

Registration code – NAUT CG2

CARGO, LEVEL 2 (CG 2)

Duration – 120 hours

Course description

This is a course designed to provide mariners with a basic knowledge of the following regulations and documents:

- Canadian Code of Safe practice for ships carrying timber deck cargoes;
- Cargo, Fumigation and Tackle Regulations;
- Code of practice for the safe loading and unloading of Bulk carriers (BLU Code);
- Code of Safe Practice for Cargo Stowage and Securing;
- Code of Safe Working Practices for Self-unloading Vessels;
- International Maritime Dangerous Goods (IMDG) Code;
- Safe Container Convention Regulations;
- Safe Working Practices Regulations;
- TP 10944 - Notice to Shipmasters Loading Coal;
- Transportation of Dangerous Goods Act;
- Transportation and Dangerous Goods Regulations;
- SOLAS
- and knowledge of the safe handling, stowage and securing of cargoes including dangerous, hazardous and harmful cargoes and their effect on the safety of life and of the ship

Required for the following certificates of competencies:

- Watchkeeping Mate, Near Coastal
- Watchkeeping Mate
- Master 3000T, Domestic
- Master 3000T, Near Coastal

Subject	Knowledge required
Competence:	Monitor the loading, stowage, securing, care during the voyage and the unloading of cargoes.
Knowledge of the effect of cargo including heavy lifts on the seaworthiness and stability of the ship	Securing Cargoes Methods of securing and stowing of all cargoes, cargo liable to slide, heavy loads, heavy lifts, vehicles, trailers, containers, portable tanks; Methods of blocking, lashing, shoring and tumbing cargo; Basic knowledge of the content, application and ability to use the Code of Safe Practice for Cargo Stowage and Securing; Basic knowledge of the content of the Guidelines for packing of Cargo Transport Units (CTUs).

	<p>Deck cargo Cargoes other than in containers, commonly carried on deck: dangerous goods not permitted below decks, large units; Adequate stowage and securing of deck cargo for the worst conditions which could be experienced; Hatches securely closed and cleated before loading on them; Stowage should leave safe access to essential equipment and spaces needed to navigate and operate the ship; Deck cargo should not obstruct the view from the navigating bridge or overside at the bow; The weight of deck cargo should not exceed the maximum permissible load on the deck or hatches; Effects of a concentrated load; Effects of deck cargo Timber deck cargoes of the Cargo, Fumigation and Tackle Regulations; Ability to use the Canadian Code of Safe Practice for ships carrying timber deck cargoes.</p> <p>Container cargo: Arrangements of a container ship; Sequence of operations during discharging and loading at a terminal; The factors involved in planning a container stow; Methods of safe stowage and securing of containers on deck; The types and sizes of container in use; Operational knowledge of the Safe Container Convention Regulations.</p> <p>Bulk Cargo (Other than grain) Basic knowledge of the content, application and ability to use Part 1, Section 2 – Solid bulk cargoes other than grain of the Cargo, Fumigation and Tackle Regulations; Basic knowledge of the contents, application and intent of the IMO Code of Safe Practice for Solid Bulk Cargoes; Basic knowledge of the content, application and ability to use the Code of practice for the safe loading and unloading of Bulk Carriers (BLU Code); Ability to identify the loading, stowage and leveling requirements for various bulk cargoes; Knowledge of the content, application and ability to use TP 10944 – Notice to Shipmasters Loading Coal; Precautions to take during loading, transportation and discharging coal; Hazards associated with coal cargoes; Ventilation of coal; Transportations of concentrate cargoes; Definitions of angle of repose, cargoes which may liquefy, flow moisture point, flow state, transportable moisture limit; Inspection and preparation of cargo holds prior to loading bulk cargoes; Separation between certain bulk cargoes and other than bulk cargoes is required; Some bulk cargoes may deplete the oxygen content of holds or produce toxic gases, precautions to be taken before entry of holds.</p>
<p>Competence:</p>	<p>Monitor the loading, stowage, securing, care during the voyage and the unloading of cargoes.</p>
<p>Knowledge of the effect of cargo including heavy lifts on the seaworthiness and stability of the ship</p>	<p>Bulk Grain Cargo Ability to use Part 1, Section 3 – Grain cargoes and Part II – Fumigation of the <i>Cargo, Fumigation and Tackle Regulations</i>; Basic knowledge of the International Code for the safe carriage of grain in bulk; Definitions of grain, filled compartment and partly filled compartment; Cleaning and preparation of holds and decks for the carriage of grain; Importance of trimming: filled and partly filled compartments; How the surface of a partly filled compartment is secured against movement; How to separate two different bulk grain cargoes loaded into the same compartment; Role of Agriculture Canada regarding the carriage of grain; Insect or rodent infestation.</p>
<p>Knowledge of safe handling, stowage and securing of cargoes including dangerous, hazardous and harmful cargoes and their effect on the safety of life and of the ship</p>	<p>Cargo Care Inspection and preparation of holds; Segregation and separation of cargoes; Ventilation and control; Refrigerated Cargo.</p> <p>Dangerous, Hazardous and Harmful Cargoes Basic knowledge of the content, application and ability to use the International Maritime Dangerous Goods (IMDG) Code; Basic knowledge of the content, application and ability to use the Transportation of Dangerous Goods Act and Regulations; Knowledge of the content, application and ability to use the IMO Emergency procedures for Ships Carrying Dangerous Goods (EmS), the IMO Medical First Aid Guide for Use in Accidents Involving Dangerous Goods (MFAG) and the International Medical Guide for Ships (IMGS); Knowledge of the content, application and ability to use Part 1, Section 5 – Dangerous goods (packaged) of the Cargo, Fumigation and Tackle Regulations.</p>

