

PDP Unit Titles

The selection of Units must be based firmly on job descriptions and employment history, as well as on individual abilities.

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- Container terminal operations (C.1.1)
- Container ship loading and discharging operations (C.1.2)
- The container terminal quay transfer operation (C.1.3)
- The container yard: the storage operation (C.1.4)
- The container terminal receipt/delivery operation (C.1.5)
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- Container ship construction (C.2.1)
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- Packing of goods in containers: 1. Principles and planning (C.3.4)
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- Safe working on container terminals (C.4.1)
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- Supervision of container ship discharge and loading (S.2.1)
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- Supervision of container yard operations (S.2.3)
- Supervision of the container terminal receipt/delivery operation (S.2.4)
- Supervision of container freight stations (S.2.5)

●Container terminal operations (C.1.1)

1. Unit Aims

This Unit is designed:

1. To explain the role of the container terminal in cargo handling.
2. To describe the activities, facilities and operation of the container terminal.
3. To discuss organizational structure, management, supervision and control of the container terminal.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Describe in general terms the routes by which containerised cargo is transported between consignor and consignee.
2. List the main container-handling activities that take place on a container terminal.
3. Given a plan of the container terminal, name correctly each of the functional areas and state in general terms what activities take place in them.
4. Name and describe the components of the container terminal operations sequence.
5. State how imbalances can arise during container terminal operations and describe the consequences of operational bottlenecks.
6. Name the six major types of container handling equipment and explain how they are combined to form container handling 'systems'.
7. Describe the container handling system (and its components) operating in the terminal.
8. List the terminal areas given restricted access and prohibited access, and state the terminal's rules of general safety.
9. Explain the importance of organizational integration, and demonstrate how this is applied through the organizational structure of the terminal.
10. Name the departments in the terminal organization and outline their areas of responsibility.
11. Name the five essential elements of terminal management and supervision.
12. Describe in general terms the work and importance of the Planning Unit/Cell.
13. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

* There are no prerequisites for this Unit. It is assumed that it will be presented as the first Unit in a number of different courses of study, as an introduction to those courses. You, as the instructor, will need to be constantly aware of the background of those participating in the Unit and adjust the treatment, degree of detail and coverage accordingly; you may decide to omit some sections for particular groups.

●Container ship loading and discharging operations (C.1.2)

1. Unit Aims

This Unit is designed:

1. To outline the four components of the ship operation, for loading and discharging.
2. To describe the principles followed when planning stowage on container ships and to explain how stowage affects the sequence of loading and discharge of containers.
3. To describe the lifting equipment used in container loading and discharging.
4. To describe the sequence of activities that make up the ship operation, for both lift-on-lift-off and roll-on-roll-off vessels.
5. To describe the work of the personnel involved in the ship operation.

6. To outline the safety procedures that must be followed in the ship operation.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. List and describe the component activities of the ship operation, for lift-on-lift-off (LoLo) and roll-on-roll-off (RoRo and StoRo) operations.
2. State and explain the major safety principles followed when planning the stowage of containers aboard ship.
3. State and explain the major operational needs taken into consideration when planning container stowage.
4. Describe in general terms the form and use of the ship operation work schedule documents, and outline the principles followed by planners when preparing them.
5. Name and distinguish between the four main types of quayside crane used for handling containers, and their ship-mounted equivalents, and describe their operation in general terms.
6. Distinguish between the five main types of spreader beam used for handling containers and describe their operation in general terms.
7. Describe the sequence of activities performed in a typical LoLo ship operation and the record-keeping requirements associated with those activities.
8. Describe the sequence of activities performed in a RoRo ship operation.
9. Describe the work activities of the personnel involved in the ship operation, both aboard ship and on the quayside.
10. List and explain the safe practices and good 'housekeeping' rules to be followed in the ship operation.
11. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units or will have demonstrated (for example by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container construction (C.3.1)
- * Container numbering and marking (C.3.2)
- * Container ship construction (C.2.1)
- * Container ship stowage plans (C.2.2)
- * Container securing systems (C.2.3)

•The container terminal quay transfer operation (C.1.3)

1. Unit Aims

This Unit is designed:

1. To explain the function of the quay transfer operation.
2. To describe the four activities that make up the quay transfer operation on a container terminal.
3. To describe how the quay transfer operation is performed, for the various equipment systems.
4. To discuss the factors that determine quay transfer performance and to show how performance can be improved.
5. To describe best operating practices and precautions necessary to ensure an efficient and safe quay transfer operation.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Outline the place of the quay transfer operation in container terminal operations and explain its main function.
2. Identify and describe the four main activities in the quay transfer operation, for LoLo, RoRo and StoRo operations.
3. Describe in general terms the documentary, control, recording and related procedures followed during performance of the quay transfer operation.
4. Describe and explain the specific activities that make up a pure chassis quay transfer operation, and outline the equipment allocation and manning requirements of the operation.
 1. Describe and explain the specific activities that make up a straddle carrier direct quay transfer operation, and outline the equipment allocation and manning requirements of the operation.
 2. Describe and explain the specific activities that make up a pure lift-truck quay transfer operation, and outline the equipment allocation and manning requirements of the operation.
 3. Describe and explain the specific activities that make up a straddle carrier relay quay transfer operation, and outline the equipment allocation and manning requirements of the operation.
 4. Describe and explain the specific activities that make up the quay transfer operation at a terminal with a yard gantry system, and outline the equipment allocation and manning requirements of the operation.
5. Identify correctly the factors that influence performance of the quay transfer operation, and explain how they interact with each other.
6. List and explain the good practices that contribute to the efficient and effective performance of the quay transfer operation.
7. State and explain the basis for the safety rules to be followed by pedestrians and drivers when working in the quay transfer operation.
8. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units or will have demonstrated (for example by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container ship loading and discharge operations (C.1.2)

•The container yard: the storage operation (C.1.4)

1. Unit Aims

This Unit is designed:

1. To describe the storage operation and to explain its importance in container terminal operations
2. To describe the principles of container yard layout and facilities
3. To describe the container yard address system.
4. To describe the import and export stacking rules and practices.
5. To discuss the planning of container yard operations
6. To describe the movement of containers into and out of storage and the related information and administrative systems

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. List and explain the four functions of container terminal storage.
2. Describe and account for the broad design and layout of the container yard, and the general and special facilities provided there.
 1. Describe the layout and operational features of the container yard in a terminal using a chassis/trailer transfer system.
 2. Describe the layout and operational features of the container yard in a terminal using a lift-truck transfer and stacking system.
 3. Describe the layout and operational features of the container yard in a terminal using a straddle carrier direct transfer and stacking system.
 4. Describe the layout and operational features of the container yard in a terminal using a straddle carrier relay transfer and stacking system.
 5. Describe the layout and operational features of the container yard in a terminal using a rubber-tyred yard gantry stacking system.
 6. Describe the layout and operational features of the container yard in a terminal using a rail-mounted yard gantry stacking system.
3. Describe and explain the basis of the yard address system used on the terminal.
4. Given a 'slot' address, correctly identify the storage location in the container yard.
5. Explain the basis for allocating zones and sections of the container yard to particular container categories during storage planning.
6. Name and explain the three factors that determine the space required within the container yard storage blocks for the stacking of different categories of containers.
7. Describe and explain the functions of the two basic components of the container yard operation's information system.
8. Describe and explain the principal procedures and practices followed when storing export and import containers in the container yard.
9. Outline the in-terminal and interchange movements of containers and the control procedures relating to them.
10. List and explain the safety and security rules relating to working in the container yard.
11. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units or will have demonstrated (eg by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container ship loading and discharge operations (C.1.2)
- * The container terminal quay transfer operation (C.1.3)
- * Container numbering and marking (C.3.2)

•The container terminal receipt/delivery operation (C.1.5)

1. Unit Aims

This Unit is designed:

1. To describe the nature, importance and component activities of the container terminal receipt/delivery operation.
2. To explain how delivery route, mode of transport and container status influence the receipt/delivery process.
3. To describe the facilities provided for the container receipt/delivery operation.

