



SHIP CARGO LOADING & UNLOADING OPERATIONS SOFTWARE BASED THEORY & PRACTICE

Jointly Developed & Designed with:

S. A. Malliaroudakis Maritime (UK) Ltd.

Course Guide

The Course is certified by ABS for compliance with the ABS G-CMET criteria

Orion Training Center for Maritime Professionals
is a Certified Training Institute in accordance with
ABS G-CMET and STCW Regulation I/8



Orion Training Center for Maritime Professionals
is Certified as compliant with the **Quality**
Management System ISO 9001 by Bureau Veritas



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PREAMBLE

Orion Training Center for Maritime Professionals, aims at providing the highest standards of online education available in the Maritime Industry, today.

This Course is a Unique collaboration with **S.A. MALLIAROUDAKIS MARITIME (UK) Ltd.** to deliver an Industry-wide practical Course on Ships Loading and Unloading operations.

The Course is a unique educational breakthrough, blending the Orion Training professional training expertise with **S.A. MALLIAROUDAKIS MARITIME (UK) Ltd.** long-standing experience in providing specialized software and services for the Global Maritime Sector. No other such combined Course offering exists in the Maritime Industry today.

Attendees will gain valuable theoretical and practical insights into the Loading Operations of ships across all major Industry Sectors (Bulkers, Tankers, Containers, Ro-Ro) and across major Cargo types.

SCOPE OF THE COURSE - LEARNING OUTCOMES

The course aims to provide attendees with the theoretical background of ships' loading and unloading operations along with the familiarization and usage of the **MULTILOAD®** loading instrument. **MULTILOAD®** software program has been an industry-standard for many years, incorporating many important features that help practitioners perform their important work of safely and efficiently loading and unloading cargo.

The course covers the crucial need for office and on-board use of a ship's loading instrument, helping in the efficient coordination between all key personnel, taking into consideration the applied regulations and technical requirements in each industry segment.

It is a highly detailed end to end presentation, that includes all proper educational techniques in order to provide professionals, with all the proper tools and knowledge, irrespective of their starting point in the loading operations.

A key feature of the course is the amplitude of practical examples provided, coupled with detailed case studies, from which the attendees will gain valuable experience for their day to day work.

Attendees of the course will be able to:

- Learn the basic and advanced theory of loading operations.
- Understand the importance of using a correctly defined software loading instrument.
- Realize how many aspects of the loading operations depend on authorities and regulations.
- Familiarize with the **MULTILOAD®** loading instrument software.
- Receive practical answers on how to deal with day to day loading operations' tasks.

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CERTIFICATION

The Course is Certified by the American Bureau of Shipping (ABS), providing the highest professional education standards in the Shipping Sector.

Upon successful Course completion, the Certificate is issued and sent automatically to attendees.

BENEFICIARIES

- Maritime industry professionals working in ship loading operations, in the office or on-board ships, seeking to understand in depth, the concepts of the loading operations.
- Professionals seeking to increase their employability in the maritime sector.
- New entrants in the maritime industry, seeking to establish their position in the loading operations.
- Senior professionals in loading operations, seeking to enhance their operations management and detailed understanding of all relevant aspects.

COURSE STRUCTURE (2 modules)

MODULE 1 : THE THEORY OF LOADING OPERATIONS

PART I : Fundamentals

Newton's Laws of Motion
Equilibrium of a Rigid Body
Flotation and Archimedes' principle
The Ship as a System of Reference

- The principal dimensions of a ship
- Definition of the hull surface
- Graphic description

PART III : Advanced Principles of Operations

Advance Theory

- MCT, TPC, Hydrostatics
- Free Surfaces of Liquids
- Weight Groups, Stowage Factor, Permeability

Ships' Cargo Carriage Capabilities
Loading Planning

- Cargo Intake
- Ship's Preparation
- Ship's Monitoring

Regulatory Framework

PART II : Basic Theory

Principles of Stability

- Ship's Displacement
- CG, CB, M
- LCF, BM, GM, GZ
- Hand Stability Calculations

Ship's Longitudinal Strength

- Basic Principles
- Bending Stress & Shearing Force
- Bonjean

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MODULE 2 : SHIP LOADING INSTRUMENT, MULTILOAD[®], AS ADVANCED TOOL FOR HANDLING LOADING / UNLOADING OPERATIONS