	<p>Cargo Handling Equipment and Safety Practical knowledge of the rigging of ships, comprising the names, purpose and construction of standing and running rigging; Reeving of blocks and purchases; Rigging of booms for single boom and union-working boom; Purposes and construction of the various parts of a boom; Positioning and construction of guys and preventers; Stresses on the various parts of a boom system during operation; Top, lower derricks safely, securing derricks for sea; Use of slings, snotters, canvas slings, trays, pallets, nets, chain slings, cant hooks, bale hooks and vehicle slings; Advantages and disadvantages of ship's cranes and derricks for handling cargo; Precautions to be taken when fork-lift trucks or similar devices are used in the tween-decks or holds; Visual inspections required before the start of cargo operations each day and the frequent inspections of gear while in use for cargo operations; Safe Working Load; Basic Regulations; The need for accident prevention and precautions to be taken in ship operation; Hatch covers; Awareness of the content of the Code of Safe Working Practices for Self-Unloading Vessels; Knowledge of Part III – Tackle of the <i>Cargo, Fumigation and Tackle Regulations</i> and associated documentations.</p> <p>Oil tanker Piping and Pumping Arrangements: Tanker Arrangement; Cargo piping system; Cargo pumps.</p> <p>Precautions before entering enclosed or contaminated spaces: Procedures and precautions for entry into enclosed spaces; Gas monitoring equipment, fixed and portable; Personnel safety equipment, clothing and personal protection; Shipboard emergency plan; Check list to obtain a permit to enter; Ventilation.</p>
Subject	Knowledge required
Competence:	Monitor the loading, stowage, securing, care during the voyage and the unloading of cargoes.
Knowledge of safe handling, stowage and securing of cargoes including dangerous, hazardous and harmful cargoes and their effect on the safety of life and of the ship	<p>Cargo calculations and Cargo plans: Bale capacity and grain capacity; Stowage factor, broken stowage; Maximum height to which cargo of stated stowage factor can be loaded; Ullage; Use tank calibration tables and given cargo density to calculate the weight in a tank; Use tank calibration tables and given weights and densities of cargo to determine the ullages required; Determine the ullage to leave to produce a given minimum ullage after allowing for expansion of cargo; Corrects densities for temperature; Extracts information from cargo plans of general cargo ships or container ships; Draw up a cargo plan from given information; Uses a hold capacity plan to estimate the depth of cargo in a hold or the area of tween-deck required for a given cargo; Uses a capacity plan to estimate the quantity of cargo, which can be loaded in part of a tween-deck.</p>
Ability to establish and maintain effective communications during loading and unloading	Basic knowledge of the exchange of information and communications required between the ship and terminal under the Code of practice for the safe loading and unloading of Bulk Carriers (BLU code); The communication requirements under the Regulations for the prevention of pollution from ships and for dangerous chemicals.
Basic knowledge of the content and application of SOLAS chapters VI, VII and XII	<p>Chapter VI - Carriage of Cargoes Part A – General provisions; Part B – Special provisions for bulk cargoes other than grain; Part C – Carriage of grain.</p> <p>Chapter VII – Carriage of Dangerous Goods Part A – Carriage of dangerous goods in packaged form; Part A-1 – Carriage of dangerous goods in solid form in bulk; Part B – Construction and equipment of ships carrying dangerous liquid chemicals in bulk; Part C – Construction and equipment of ships carrying liquefied gases in bulk; Part D – Special requirements for the carriage of packaged irradiated nuclear fuel, plutonium and high-level radioactive wastes on board ships.</p> <p>Chapter XII – Additional safety measures for bulk carriers</p>
Competence:	Inspect and report defects and damage to cargo spaces, hatch covers and ballast tanks
Inspect and report defects and damage to cargo spaces, hatch covers and ballast tanks	Knowledge and ability to explain where to look for damage and defects most commonly encountered due to Loading and unloading operations, corrosion, severe weather conditions; Identify those elements of the ship structure, which are critical to the safety of the ship; Understanding of the purpose of the “enhanced survey program”