4. To explain the administrative, documentary and handling procedures followed for the receipt and delivery of containers transported by road, rail and inland waterway.
5. To outline the main safety and security procedures and precautions necessary for the receipt/delivery operation.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Recognize and list the signs of inefficiency in the receipt/delivery operation, and state the benefits to terminal operators, traders, transport operators and the country of an efficient operation.
2. Outline the basic elements of the typical receipt/delivery operation, and list and explain the factors that result in variations from that typical sequence.
3. List and describe the facilities provided by a container terminal for the receipt and delivery of containers travelling by road, rail and inland waterway transport.
4. Name, explain the purpose of, and describe the origin of the principal documents handled in relation to the receipt/delivery operation.
5. Given examples of the documents handled during container receipt and delivery, identify correctly the nature and significance of the entries in those documents.
6. Describe the administrative, documentary and handling procedures followed for the reception of loaded general-purpose containers arriving at the terminal by road.
7. Describe the administrative, documentary and handling procedures followed for the reception of empty and special containers arriving at the terminal by road.
8. Describe the administrative, documentary and handling procedures followed for the reception of containers arriving at the terminal by rail and inland waterway transport.
9. Describe the administrative, documentary and handling procedures followed for the delivery of inbound loaded, general-purpose containers to road transport.
10. Outline the administrative, documentary and handling procedures followed when delivering inbound empty and special containers to road transport vehicles.
11. Describe the administrative, documentary and handling procedures followed for the delivery of inbound containers to rail and inland waterway transport.
12. List and explain the safety and security practices and procedures to be followed during the receipt and delivery of containers.
13. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units or will have demonstrated (for example by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container construction (C.3.1)
- * Container numbering and marking (C.3.2)

•Container freight station operations (C.1.6)

1. Unit Aims

This Unit is designed:

1. To explain why importers and exporters use the facilities of a container freight station.
2. To describe the functions, facilities and layout of a container freight station.
3. To explain the administrative, documentary and handling procedures followed for handling imports through a CFS.

4. To explain the administrative, documentary and handling procedures followed for handling exports through a CFS.
5. To outline the main procedures and practices necessary for the safe and efficient operation of a CFS.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Outline the reasons why shippers and receivers of break-bulk cargoes might need to use the facilities of a CFS.
2. List the basic functions and activities of a CFS, for export and import cargoes.
3. List and describe the range of facilities and resources provided at a CFS, for the receipt, delivery and storage of cargo transported by road, rail and inland waterway.
4. Describe the layout of a typical CFS storage shed.
5. Describe and explain the basis of the CFS storage address system.
6. Describe the administrative, documentary and handling procedures for the unpacking of general and special cargoes from containers.
7. Describe the administrative, documentary and handling procedures for the collection of import cargoes from the CFS by road, rail and inland waterway transport.
8. Describe the administrative, documentary and handling procedures for the receipt of export cargoes at the CFS by road, rail and inland waterway transport.
9. Describe the administrative, documentary and handling procedures for packing export cargoes into containers at the CFS.
10. List and explain the stacking and other operational rules relating to CFS working, both when using handling equipment and when using manual methods.
11. State and explain the procedures and precautions that ensure the safety and health of those working in the CFS.
12. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units or will have demonstrated (for example, by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container construction (C.3.1)

• **Container ship construction (C.2.1)**

1. Unit Aims

This Unit is designed:

1. To outline the basic construction, features and facilities of a typical cargo ship.
2. To review the vessel types used to carry containers in international trade.
3. To describe the characteristics of the five main types of container-carrying vessels.
4. To discuss the effects of ship construction on how containers are handled and stowed, on the equipment used and on operating procedures.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Explain why it is important to have a basic understanding of the construction of the container vessels calling at the port.
2. Name, identify correctly and describe the basic constructional features and facilities of a typical cargo vessel.

3. List and define the terms and measures used to describe the dimensions of a cargo vessel, and explain their operational significance.
4. Name and distinguish between the five main types of container-carrying vessels.
5. Describe the main constructional features of cellular container vessels and explain their influence on loading and discharge operations.
6. Describe the main constructional features of general cargo/container vessels and explain their influence on loading and discharge operations.
7. Describe the main constructional features of RoRo and RoRo/container vessels and explain their influence on loading and discharge operations.
8. Describe the main constructional features of bulk/container vessels and explain their influence on loading and discharge operations.
9. Describe the main constructional features of container-carrying barge carriers and explain their influence on loading and discharge operations.
10. Outline the major trends in container vessel construction and discuss how they might affect operations in the terminal.
11. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Unit or will have demonstrated (for example by successfully completing the Test for that Unit) their understanding of the topics covered by it:

- * Container Terminal Operations (C.1.1)

◆ Container ship stowage plans (C.2.2)

1. Unit Aims

This Unit is designed:

1. To describe the conventions and layout of cellular container ship general arrangement, outline and bay plans.
2. To explain how to read and interpret container ship bay and other stowage plans.
3. To introduce the main types of stowage plans used for general cargo/container and RoRo vessels that carry containers, and explain how to read and interpret them.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Recognize and distinguish between a general arrangement, an outline plan and a bay plan for a cellular container vessel.
2. Identify correctly, from the general arrangement ship plan, the layout of hatches, bays and other features of a cellular container vessel.
3. Identify correctly all 20ft, 40ft and optional stowage positions on a container ship general arrangement plan.
4. On an outline plan of a cellular vessel, identify correctly: the bay profiles; the container positions above and below deck; the position of hatch covers; the symbols and codes for 'specials' and loading/discharge ports; and the number of containers that can be stowed in each bay, above and below deck.
5. Locate correctly a given stowage slot address on a given cellular container ship outline plan.
6. Given a completed bay plan, identify correctly the slots into which given containers are to be loaded or from which they are to be discharged.
7. Given a completed bay plan, identify correctly the containers stowed in, or to be stowed in, a series of given stowage slots.
8. Identify correctly those slots on a standard bay plan which are occupied by 'special' containers, and recognize their special nature.

