

ДЕРЖАВНИЙ УНІВЕРСИТЕТ ІНФРАСТРУКТУРИ ТА ТЕХНОЛОГІЙ

UNDERWAY

STUDENT'S BOOK

PART 2



Київ
2019

*Рекомендовано до друку кафедрою іноземних мов за
професійним спрямуванням
Державного університету інфраструктури та технологій
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технологій. Мета посібника – сприяти оволодінню англійською мовою як
засобом професійного спілкування у майбутній професійній діяльності.
Посібник розрахований на 82 аудиторні години.

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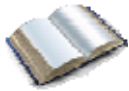
INTRODUCTION

Speaking Maritime English is an essential condition for all seafarers to get a job. The objective of the module is to develop communicative skills at professional field.

This Student's Book is designed for the third year students of Navigation Department. It consists of five units: Passage Planning, Maritime Security, MARPOL Convention, STCW Convention, MLC Convention.

Each unit has the following parts:

Reading



Reading is an essential part of language learning at every level because it supports learning in multiple ways. The students' purpose for reading is to obtain information about a subject they are studying. After-reading tasks are designed to develop reading comprehension.

Listening



Watching



Listening and Watching are a natural way to learn a language. There are a lot of recordings and references to video resources and after-listening / after-watching activities that are designed for successful development of students' skills.

Speaking



The goal of language is communication and the aim of speaking in a language context is to promote communicative efficiency. There are activities for group and pair work.

Brainstorming

Approximate study time is 82 hours.

UNIT 1

PASSAGE PLANNING

Target language

celestial	gnomonic projection	to anticipate
cocked hat	heading	to appraise
comprehensive	loxodrome	to assume
conspicuous	orthodrome	to draw upon
course made good	parallel index	to imply
dead reckoning	running fix	to pursuit
deduction	subsequent	to undertake
drift	to affirm	track

Part 1

Steps of Passage Planning

Task 1. Answer the questions.

1. Do you plan your daily pursuits usually?
2. What moments should you take into consideration when planning?
3. What does a useful plan completion depend upon?
4. What do you assume if you need to change your planned activity?

Task 2. In pairs ask and answer the questions.

1. What does “passage planning” mean?
2. What information is necessary to plan the passage?
3. What should be taken into account while passage planning?
4. What shall be undertaken if it is necessary to change the planned route?



Task 3. Watch the video <https://www.youtube.com/watch?v=IHW1AtTwdn8> and answer the questions.

1. What mistakes were made when preparing passage plan in the case mentioned?

2. What accident did these mistakes result in?

3. What conventions require passage planning?

4. What period of time or distance should passage planning cover?

5. Is chart scale important? Why?

6. What are the steps of passage planning?

7. What publications are necessary while planning?

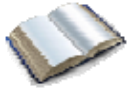
8. What factors must be taken into account when planning?

9. How often should the vessel's position be fixed? What does it depend on?

10. What is the most powerful method of monitoring the ship's track? What does it consist of?

Task 4. Read the text and match the headings with appropriate parts of the text.

- a. Ship Passage Planning – Essential Steps
- b. General Information
- c. Planning
- d. Monitoring
- e. Appraisal
- f. Execution



Passage Planning

A Passage plan covers:

- Departure
- Going along
- Arrival

A Passage plan has four stages:

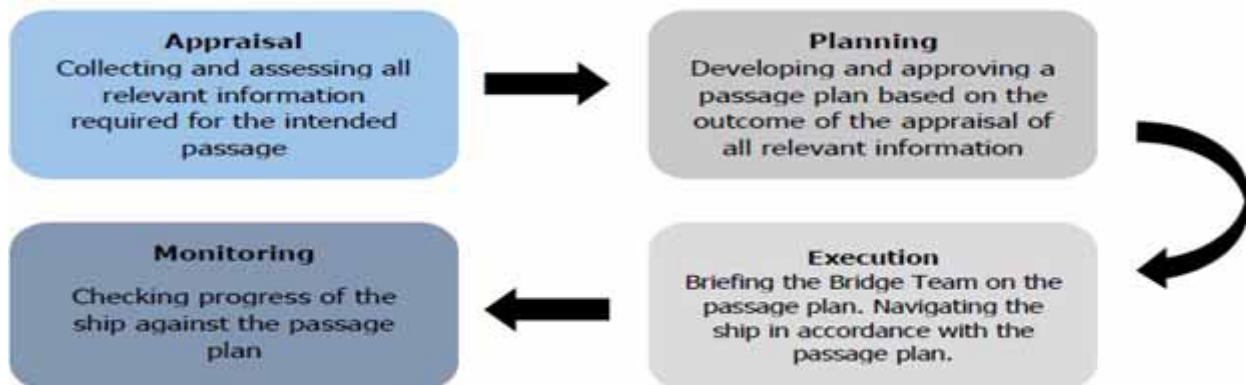
- Appraisal (What do I need)
- Planning (PLAN)
- Execution (DO)
- Monitoring (REVIEW)



The development of a plan for passage, as well as the close and continuous monitoring of the vessel's progress and position during the execution of such a plan, are of essential importance for safety of life at sea, safety and efficiency of navigation and protection of the marine environment. The need for voyage and passage planning applies to all vessels. There are several factors that may impede the safe navigation of all vessels and additional factors that may impede the navigation of large vessels or vessels carrying hazardous cargoes. These factors will need to be taken into account in the preparation of the plan and in the subsequent monitoring of the execution of the plan.

Voyage and passage planning includes appraisal, i.e. gathering all information relevant to the contemplated passage; detailed planning of the whole voyage or passage from berth to berth, including those areas necessitating the presence of a pilot; execution of the plan; and the monitoring of the progress of the vessel in the implementation of the plan. These components of passage planning are analyzed below.

A ship's passage planning involves 4 major steps. They are as follows:



Appraisal is the initial process during which the risks are identified and assessed, to ensure that the vessel passage plan is safe. Amongst the factors that should be considered during the appraisal of a passage plan is **navigation, berthing requirements, mooring and tug operations, port entry**



requirements, security and anti-piracy measures, strength and stability, MARPOL Special Areas, national or regional requirements, passage plan amendments etc. Taking into consideration master's guidelines, company's guidelines, ship's cargo, marine environment, and all other factors that may affect the ship, the navigating officer draws upon a general track, which the ship shall follow.

The detailed passage plan should include the following factors:

1. the plotting of the intended route of the passage on appropriate scale charts;
2. the main elements to ensure safety of life at sea:
 - safe speed and draught in relation to the available water depth;
 - necessary speed alterations en route;
 - minimum clearance required under the keel in critical areas with restricted water depth;
 - course alteration points, taking into account the vessel's turning circle at the planned speed and any expected effect of tidal streams and currents;
 - the method and frequency of position fixing;
 - use of ships' routing and reporting systems and vessel traffic services;
 - considerations relating to the protection of the marine environment.
3. The details of the voyage or passage plan should be clearly marked and recorded, as appropriate, on charts and in a voyage plan notebook or computer disk.

In this stage, the navigating officers execute the plan that has been prepared. After departure, the speed is adjusted based on the ETA and the expected weather and oceanographic conditions. The speed should be adjusted such that the ship is not either too early or late at its port of destination. The Master should find out how long his intended voyage is, accounting for water and fuel available. Also to be taken into account if there are any expected weather changes along the way. In case and ECDIS is being used, appropriate limits must be set with regard to the safety settings.

The officer of the watch, whenever in any doubt as to the position of the vessel or the manner in which the voyage is proceeding, should immediately call the master and, if necessary, take appropriate action for the safety of the vessel.

The performance of navigational equipment should be checked prior to sailing, prior to entering restricted or hazardous waters and at regular and frequent time intervals throughout the voyage.

Task 5. Say if the sentences are true or false.

