offshore support vessels operate under intensive coastal traffic density and tight voyage schedules. Uncalibrated digital display settings, misinterpreted sensor feeds, and unverified automated alarms produce mode confusion and groundings, whereas disciplined electronic chart execution preserves navigational safety across confined channels and open ocean transits. Bridge management teams require unified operating methods to manage sensor anomalies, chart updates, and alarm thresholds under international maritime safety governance. This course aligns with the International Maritime Organization model course IMO Model Course 1.27, the International Convention on Standards of Training, Certification and Watchkeeping for Seafarers STCW Code, and carriage mandates under the International Convention for the Safety of Life at Sea SOLAS Chapter V, Regulation 19.2.10.

## Who Gains Most from ECDIS

- Bridge watchkeeping officers establishing route waypoints, display layers, and safety contour settings
- Navigational navigators verifying chart edition updates, permit licences, and temporary digital notices
- Chief mates coordinating voyage schedules, cross-track corridors, and squat calculations for restricted channels
- Fleet operations superintendents reviewing digital log files, track deviations, and bridge team compliance records

A bridge navigation team comprising watchkeeping officers, senior navigators, and marine operations superintendents gains most, as coordinated execution across chart display modes, safety depth calculation, and automated warning verification prevents groundings and clears vetting inspections.

## ECDIS Capabilities

Participants master the chart management configurations, display settings, and sensor integration methods required to navigate vessels safely under digital bridge regimes.

- Calculate safety contours and safety depths — vessel under-keel clearance and grounding avoidance
- Configure chart presentation display modes — bridge visibility and critical navigational feature clarity
- Integrate sensor inputs from gyrocompass, speed log, and positioning receivers — positioning resilience and dead-reckoning fallbacks
- Evaluate route safety parameters against cross-track limits — safe passage execution and voyage vetting compliance
- Manage automated alarm thresholds and anti-grounding vectors — alarm fatigue mitigation and bridge vigilance
- Apply digital chart update sequences under IHO S-57 data formats — chart catalogue currency and hydrographic accuracy

## Key ECDIS Terms

- Electronic Navigational Chart — A standardised digital chart database issued by authorised national hydrographic offices following international maritime hydrographic presentation standards.
- Safety Contour — A user-defined depth boundary line separating safe navigable water from shallow hazards, automatically triggering navigational anti-grounding warnings.
- Display Base — The immutable minimum chart information layer that remains permanently on screen across all display modes and magnification levels.
- Standard Display — The baseline default chart display presentation showing critical navigational marks, depths, and routing boundaries for routine coastal watchkeeping.
- Cross-Track Limit — The specified lateral deviation corridor permitted on either side of an active voyage route leg before triggering an off-course alarm.
- Look-Ahead Vector — A forward-projecting search cone assessing charted bathymetry and navigational obstacles ahead of the vessel to give timely anti-grounding warnings.

## ECDIS Day by Day

## Day 1: System Architecture and Legal Frameworks

- SOLAS Chapter V Carriage Mandates — Aligning Digital Bridge Outfitting with International Vessel Tonnage Rules
- STCW Code Navigational Watchkeeping Standards — Establishing Bridge Competence Protocols for Digital Chart Operations
- IHO S-57 Digital Data Structures — Interpreting Chart Information Layers and Vector Attribute Classifications
- Electronic Chart Display Interfaces — Customising Presentation Settings Across Display Base and Standard Display Layers
- Hardware Back-up Arrangements — Formulating Operational Contingencies for Primary Workstation Power Interruption

## Day 2: Sensor Integration and Positioning Integrity

- Global Navigation Satellite System Interfaces — Identifying Geodetic Datum Mismatches and Signal Position Dilution Anomalies
- Sensor Interfacing with Gyrocompass and Speed Log — Validating Dead-Reckoning Vectors During Primary Sensor Outages
- Radar Overlay and Target Tracking Integration — Cross-Referencing Visual ARPA Returns with Charted Vector Shorelines
- Sensor Failure Warnings and Mode Confusion — Responding to Bridge Alarm Triggers and Position Jump Deviations
- Manual Chart Correction Entry — Updating Navigational Hazards from Notice to Mariners Radio Broadcasts