9. List the information recorded on a cellular vessel bay plan for each container in stowage.
10. Given an outline plan of a general cargo/container vessel, identify correctly the main features of the vessel and the container stowage positions above and below deck.
11. Given an outline plan of a general cargo/container vessel, correctly identify all container stowage addresses.
12. Given detailed stowage plans for a general cargo/container vessel, correctly identify all container stowage addresses and the recorded details of containers carried in given address positions.
13. Given an outline plan of a RoRo vessel, identify correctly the vessel features and the container stowage positions on the vehicle decks, the weather deck and (if there is cellular LoLo stowage) in the holds.
14. Identify correctly the container stowage addresses and information details on a RoRo vessel stowage plan, on the vehicle decks, the weather deck and (in the case of a RoRo/LoLo vessel) in the holds.
15. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units, or will have demonstrated (for example by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container ship construction (C.2.1)
- * Container construction (C.3.1)
- * Container numbering and marking (C.3.2)

● Container securing systems (C.2.3)

1. Unit Aims

This Unit is designed:

1. To explain why containers need to be secured during the sea voyage.
2. To describe the main types of securing devices used on container vessels.
3. To explain how container securing devices are used.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. State what stresses are experienced by containers during the sea voyage, and explain what forces and motions create those stresses.
2. State the necessity for and the functions of container securing systems.
3. Describe the various forms of cell guide systems and explain how they secure containers.
4. Name, distinguish between and recognize the main types of non-locking connector devices, and explain how they are used.
5. Name, distinguish between and recognize the main types of locking connector devices, and explain how they are used.
6. Name the three main lashing materials, describe and distinguish between the various attachment and tensioning devices that are used with them, and explain how they are used.
7. Name and distinguish between the four major categories of container securing devices.
8. Describe the securing systems used for the above-deck, non-cellular stowage of containers.

9. Interpret correctly lashing plans for above-deck non-cellular stows, and design a safe securing pattern for a given above-deck container bay plan.
10. Describe the securing systems used for the stowage of containers in the holds of bulk/container and general cargo/container vessels.
11. Interpret correctly lashing plans for below-deck, non-cellular stows, and design a safe securing pattern for a given below-deck container bay plan.
12. Outline the principal requirements of container securing systems for the vehicle decks of RoRo vessels, and describe the securing devices and patterns commonly adopted.
13. Describe the main securing systems used for uncontainerized, non-containerized and other 'special' stows on container vessels.
14. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units or will have demonstrated (for example by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container ship loading and discharging operations (C.1.2)
- * Container ship construction (C.2.1)
- * Container construction (C.3.1)
- * Container ship stowage plans (C.2.2)

•Container ship loading/discharge lists and workplans (C.2.4)

1. Unit Aims

This Unit is designed:

1. To explain the need for detailed planning and control of terminal operations.
2. To describe the operations planning procedures for a container vessel, including berth allocation and the preparation of the strategic plan.
3. To describe the form and uses of a container terminal's main work schedules — crane movement sheets, crane sequence sheets and discharge and loading sequence sheets — and explain how they are developed.
4. To discuss the procedures for the requisition and allocation of equipment, labour and gear.
5. To explain how container yard and other in-terminal movements of containers are planned and scheduled.
6. To discuss how operational work schedules are used for supervising and controlling container terminal operations.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Explain why container terminal operations have to be planned and controlled in detail, and list the work schedules through which operational control is carried out.
2. Given a crane movement sheet, identify and interpret correctly the data contained within it, and list the uses to which the sheet is put during normal working and when emergencies occur.
3. Given a crane sequence sheet, identify and interpret correctly the data contained within it, and list the uses to which the sheet is put.
4. Given a discharge sequence sheet or a loading sequence sheet, identify and interpret correctly the data contained within it, and list the uses to which the sheets are put.

5. Explain the principles and process of allocating a vessel to a berth, and describe the form and content of a berthing plan.
6. Describe the features of a strategic plan, and explain the principles and practices used when preparing one for a vessel's call.
7. Given a strategic plan pro forma for a vessel, and discharge and loading outline plans, transfer the relevant data, calculate the work content, allocate a suitable number of cranes, and estimate the time of completion of the operation.
8. Describe the processes of constructing the work schedule sets for a vessel's call, listing for each schedule the sources of information available and stating the principles followed.
9. Given the appropriate data, construct a crane movement sheet, a crane sequence sheet, and discharge and loading sheets for the operation.
10. State how equipment, labour and gear are requisitioned and allocated for a shift, and describe the documents that are used in those procedures.
11. List the container yard and other in-terminal activities that need to be planned and scheduled, and name and briefly describe the documents used for scheduling those activities.
12. Explain the use of work schedules in supervising and controlling terminal operations, both for monitoring routine activities and for responding to emergencies and the unexpected.
13. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have studied the following Units or will have demonstrated (eg by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container ship loading and discharge operations (C.1.2)
- * The container terminal quay transfer operation (C.1.3)
- * The container yard operation (C.1.4)
- * The container terminal receipt/delivery operation (C.1.5)
- * Container ship construction (C.2.1)
- * Container ship stowage plans (C.2.2)
- * Container securing systems (C.2.3)
- * Container numbering and marking (C.3.2)

• Container construction (C.3.1)

1. Unit Aims

This Unit is designed to:

1. Describe the nature, design and basic structure of a general purpose marine freight container.
2. Name the materials from which containers are constructed, explain their advantages, disadvantages and main uses, and indicate how they can be recognized.
3. Explain the dimensional and operational specifications of standard containers.
4. Explain how containers are tested, approved and certificated.
5. Describe the range of container types based on ISO standards.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Explain what is generally understood by the term 'freight container', and describe its main features, functions and benefits.

2. Explain why international standards are necessary for the dimensions and other specifications of freight containers, and list the standard lengths, heights and widths of ISO-defined containers.
3. Describe the basic form, and name and describe the component parts of, a general purpose freight container.
4. Name the three materials from which freight containers are constructed, state the advantages and disadvantages of each type, and explain the particular uses to which they are best suited.
5. State how containers constructed from different materials can be distinguished from the outside, and recognize them correctly on sight.
6. List the seven categories of operational specifications defined by the ISO for freight containers, and outline the related tests that are carried out to certify that a container has met those requirements.
7. Name and describe the three major categories of freight containers, name and describe the main classes and types within those categories, and correctly identify all types of container by their appearance and characteristics.
8. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Unit or will have demonstrated (for example by successfully completing the Unit Test) their understanding of the topics covered by it:

- * Container terminal operations (C.1.1).