PART I : General Requirements

Technical Information Provider
Ship's Operation Manuals
Merits
Accompanied Documents
Testing Proof
Compete with market Challenges

PART II : Scope & Purpose of a Loading Program

For Prefixture Decisions
At Sea
In Port
Alerts & Warnings

PART III : SMM MULTILOAD[®] Loading Program

Introduction to the MULTILOAD[®]
Outputs
Printouts

Generic MULTILOAD[®] Options for Bulkers

- Draft Restriction at Plimsol Marks
- Draft Restriction at Port
- Cargo & Deadweight Scale
- Seawater Density Definition
- Auto Trim
- Cargo Split & Auto Trim
- Maximum Allowable shear forces (SF) & Bending moments (BM) Cases
- Cargo Compartment Group Definition
- Cargo Assignment Into Groups
- Autoload
- Departure / Arrival Calculation
- Vessel List Calculation (no recorded sequence identified)
- Ship Loading Plan on Screen
- Ship's Girder Deflection & Deadweight Gain / Loss
- Air Draft Calculation From Hatches
- Compartment Menu
- External Options Menu
- MULTILOAD[®] Bunkers Survey
- Ship Squat/Under Keel Clearance (UKC) /Speed Loss
- Tide Calculation (included in UKC)
- Static Condition from Dynamic Drafts

PART IV : MULTILOAD[®] Options for Market Segments

- Warning Indicator for RESTRICTION SOLAS XII/Reg.
- Warning Indicator for Hold Flooding (as per UR S17)
- Local Strength Diagram Check
- Draft Survey Module for BULKERS & MR TANKERS
- Cargo Securing & Lashing Safety Checks
- Vessel's Air Draft & Floating Position Module
- Cargo Loading Sequence with report including Free Mode
- General Cargo Loading
- General Cargo located on Deck / Hatches
- General Cargo Timber/Log
- Dry Market Practical Implementation I
- Dry Market Practical Implementation II
- STEEL COILS
- Multiload External Options and Practical Implementation on Steel Coils Loading
- Wet Market - Tankers
- Real Time Tanker Loading
- Oil Cargo Transfer with Report
- Direct Damage Stability Calculation
- Cargo and Real Time Tanker Loading with sensors
- Detailed tanker Loading
- Wet Markets Practical Implementation
- Dry Market – CONTAINERSHIPS
- Detailed Containers Loading
- BAPLIE messages
- RO-RO Market
- Unloading Process
- Passenger Loading
- Practical Implementation on Containerships Loading

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COURSE MATERIAL & DELIVERY METHOD

The Course consists of 2 Modules comprised of 15 High Quality educational videos in total.

The online self-paced videos have interactive table of contents, can be seen as many times as needed, and are accessed from any device online.

Accompanying PDF slides and notes available for download by attendees.

After successful completion of online Course exams Attendees automatically receive the Course Successful Completion Certificate, and a user certificate of the MULTILOAD[®] software from S.A. Malliaroudakis Maritime.

The Course must be successfully completed (by passing the relevant online Exam) within 9 months from registration/purchase, during which time, the instructor is always available within 48 hours through email for questions and queries relevant to the Course.

There is a Free 3-month Consultation period (after Course successful completion) with the Course Instructor for any relevant questions and queries for all registered Attendees. All Course Attendees also receive Free Access to any future course updates and additions, and can download for free, the demo version of MULTILOAD[®] software.

INSTRUCTOR

Mr. Andreas Andritsopoulos is a Naval Architect & Marine Engineer, with ongoing professional maritime experience of more than 6 years.

He works as a Chief Revenue Officer in S.A. Malliaroudakis Maritime (UK) Ltd, involved in the Business Development, for the last 5 years. He has a strong theoretical and practical background in the fundamentals of Mathematics, Naval architecture, Marine engineering and Maritime economics, such as Ship operability, Environmental aspects of ships' operation, as well as Risk assessment techniques & Technologies to optimize Maritime Operational Safety. He holds a Master of Science in Maritime Operations & Management from the City University of London, and a Master of Engineering in Naval Architecture & Marine Engineering, from the National Technical University of Athens.

PREREQUISITES

Basic knowledge of algebra and physics, as well as MS Windows operating system is recommended. No previous knowledge of loading operations and loading instrument is required. Downloading and installing the demo version of MULTILOAD for windows is recommended, but not mandatory.

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CONTACT & REFERENCES

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