## Day 3: Passage Planning and Safety Boundaries

- Safety Contour and Safety Depth Formulae — Calculating Dynamic Squat Allowances for Shallow Water Fairways
- Electronic Route Creation and Waypoint Editing — Defining Turn Radii and Wheel-Over Points in Constrained Channels
- Cross-Track Margin Configuration — Establishing Safe Navigational Corridors for Traffic Separation Schemes
- Automated Route Safety Checking — Detecting Charted Obstructions and Isolated Dangers Along Planned Legs
- Environmental Overlay Adjustments — Factoring Tidal Stream Vectors and Under-Keel Draft into Voyage Plans

## Day 4: Watchkeeping, Execution, and Vetting Compliance

- Route Monitoring and Navigational Vectors — Verifying Vessel Advancement Against Planned Track and Schedule Waypoints
- Look-Ahead Detection Vector Settings — Optimising Anti-Grounding Detection Zones to Eliminate Nuisance Alarms
- RightShip RISQ 3.2 Navigational Compliance — Verifying Documented Bridge Familiarisation and Equipment Checks for Bulk Fleets
- OCIMF SIRE 2.0 Bridge Assessment Protocols — Demonstrating Human-System Interaction and Operational Discipline to Vetting Inspectors
- Digital Voyage Recording and Playback — Analysing Bridge Watch Handover Logs and Historical Track Profiles

## Day 5: Practising Passage Verification and Bridge Drills

- Critical Channel Navigation Scenarios — Executing High-Density Transit Plans with Dynamic Speed and Current Alterations
- Sensor Discrepancy Diagnostics — Detecting Latent Gyro Drift and Positioning Offsets During Simulated Coastal Watches
- System Reboot and Fail-Safe Switchover Drills — Transferring Watch Control to Secondary Navigational Displays Under Emergency Conditions
- Vetting Inspection Chart Audit Simulation — Defending Voyage Configuration Settings and Safety Parameter Calculations to Auditors
- Navigational Passage Plan and Safety Parameter Verification Matrix Completion — Documenting Verified Safety Depth Settings and Complete Route Approvals

## Applying ECDIS After the Course

- Audit bridge display default profiles and documented safety contour calculation logs against current fleet under-keel clearance policies.
- Conduct cross-check verification drills between electronic chart display positions and radar parallel indexing during routine coastal watchkeeping.

## ECDIS Questions FAQ

### What is ECDIS, and why does it matter now?

ECDIS is a type-approved electronic chart display and navigational management system. It matters now because international maritime safety conventions mandate digital navigation, requiring watchkeeping officers to maintain exact safety depth settings and manage sensor integration to eliminate grounding incidents across congested commercial waterways.

### Which roles gain most from ECDIS?

Navigational watchkeeping officers, chief mates, and fleet marine superintendents gain most from this training. Any maritime professional responsible for planning routes, verifying vessel clearance parameters, executing coastal watches, or preparing vessels for commercial vetting inspections benefits directly from structured digital chart discipline.

### How does ECDIS differ from general radar and ARPA navigation courses?

ECDIS focuses on vector chart data interpretation, depth contours, and automated anti-grounding safety zones rather than pure target collision avoidance. While radar training prioritises surface craft tracking, digital chart training governs hydrographic information layering, geodetic positioning resilience, and statutory route compliance.

### What does a participant bring back from ECDIS?

A participant returns with a complete navigational passage plan and safety parameter verification matrix. This functional work product provides clear calculation templates for safety contours, standardized alarm configurations, and operational checklists that bridge teams can use immediately on active vessel voyages.

## ECDIS: The Way Forward

The completed navigational passage plan and safety parameter verification matrix establishes unambiguous safety boundaries before departure. Vessel masters and watchkeeping officers use it to verify chart settings, calculate draft-specific safety depths, and validate alarm boundaries. Bridge management squads should re-evaluate these parameter logs after transit through tight tidal channels to continuously refine voyage safety margins across changing sea conditions.