•Container numbering and marking (C.3.2)

1. Unit Aims

This Unit is designed:

1. To describe the ISO system of container marks and the reasons for its development and use.
2. To describe the range of other marks and labels commonly displayed on a container.
3. To provide the ability to 'read' the ISO and other container marks, as appropriate to the learner's duties.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. State three reasons for needing an internationally agreed system of container identification marks.
2. List five categories of operational marks necessary for the safe handling of containers.
3. Name and recognize the three major elements of the ISO coding system for containers: the identification code, the country/size/type codes, and the specification markings.
4. Given a series of container identification codes, identify correctly the owners' codes, the serial numbers and the check digits.
5. [Optional] Given a container identification code, calculate correctly the check digit, and verify the accuracy of the owner's code and serial number.
6. Given a series of country/size/type codes from representative containers, interpret the data correctly and completely.
7. Distinguish between 'mandatory' and 'optional' container marks, and correctly assign a series of given marks to the appropriate categories.

8. Define or recognize the best definition of: maximum gross mass, tare mass, payload and cubic capacity.

9. Given an illustration of a general purpose container, indicate correctly the required locations for the ISO mandatory and optional marks.

10. Explain the significance of the safety approval plate and customs approval plate, and indicate how they are issued.

11. Given illustrations of a variety of container marks of 'operational' significance, identify them correctly and indicate their use and importance.

12. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units, or will have demonstrated (for example by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)

- * Container construction (C.3.1)

•Container inspection (C.3.3)

1. Unit Aims

This Unit is designed:

1. To explain why containers should be inspected on entry to and departure from the terminal.

2. To review the circumstances in which containers are examined in the terminal.

3. To describe the documentary and practical procedures to be followed when inspecting containers.

4. To survey the types of defect to be looked for in container inspection, and to outline the criteria and standards relating to severity of defect.

5. To describe the actions to be taken when container defects are detected.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. State and explain the five major categories of reasons for terminal inspection of containers.

2. State where and when container inspection takes place in the terminal, and who is responsible for the inspection in each case.

3. Describe the general features, content and functions of the equipment interchange receipt (EIR).

4. Detail the procedures for terminal gate inspection of inbound and outbound containers, both loaded and empty, and the related handling of the EIR form.

5. Describe the inspection and documentary procedures followed when containers enter and leave the terminal by rail and inland waterway.

6. Outline the inspection and reporting procedures relating to containers that do not pass through the terminal gate during their transit through the terminal.

7. List and describe the six defects in container identification information that are specifically looked for during gate inspection, and explain why they must be checked.

8. Name and distinguish between the three categories of container condition defects, and outline the main types of defect in each category that should be looked for during container inspection.

9. List the steps followed by a gate inspector when examining a container and chassis for defects.

10. State the actions that should be taken in response to container identificational deficiencies found during gate inspections.
11. State the actions that should be taken in response to container condition defects found during gate inspections.
12. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have studied the following Units or will have demonstrated (for example by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container ship loading and discharge operations (C.1.2)
- * Container terminal receipt/delivery operations (C.1.5)
- * Container construction (C.3.1)
- * Container numbering and marking (C.3.2)
- * Handling dangerous goods in ports (P.3.1)

●Packing of goods in containers: 1. Principles and planning (C.3.4)

1. Unit Aims

This Unit is designed:

1. To describe and explain how poor container packing practices and procedures can cause damage, deterioration and other problems to cargo, and to discuss responsibility and liability for accidents resulting from poor packing.
2. To explain the preliminary documentary and other procedures preparatory to a container being packed with cargo.
3. To describe the principles and practices followed when planning for the packing of goods in containers.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. List and explain the six main causes of cargo damage and other problems resulting from poor container packing procedures and practices.
2. State where responsibility lies for the safe and correct packing of goods into containers, and explain why liability rests with the packer.
3. Outline how instructions for packing cargo consignments into a container originate, and name and describe the documents used when planning and carrying out container packing.
4. Explain how appropriate containers are selected for the cargo consignments booked for packing by shippers.
5. List and explain the factors involved in selecting suitable packaging for cargoes to be transported by freight container.
6. Name the two ways in which packing security can be ensured when planning, and explain how they are put into practice.
7. List and explain the factors taken into account when planning the sequence and arrangement of packing of cargo packages into a container.
8. Describe the main features of the container loading plan, and list and explain the steps involved in preparing it.
9. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units or will have demonstrated (for example by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container freight station operations (C.1.6)
- * Container construction (C.3.1)

●Packing of goods in containers: 2. Working practices (C.3.5)

1. Unit Aims

This Unit is designed:

1. To explain how a container is inspected and prepared in readiness for being packed with cargo.
2. To describe the general principles and working practices followed when packing and securing goods in containers.
3. To explain how particular types of regular and special packages and cargoes are packed into containers.
4. To outline the precautions necessary when packing dangerous goods into containers.
5. To describe the tallying, recording and other documentary procedures followed during and after packing a container.
6. To outline the precautionary, procedural and documentary steps followed when unpacking a freight container.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. List and outline the steps involved in inspecting and preparing a container for packing.
2. State and explain the good working practices to be followed for the mechanical and manual packing of containers.
3. Outline, and explain the reasons for, the procedures and practices followed when packing cartons, boxes and crates, pallets, bags and sacks, bales, drums and barrels, rolls and coils into containers.
4. Outline, and explain the reasons for, the procedures and practices followed when packing long, over-sized and heavy lifts, refrigerated cargoes, and dry-bulk and liquid-bulk cargoes.
5. Outline the main procedures to be followed when packing dangerous cargoes in containers.
6. Describe and explain the significance of the documentary and other operations relating to the completion of container packing and the sealing of the container.
7. Outline the major procedures and precautions followed when unpacking a container at the CFS.
8. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in Sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units or will have demonstrated (for example by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container freight station operations (C.1.6)

- * Container construction (C.3.1)
- * Packing of goods in containers: 1. Principles and planning (C.3.4)

● **Safe working on container terminals (C.4.1)**

1. Unit Aims

This Unit is designed:

1. To explain why container terminals are dangerous working environments.
2. To discuss the importance of company safety policies and a company safety culture.
3. To describe the general principles of safe working on a container terminal.
4. To explain the practical procedures for safe access to and safe working on a container terminal.
5. To discuss the need for and nature of emergency procedures and systems.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Demonstrate that container ports and terminals are dangerous places to work in, and identify the main causes of the dangers.
2. Outline the terminal's safety organization, list the duties and responsibilities of the safety officer, safety representatives and safety committee, and name the safety officer and your safety representative.
3. Explain why the terminal needs to establish a safety policy, safety rules and regulations, and safe systems of work, state who is responsible for establishing them, and describe the form in which the safety rules etc are published.
4. State and explain the six main principles of segregation designed to provide a safe working environment on the terminal.
5. List and explain the ten general safety rules that must be observed by all terminal employees.
6. Explain the procedures governing safe access to the quay and vessel by ships' crews and visitors, by supply vehicles and by port employees in the course of their work.
7. Describe and explain the procedures for safe access for authorized pedestrians to restricted operational areas.
8. Describe the procedures for safe working at the terminal gate and at container interchanges, and explain the reasons for those procedures.
9. Describe the safety precautions necessary to protect engineering and other staff requiring access to a terminal operational area, as they travel to and from the area and work within it.
10. State the safety practices and procedures to be followed when driving terminal vehicles and container-carrying equipment.
11. List and describe the safe means of access to high work locations on the terminal, and explain the safety precautions relating to working at height.
12. State the safety procedures to be followed when using hand tools and when lifting and carrying loads.
13. List and describe the protective equipment that should be provided on a container terminal, and explain the need for it and how it is used.
14. Describe the requirements for providing and maintaining a safe working environment on the terminal.
15. Describe what is meant by 'good housekeeping' on the terminal, explain why it is important, and state who is responsible for carrying it out.
16. Explain the need for emergency procedures on the terminal, and describe the procedures and precautions needed to prepare for emergencies.
17. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Unit or will have demonstrated (for example by successfully completing the Test for that Unit) their understanding of the topics covered by it:

- * Container terminal operations (C.1.1)

•Safe working aboard container vessels (C.4.2)

1. Unit Aims

This Unit is designed:

1. To stress the dangers encountered in working aboard container vessels at berth.
2. To explain the respective safety responsibilities of the parties involved in loading and discharging container vessels.
3. To describe the status of international safety standards relating to working aboard container vessels at berth, and how they are implemented in ports.
4. To describe the procedures that ensure safe access to vessels, safe movement about vessels and safe access to and working within cargo spaces.
5. To describe the emergency procedures required for the safe and prompt evacuation of personnel from a vessel and from a hold.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. List and explain the five main reasons why accidents occur while working aboard a container vessel.
2. State what international standards apply to safe working aboard vessels in port and explain how they are applied at the terminal.
3. List the standard and special items of protective clothing and equipment to be worn when working aboard a container vessel, and outline the reasons for using them.
4. Name the five groups of general requirements for safe access to the vessel, explain what those requirements mean in practice, and state who is responsible for meeting them.
5. List the eight safe means of access to the vessel, and outline the main features provided and precautions to be taken when using them.
6. Name the four categories of safety requirements relating to safe access to the work area, and outline the precautions necessary to maintain safety while moving around the vessel.
7. State where responsibility lies for the safety of ship's plant and equipment, how their safety is ensured, and what steps should be taken by terminal staff to check their safety before use.
8. Name and describe the five safe means of access to above-deck container stacks, and explain the precautions necessary when using them.
9. List and explain the safety rules to be followed when working on above-deck container stacks.
10. Describe the dangers faced when gaining access to and working in the holds and cargo spaces of container vessels, and explain the safety rules and precautions to be followed to overcome those risks.
11. Identify the three categories of emergencies that can arise when working aboard the vessel, describe the nature and causes of the emergencies in each category, and outline the procedures that must be established and followed for responding to them.
12. List the three main safety aspects of finishing work, describe the safety procedures to be followed, and outline the reasons for doing so.
13. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units or will have demonstrated (for example by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container ship loading and discharging operations (C.1.2)
- * Container ship construction (C.2.1)
- * Safe working on container terminals (C.4.1)

•The container terminal and international trade (C.6.1)

1. Unit Aims

This Unit is designed:

1. To discuss the need for, nature of and benefits resulting from international trade.
2. To explain the importance of transport to international trade.
3. To define and explain a producer's production, marketing and distribution costs, and show how they can be calculated.
4. To assess the relative contribution made by maritime transport costs to distribution costs.
5. To establish the fundamental importance of port/terminal efficiency in controlling maritime transport costs.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Explain why it is necessary for a country to take part in international trade, the circumstances which make that trade possible, and the benefits that result from it.
2. Outline the importance to international trade of transport (particularly maritime transport) systems and of recent and current developments in cargo transport.
3. State which expenditure components make up a producer's production costs.
4. Given the individual production costs, calculate how much in total they contribute towards the cost of each item produced.
5. List and explain the components that make up the cost of marketing a product.
6. Given the costs of the individual marketing activities relating to a particular product, calculate the per-item contribution they make to the product's cost price.
7. List and explain the significance and relative importance of the components of an exporter's distribution costs.
8. Given the costs of the various components of an exporter's distribution costs, calculate the per-item contribution they make to the product's cost price.
9. List and explain the four factors that influence the contribution made by maritime transport costs, and particularly port/ terminal costs, to shippers' distribution costs.
10. Demonstrate how improved operational efficiency at a port/terminal can benefit its users.
11. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in Sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Unit or will have demonstrated (for example by successfully completing the Test for the Unit) their understanding of the topics covered by it:

- * Container terminal operations (C.1.1)

◆ Measuring container terminal performance (C.6.2)

1. Unit Aims

This Unit is designed:

1. To explain why it is important to measure container terminal performance.
2. To list and define the principal measures of container terminal performance.
3. To explain how the principal measures of container terminal performance are calculated and used.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. State why it is necessary for the terminal to measure its performance.
2. Name and explain the nature of the four categories of terminal performance measures.
3. Explain the difference between 'traffic' and 'throughput' production measures, name and define the different primary and secondary production measures, and describe how they are measured and calculated.
4. Given data relating to traffic and throughput at a terminal or its CFS, calculate the various production measures derivable from the data.
5. Name and explain the nine main types of terminal productivity measures and describe how they can be measured and calculated.
6. Given data relating to terminal productivity, calculate the various measures derivable from the data.
7. List the five categories of terminal utilization measures, explain their nature and significance, and describe how they are calculated.
8. Given data relating to the utilization of various terminal facilities and resources, calculate correctly the relevant utilization measures.
9. Name and describe the major measures of service, and explain how they can be calculated.
10. Given data relating to terminal service, calculate correctly a range of service performance measures.
11. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in Sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units or will have demonstrated (for example by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container ship loading and discharging operations (C.1.2)
- * The container terminal quay transfer operation (C.1.3)
- * The container yard operation (C.1.4)
- * The container terminal receipt/delivery operation (C.1.5)
- * Container freight station operations (C.1.6)
- * Container terminal work schedules (C.2.4)
- * The container terminal and international trade (C.6.1)

● **Analysis and review of container terminal performance (C.6.3)**

1. Unit Aims

This Unit is designed:

1. To explain how analysis and review of container terminal performance measures can be used to improve terminal performance.
2. To describe the range of logs and other report documents that provide the data for terminal performance reviews.
3. To explain the principal circumstances in which terminal performance measures are reviewed, and outline the processes and outcomes of those discussions.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Explain the purpose and value of analysing and reviewing container terminal performance.
2. Name and distinguish between the three broad levels of terminal performance review.
3. Describe the content and uses of the four shift-level operational performance review documents.
4. Given sample crane, equipment, gate and shift logs and reports, review the operations summarized and comment on the deficiencies revealed by the data.
5. Describe the five types of daily performance reports, and explain how they are used to monitor and improve terminal performance.
6. Given sample daily performance reports, analyse and evaluate the data to identify operational shortcomings and suggest appropriate responses to them.
7. Describe the vessel performance report and outline how it is used to improve terminal performance.
8. Given a sample vessel performance report, identify significant features and comment on the quality of service offered to the ship operator during that ship's call.
9. Describe the CFS log and monthly performance report and their uses.
10. Given a sample CFS log and/or report, identify the significant data and suggest appropriate managerial and supervisory actions.
11. Describe the six types of monthly performance reports and explain how they are used to monitor and improve terminal performance.
12. Given sample monthly performance reports, evaluate the terminal performance revealed by them and suggest appropriate managerial and supervisory responses.
13. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in Sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units or will have demonstrated (eg by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container ship loading and discharging operations (C.1.2)
- * The container terminal quay transfer operation (C.1.3)
- * The container yard operation (C.1.4)
- * The container terminal receipt/delivery operation (C.1.5)
- * Container freight station operations (C.1.6)
- * Container terminal work schedules (C.2.4)
- * The container terminal and international trade (C.6.1)
- * Measuring container terminal performance (C.6.2)

