

SYLLABUS

MODULE 1

Operation, Management and Commercial Understanding of the Container Terminal Business

This first module provides an understanding of how the container business has evolved and continues to dominate maritime transportation innovation.

Course Content

- Background to global seaborne trade and the commodities carried
 - Trade routes and shipping terminology
 - Cargo types
 - Effect of globalisation and evolution of routes
- Containerisation
 - The beginnings of the container revolution and changes in liner trades in the modern supply chain
 - The growth of containerisation in global trade
 - Economies of scale in ship sizes and the control of supply chain costs
- Ports and terminals
 - The role of ports in the global supply chain
 - Port administration models
- The concept and rise of terminals
 - Public private partnership
- Types and functions of container terminals
 - Gateway, transshipment, transit, dedicated, common user
- Terminal ownership
 - Global container terminal operators
 - Regional terminal operators
 - Others

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MODULE 2

Types of Containers and Container Ships

This module further examines the different types and characteristics of containers used in the global transportation of a variety of goods, and examines the characteristics and the growing sizes of container ships.

Course Content

- Container characteristics
 - ISO standards
 - Types and purpose
 - Container terminology
 - Marks and numbers
- Container integrity and security
- Container packing
- Container seals and securing techniques
- Container ownership and management
 - Owning v. leasing
 - Inventory control
 - Storage, maintenance and repair
- Container ship types, sizes and characteristics
- Layout and design of a modern containership
 - Lack of deck obstructions, speed
- The economics of container ship operations
 - Owning v. chartering
 - Operating costs

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MODULE 3

Container Terminal Characteristics

Now the course begins to look at container terminals in detail starting with a demand analysis to show their role in global trade, and then explain the infrastructure, configuration and layout of a container terminal.

Course Content

- Demand for global container terminal capacity
 - Intermodality, increased reach of hinterland
- Infrastructure and layout of container terminals
 - Berth and quay characteristics
 - Apron width, quay crane rails
 - Container yard size, layout and markings
 - Container Freight Station (CFS)
 - Gates, offices, maintenance facilities, fencing and traffic control
- Types and purpose of equipment used in container terminals
 - Ship to shore handling equipment
 - Yard equipment for transfer, storage and delivery
 - CFS and other terminal equipment
- Terminal automation
- Differing terminal designs for specific trades

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MODULE 4

Container Terminal Operations

This module explores the different elements of container terminal operations and the full cycle of ship, yard and gate activities.

Course Content

- Ship and quay operations
 - Discharge and load procedures
 - Crane numbers and productivity
- Yard operations
 - Performance and planning
 - Yard management
 - Storage and delivery
- Gate operations
 - Layout and traffic flows
 - Security and inspections
- CFS operations
 - Outturns and customs inspections
 - Repacking and value adding
- Container terminal resourcing
 - Managing staff numbers
 - Managing equipment matrix
 - Equipment maintenance: in-house v. contract out
- Use of IT in container terminal operations
 - Terminal Operating Systems (TOS)
 - Electronic Data Interchange (EDI)
- Key Performance Indicators (KPIs) for terminal operations
 - Management and environment metrics
 - Contractual KPIs

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MODULE 5

Health, Safety, Security and Environmental (HSSE) Management of Container Terminals

This module considers some of the key Health Safety Security & Environmental issues in container terminals and how they are managed.

Course Content

- Health and Safety (H&S) management in container terminal
- operations
 - H&S policy
 - Training and refresher programmes
- International Maritime Dangerous Goods (IMDG) Code, hazardous cargoes storage and contingency plans
- Identifying and avoiding risks of injury and accidents in terminals
- Common accidents
 - Slips, trips and falls
 - Being struck by vehicle, falling object etc
- Security management in container terminals
 - The International Ship and Port Facility Security (ISPS) Code
 - Container scanning
 - Perimeter integrity
 - Stowaways
- Managing the environment in container terminals
 - Use of regenerative technology
 - Controlling CO2 emissions, dust, noise and light pollution
 - Reducing carbon footprint
 - Dealing with spills

Commercial and Financial Aspects of Container Terminal Operations

This final module will help you understand the sources of revenue for a container terminal; understand the typical cost structure of container terminal operations; and gain an appreciation of sources of finance and investment appraisal for container terminal development projects.

Course Content

- Understanding the needs of stakeholders and customers
- Factors for success in a competitive environment
 - Stakeholder, customer and shareholder perspectives
- Cost and revenue structure in a container terminal
- Sources of income
 - Stevedoring, storage rent, value adding
- Cost centres
 - Fixed and variable cost structure
 - Rent and fees to Port Authority
 - Operating costs
 - Cost of finance
- The structure of a typical contract between a terminal and a shipping line
 - Service level agreement
 - Throughput and productivity commitments
- Financing container terminals and investment appraisal
 - Sources of finance
 - Risk management
 - Project appraisal
- Financial and commercial KPIs in container terminals
- Earnings before interest, taxes, depreciation and amortisation (EBITDA)
- Economics of developing and extending a container terminal