1. The need for voyage and passage planning applies only to passenger vessels.
2. The development of a plan for passage is of essential importance for safety of life at sea, safety and efficiency of navigation and protection of the marine

- environment.
3. A ship's passage planning involves five major steps.
 4. Appraisal is the initial process during which positive moments are identified and assessed, to ensure that the vessel passage plan is safe.
 5. Taking into consideration master's guidelines, company's guidelines and all other factors that may affect the ship, the boatswain draws upon a general track.
 6. The details of the passage plan should be clearly marked and recorded, as appropriate, in the documents of the engine room.
 7. The Chief Officer should find out how long his intended voyage is, accounting for water and fuel available.
 8. The officer of the watch, whenever in any doubt as to the position of the vessel or the manner in which the voyage is proceeding, should not call the master.

Task 6. Match the synonyms.

1. to brief	a. to obstruct
2. to approve (a plan)	b. to ascertain
3. to assess (all information)	c. to affirm
4. to draw upon	d. expected
5. to find out	e. to regulate
6. to impede (safe navigation)	f. to sketch (in lines or words)
7. to take into account	g. to inform
8. contemplated (passage)	h. dangerous
9. hazardous	i. to estimate
10. to adjust (the speed)	j. to take into consideration

Task 7. Which stage do the following activities belong to?

- a. plotting the track line on charts and entering the track line into ECDIS, ARPA, etc.
- b. recording deviation from the plan
- c. checking working conditions of navigational equipment
- d. informing the team of a plan in pre-voyage conference
- e. consulting nautical charts, checking local regulations and warnings
- f. reviewing or changing plan in case of special circumstances
- g. checking meteorological and traffic conditions
- h. determining the ship's position to check the progress of the vessel along its planned route
- i. weather forecasting, prediction of tides

Appraisal	Planning	Execution	Monitoring

Task 8. Complete using the words in the box.

sailing directions	notices to mariners	a competent and well-rested crew
permissible draught	manoeuvring data	up-to-date certificates and documents
accurate and up-to-date charts		stowage and securing

The following items should be taken into account in voyage and passage planning:

1. the condition and state of the vessel, its stability, and its equipment; any operational limitations; its _____ at sea in fairways and in ports; its _____, including any restrictions;
2. any special characteristics of the cargo (especially if hazardous), and its distribution, _____ on board the vessel;

3. the provision of _____ to undertake the voyage or passage;
4. requirements for _____ concerning the vessel, its equipment, crew, passengers or cargo;
5. appropriate scale, _____ to be used for the intended voyage or passage, as well as any relevant permanent or temporary _____ and existing radio navigational warnings;
6. accurate and up-to-date _____, lists of lights and lists of radio aids to navigation.

Task 9. Match to make sentences.

The main elements to ensure safety of life at sea, safety and efficiency of navigation and protection of the marine environment during the intended passage are:

1. safe speed	a. required under the keel in critical areas with restricted water depth
2. necessary speed alterations en route	b. taking into account the vessel's turning circle at the planned speed and any expected effect of tidal streams and currents
3. minimum clearance	c. having regard to the proximity of navigational hazards along the intended route or track, the manoeuvring characteristics of the vessel and its draught in relation to the available water depth
4. positions	d. ships' routing and reporting systems and vessel traffic services
5. course alteration points	e. e.g., where there may be limitations because of night passage, tidal restrictions, or allowance for the increase of draught due to squat and heel effect when turning
6. the method and frequency of position fixing	f. relating to the protection of the marine environment
7. use of	g. where a change in machinery status is required
8. considerations	h. including primary and secondary options, and the indication of areas where accuracy of position fixing is critical and where maximum reliability must be obtained

Task 10. Read the text and make up a dialogue with your group mate about briefing.



Being familiar with passage plan

Master should thoroughly review each passage plan and provide corrective instructions, as may be necessary. All officers who will perform OOW duties during the voyage and will follow the approved passage plan should be informed, briefed and should sign the plan. A detailed briefing by Navigation officer prior departure should be performed with participation of master, Chief Officer, OOWs and Bridge lookouts.

Items to be included in briefing:

1. *Passage plan in general*
2. *No go/Dangerous areas*
3. *Weather forecast*
4. *Special instructions for costal navigation*
5. *Main Engine use, speed and maneuvering details and restrictions*
6. *Relevant Master standing orders*