●Handling dangerous cargoes in ports (P.3.1)

1. Unit Aims

This Unit is designed:

1. To survey the range of dangerous cargoes handled in ports and the hazards and risks presented by those cargoes.
2. To describe the IMDG classification and means of identifying the main classes and subdivisions of dangerous goods.
3. To explain the main categories of product containment, packaging groups and packaging codes relating to dangerous goods.
4. To describe the marking, labelling and documentation of dangerous goods.
5. To explain the principles of stowage, storage and segregation of dangerous goods.
6. To describe the safe handling of dangerous goods and the emergency actions to be taken in response to accidents.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. List the major types of dangerous cargoes encountered in ports and the risks associated with them, and state why portworkers must know how to recognize them and handle them safely.
2. Explain how dangerous goods are divided into nine IMDG classes, and name and describe the hazards presented by the classes and their subdivisions.
3. Recognize the IMDG class labels and marine pollutant mark, in their various forms, and identify correctly the hazards they indicate.
4. Describe the five broad categories of product containment covered by the IMDG Code and outline how dangerous goods are assigned to each type.
5. Name and explain the basis for the three packaging groups, and interpret correctly the meaning of a given UN packaging code.
6. Explain the requirements for identifying dangerous goods packages and containment units by proper shipping name, UN number, class mark, class label and class placard.
7. Name the shipping documents relating to dangerous goods, and list and describe the essential and additional information required to be presented in those documents.
8. Describe how the advance dangerous cargo information is entered into the port's information system, and explain why it is important to check the advance information by inspecting the cargoes as they arrive at the port.
9. Describe the stowage, segregation and storage requirements for dangerous goods, and explain how advance information about consignments can be used, with the IMDG Code, to establish those requirements.
10. State the purpose of the Emergency Schedules (EmS) and Medical First Aid Guide (MFAG) in the IMDG Code Supplement, and explain how they are used.
11. Outline the procedures to be followed in preventing, planning, preparing for and dealing with accidents and other emergencies involving dangerous cargoes.
12. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in Sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units (or the equivalent Unit for general cargo or bulk terminals) or will have demonstrated (for example by successfully completing the Tests for the Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Safe working on container terminals (C.4.1)

●The port supervisor: organizational status (S.1.1)

1. Unit Aims

This Unit is designed:

1. To explain the nature of an organization, illustrated by reference to ports, their functions, ownership and administration.
2. To discuss the need for a sound organizational structure, describe how organizational structure is represented and discuss what that representation implies in terms of functional units.
3. To distinguish between authority, responsibility and accountability, and to describe their various organizational implications.
4. To discuss the role of the supervisor in company communication systems, objectives, rules and regulations, the manpower development system and other organizational issues.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Explain what is meant by an 'organization', and summarize the basic characteristics of an organization.
2. List the main functions of a port and state which body is responsible for carrying out those functions in his/her port.
3. Describe the ownership and administrative framework of the port and explain how, and by whom, the port's policies are decided.
4. Describe how the structure of an organization is normally represented and explain the implications of the form of that representation in terms of functional units and groupings.
5. Given an organizational chart, identify correctly the superior and subordinates of a particular post, state who reports to the occupant of that post and to whom the occupant reports.
6. List the main features of an ideal job description, state why such a document is important and outline how it is developed.
7. Explain what is meant by delegation of responsibility, delegation of authority, and employee accountability.
8. Name and distinguish between the three sources of supervisory authority.
9. Distinguish between line, staff and functional authority relationships, explain the practical and supervisory significance of the distinctions, and identify each type correctly on a given organizational chart.
10. Explain what is meant by 'span of control', how it relates to authority levels, and how it influences supervisory efficiency in an organization.
11. Explain the importance of good communication within an organization, and describe the major media of organizational communication.
12. Explain the importance of setting performance objectives for the organization, its departments, work units and individual employees, illustrated by those set for his/her organization.
13. Explain the need for company rules, regulations and operational procedures, and list the areas covered by the various company handbooks and manuals.
14. List the main features of a human resource development plan and its implementation, and outline the part played by the supervisor in it.
15. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that, before starting this Unit, the learner will have studied the following PDP Units (or equivalent units for general cargo berths or bulk terminals):

- * Container terminal operations (C.1.1)
- * The container terminal and international trade (C.6.1)

•The port supervisor: tasks and duties (S.1.2)

1. Unit Aims

This Unit is designed:

1. To review the main responsibilities and duties assigned to a supervisor with respect to preparing the work-group for work, setting them to work and controlling their activities during the work.
2. To discuss the supervisor's duties in maintaining the work-group's productivity and performance quality.
3. To describe and discuss the role of the supervisor in maintaining the safety, health and welfare of the work-group.
4. To discuss the duties of the supervisor with regard to human resource development.
5. To improve the supervisor's ability to carry out his/her work-group management tasks.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Explain the role of supervision in relation to the overall objectives of the organization.
2. Explain the nature and significance of the steps involved in preparing the work-group's tasks for a work period.
3. Given a series of work tasks and a list of available resources, prioritize the tasks and allocate the appropriate labour and equipment to them.
4. List and explain the need for the supervisory activities involved in setting the work-group to work.
5. Explain what is meant by 'control' and how a control system works.
6. Describe the three supervisory tasks involved in the control of work and explain the significance of the supervisor's role in work control.
7. Explain the value to an organization of, and the nature of the means available for, maintaining work-group performance, in terms of output and productivity.
8. Explain the need for maintaining work-group performance quality, and describe the main requirements of the total quality management approach.
9. Explain the nature and operational significance of the supervisor's responsibilities for the safety, health and welfare of his/ her work-group.
10. Survey a given work location for safety and health hazards, identifying and dealing appropriately with all detected hazards.
11. Explain the role of the supervisor in the organization's human resource development system.
12. Describe the purpose, application and process of employee performance appraisal, and explain the features required by such a scheme.
13. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have studied the following Units or will have demonstrated (for example by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1) or its equivalent for break-bulk berths or bulk terminals
- * The port supervisor: organizational status (S.1.1)
- * Safe working on container terminals (C.4.1) or its equivalent

•The port supervisor: supervisory skills (S.1.3)

1. Unit Aims

This Unit is designed:

1. To explain the supervisor's need for problem-solving and time-management skills, and the nature of those skills.
2. To discuss the nature and importance of the communication skills necessary for supervisors.
3. To describe the principles underlying disciplinary and grievance procedures.
4. To discuss the role of the supervisor in managing change within the organization.
5. To improve supervisors' skills in problem solving, communication, and the handling of disciplinary, grievance and change issues.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. List and distinguish the attributes definable as supervisory skills.
2. List and explain the eight steps in the process of problem solving, and outline the six principles governing decision making.
3. Given the necessary data concerning a reported problem, analyse the problem correctly and propose an effective solution.
4. Explain the need for and value of careful management of time resources.
5. State and explain the strategies used in supervisory time management.
6. Make the most effective use of his/her own time and that of his/her work-group.
7. Explain the principles of communication and the factors which determine the effectiveness of the communication process.
8. Communicate a message, instruction or report clearly, in spoken or written form.
9. State the importance of counselling and the disciplinary procedure in the achievement of effective performance, and list and explain the steps in that procedure.
10. Conduct an effective counselling interview in relation to a disciplinary matter.
11. Explain the importance of dealing promptly and sympathetically with work-group grievances, and describe the stages in the grievance procedure.
12. Handle a work-group grievance promptly and effectively.
13. Explain the role of the supervisor in the management of change.
14. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have studied the following Units or will have demonstrated (for example by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1) or an equivalent Unit for bulk terminals or break-bulk berths
- * The port supervisor: organizational status (S.1.1)

* The port supervisor: tasks and duties (S.1.2)

•The port supervisor: personal attributes (S.1.4)

1. Unit Aims

This Unit is designed:

1. To identify and explain the nature, styles and sources of leadership.
2. To consider how a supervisor can motivate the work-group to perform better.
3. To review the nature of interpersonal skills and assess their significance to a supervisor.
4. To discuss the personal qualities required of an effective supervisor.
5. To encourage supervisors to recognize their personal attributes and enhance those that make supervision more effective.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. List and describe the component knowledge, understanding and skills required by a supervisor, and outline their importance in the performance of the supervisor's job.
2. Describe the nature of leadership and explain the roles of leaders and followers.
3. Distinguish between formal and informal leadership, and show how informal leaders can influence the behaviour of the group.
4. Recognize the form of leadership being displayed in a given situation and assess its implications for work-group effectiveness.
5. Name and distinguish between the various categories of leadership styles, and explain how particular circumstances may demand different styles.
6. Select the most appropriate leadership style for a particular supervisory situation.
7. Define the authority of a leader, distinguish between the various sources of that authority, and recognize the difficulties associated with exercising authority derived from each source.
8. Demonstrate appropriate and effective leadership authority when leading a group in performing a given task.
9. Explain the means and strategies available to motivate the work-group and describe how the group may respond to the various types of incentives.
10. Given the necessary information about work situations, select appropriate motivational strategies to maximize work-group performance.
11. Describe the ten personal attributes referred to as interpersonal skills and explain their value in effective supervision.
12. Use his/her interpersonal skills to the full when carrying out his/her supervisory duties.
13. List and explain the nature and value of the personal qualities desirable in a supervisor.
14. Apply his/her own personal qualities fully and appropriately when supervising the work-group.
15. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have studied the following Units or will have demonstrated (for example by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1) or its equivalent for bulk terminals or break-bulk berths
- * The port supervisor: organizational status (S.1.1)

- * The port supervisor: tasks and duties (S.1.2)
- * The port supervisor: supervisory skills (S.1.3)

•Supervision of container ship discharge and loading (S.2.1)

1. Unit Aims

This Unit is designed:

1. To list the supervisory personnel involved in container ship discharge and loading operations and to describe their duties and responsibilities.
2. To explain the pre-shift supervisory activities preparatory to starting ship operations.
3. To explain the procedures and practices followed by ship and control room supervisors during container ship discharge and loading.
4. To describe the supervision of completion of the ship operation and the de-briefing procedures following ship departure.
5. To improve the quality of supervision of the ship operation.
6. To provide the knowledge and skills necessary to review critically current supervisory procedures and mechanisms.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Name the categories of supervisors involved in the container ship operation, describe their work locations and the staff under their control, and outline their responsibilities.
2. List and explain the responsibilities of the ship supervisor immediately before, during and after the berthing operation.
3. Describe and explain the value to the supervisor of thinking ahead about the shift and making a pre-shift reconnaissance.
4. Describe the topics covered in the pre-shift briefing meetings, and discuss their value to the supervisor and the operation.
5. List and describe the supervisory duties and responsibilities involved in going aboard the vessel, checking conditions at the work location, and preparing to start discharging containers.
6. Describe and explain the supervisory activities relating to the discharge of containers from cellular and non-cellular LoLo vessels.
7. Describe and explain the supervisory duties and responsibilities relating to the loading of containers into cellular and non-cellular LoLo vessels.
8. Explain the duties and responsibilities of a ship supervisor overseeing discharge and loading of a RoRo container vessel.
9. Describe and compare the two procedures for transferring shipboard work and supervisory responsibility at shift handover, and outline the related handover activities in the control room.
10. List and explain the significance of the supervisory procedures involved in completion of the container ship operation.
11. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units or will have demonstrated (eg by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container ship loading and discharging operations (C.1.2)

- * Container ship construction (C.2.1)
- * Container ship stowage plans (C.2.2)
- * Container securing systems (C.2.3)
- * Container terminal work schedules (C.2.4)
- * Container inspection (C.3.3)
- * Safe working on container terminals (C.4.1)
- * Safe working aboard container vessels (C.4.2)
- * Handling dangerous cargoes in ports (P.3.1)

●Supervision of the container terminal quay side transfer operation (S.2.2)

1. Unit Aims

This Unit is designed:

1. To explain how the quay transfer operation is supervised and controlled.
2. To describe how the quay transfer supervisory and control staff prepare for, take over and begin work.
3. To discuss the documentary and other procedures relating to shift change-over, completion and review of the quay transfer operation.
4. To review the role of the supervisor in the quay transfer operation.
5. To improve the quality of supervision of the quay transfer operation.
6. To provide the knowledge and skills necessary to review critically current supervisory procedures and mechanisms.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. State the three basic requirements of a control and supervision system for quay transfer, and describe how those requirements can be met.
2. Name the personnel involved in the quay transfer operation and outline their main duties.
3. Describe the planning and preparation activities prior to start-up of quay transfer activities for a shift.
4. Outline the steps taken at operations start-up or handover, when the crane controllers and the supervisor prepare to begin work.
5. Describe the systems available for the control of quay transfer movements for inbound containers, and compare the effectiveness and efficiency of radio-, computer- and document-based systems.
6. Describe the systems available for the control of quay transfer movements for outbound containers, and compare the effectiveness and efficiency of radio-, computer- and document-based systems.
7. Outline and explain the significance of the procedural steps followed when responsibility for and authority over quay transfer activities are handed from one shift to another.
8. Describe the documentary and other procedures required for the orderly completion and review of an operation.
9. List and describe the six aspects of responsibility of the supervisor of the quay transfer operation.
10. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that, before starting this Unit, trainees will have completed successfully the following Units or will have demonstrated (eg by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * The container terminal quay transfer operation (C.1.3)
- * The container yard operation (C.1.4)
- * Container terminal work schedules (C.2.4)
- * Container numbering and marking (C.3.2)
- * Safe working on container terminals (C.4.1)
- * Handling dangerous cargoes in ports (P.3.1)
- * Supervising container ship discharge and loading (S.2.1)

•Supervision of container yard operations (S.2.3)

1. Unit Aims

This Unit is designed:

1. To explain the systems by which container yard operations are supervised and controlled.
2. To describe how container yard activities are planned, and how supervisory and control staff prepare for, take over and begin work.
3. To describe the procedures followed in controlling and supervising movements between the container yard, CFS and examination areas.
4. To describe the supervision and control of in-stack and securing activities.
5. To explain the importance of the container yard inventory and how it is maintained.
6. To review the role of the supervisor in container yard operations.
7. To improve the quality of supervision of container yard operations and to provide the knowledge and skills needed to review critically current supervisory procedures and mechanisms.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Indicate the three basic requirements of a control and supervision system for container yard activities, and describe how those requirements can be met.
2. Name the personnel involved in container yard operations, and outline their main duties and responsibilities.
3. Outline how container yard operations are initiated and describe the form in which they are scheduled.
4. Outline the steps taken at shift handover, when the landside supervisor and his/her team prepare to begin work.
5. Describe and explain the basis for the control and supervisory procedures relating to container yard-CFS movements.
6. Describe and explain the supervisory and control activities relating to movement of containers to and from the terminal's examination areas.
7. List the reasons why in-stack movements of containers might be necessary, and explain the control and supervisory procedures for those activities.
8. Given a set of movement sheets prepared by terminal planners, plan and organize the in-terminal movements of containers for a shift.
9. Describe and explain the supervisory activities relating to the care, security and safety of containers while in yard storage.
10. Explain the value of a well-maintained container yard inventory, outline how it is kept up to date in its various forms, and state how a missing container is searched for when an inventory error has occurred.
11. Identify and explain the seven major areas of general responsibility of the container yard supervisor.
12. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units or will have demonstrated (eg by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * The container yard operation (C.1.4)
- * The container terminal receipt/delivery operation (C.1.5)
- * Container terminal work schedules (C.2.4)
- * Container construction (C.3.1)
- * Container numbering and marking (C.3.2)
- * Container inspection (C.3.3)
- * Safe working on container terminals (C.4.1)
- * Handling dangerous cargoes in ports (P.3.1)

•Supervision of the container terminal receipt/delivery operation (S.2.4)

1. Unit Aims

This Unit is designed:

1. To explain the systems by which the container terminal receipt/delivery operation is supervised and controlled.
2. To describe the procedures by which the receipt and delivery of containers travelling by road, rail and inland waterway transport are planned and prepared.
3. To describe the procedures followed in controlling and supervising the delivery and collection of outbound and inbound containers by road, rail and inland waterway transport.
4. To outline the procedures for handing over supervisory responsibilities at the end of a shift.
5. To review the general responsibilities of the supervisor in receipt/delivery operations.
6. To improve the quality of supervision of the receipt/delivery operation and to provide the knowledge and skills for a critical review of current supervisory procedures and mechanisms.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Outline the basic features and locations of receipt/delivery activities.
2. Name the supervisory and other personnel involved in the receipt/delivery operation, and state their areas of responsibility.
3. Describe and explain the preparatory and planning procedures that precede the arrival of outbound containers.
4. Describe the supervisory and control procedures relating to the delivery of an outbound container to the terminal by road.
5. Describe and explain the planning and preparatory activities relating to inbound containers.
6. Describe and explain the supervisory and control procedures relating to the collection of an inbound container by road.
7. Outline the control and supervisory procedures for handling containers arriving and departing by rail.
8. Outline the control and supervisory procedures for handling containers arriving and departing by inland waterway transport.
9. State why there should be a formal procedure for handing over supervisory responsibility at shift end, and describe the steps in that procedure.
10. Name and explain the five areas of general responsibility placed on receipt/delivery supervisors, and describe how they are carried out.

11. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units or will have demonstrated (eg by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * The container yard operation (C.1.4)
- * The container terminal receipt/delivery operation (C.1.5)
- * Container terminal work schedules (C.2.4)
- * Container numbering and marking (C.3.2)
- * Container inspection (C.3.3)
- * Safe working on container terminals (C.4.1)
- * Handling dangerous cargoes in ports (P.3.1)

•Supervision of container freight stations (S.2.5)

1. Unit Aims

This Unit is designed:

1. To discuss the labour and equipment resources of a CFS, and the procedures for allocating and deploying them.
2. To explain the procedures by which the reception, storage and dispatch of cargoes are planned and prepared.
3. To describe the procedures followed in controlling and supervising the handling of export cargoes through the CFS, arriving by road, rail and inland waterway transport.
4. To describe the procedures followed in controlling and supervising the handling of import cargoes through the CFS, leaving via road, rail and inland waterway transport.
5. To review the general responsibilities of the CFS supervisor.
6. To improve the quality of CFS supervision and to provide the knowledge and skills for a critical review of current supervisory procedures and mechanisms.

2. Unit Objectives

After completing this Unit, the learner will be able to:

1. Name the categories of staff involved in supervising CFS operations and outline their responsibilities.
2. Describe the process of scheduling CFS activities for the next work period on the basis of advance information received about the export and import cargoes to be handled.
3. Given the necessary information about a consignment of cargo, calculate the space it will occupy in storage.
4. List and explain the guidelines followed when allocating import and export consignments to particular storage locations.
5. Explain the planning procedures for the packing of export cargoes and loading of import cargoes at the CFS.
6. Given the relevant data about a consignment of cargo, calculate the space it will occupy when packed in a container.
7. Explain the need for strict supervisory control of CFS cargo movements, discuss the essential elements of an effective control system, and explain how the system is used.
8. Describe and explain the significance of the supervisory and control procedures relating to the handling of export consignments through the CFS.
9. Describe and explain the significance of the supervisory and control procedures relating to the handling of import consignments through the CFS.

10. List the cargoes and storage procedures that need special attention, and describe the supervisory and control requirements for dealing with them.

11. Name, explain and give examples of the six areas of general supervisory responsibility.

12. Define, recognize the best definition of, or distinguish between true and false statements concerning, the technical terms used in the Unit, as listed in sections 3 and 4 below.

3. Unit Prerequisites

It is assumed that trainees will, before starting this Unit, have completed successfully the following Units or will have demonstrated (eg by successfully completing the Tests for those Units) their understanding of the topics covered by them:

- * Container terminal operations (C.1.1)
- * Container freight station operations (C.1.6)
- * Container construction (C.3.1)
- * Container inspection (C.3.3)
- * Packing of goods in containers: 1. Principles and planning (C.3.4)
- * Packing of goods in containers: 2. Working practices (C.3.5)
- * Safe working on container terminals (C.4.1)
- * Handling dangerous cargoes in ports (P.3.1)