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TUG AND BARGE VIDEO SERIES

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CATALOG – TUG AND BARGE VIDEO SERIES

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TUG-OPERATIONS AND SAFETY

MSTI-9101-Occupational Hazards and Safety Guidelines (19 mins)

Course Description

This course addresses common occupational hazards for seafarers, focusing on safe access, signage, spill prevention, and fall protection. Participants learn precautions for working aloft, lifting weights, and using equipment safely.

MSTI-9102-Safe Work Practices on Tugs (26 mins)

Course Description

This course covers essential safe work practices for tug operations, including deck work in heavy weather, machinery space precautions, and engine room and galley safety guidelines

MSTI-9103-Safety in Tug and Barge Operations (22 mins)

Course Description

This course provides safety guidelines for tug and barge operations, covering safe mooring, towing gear, crane use, and boarding procedures. Participants also learn best practices for handling chemicals onboard.

MSTI-9104-Tug Operations for Ship Assist (16 mins)

Course Description

This course provides practical knowledge of tug operations in ship assistance, including handling, berthing, and unberthing support to ensure safe and efficient port maneuvers

MSTI-9105-Towing vessel safety in Tug Operations (26 mins)

Course Description

This course focuses on towing vessel safety, emphasizing responsibilities, use of navigational aids, and proper vessel handling and steering for safe tug operations.

MSTI-9106-Deckhand Proficiency (14 mins)

Course Description

This course trains deckhands in safe tug operations, covering manning regulations, occupational hazards, and safe access. Participants also learn pilot ladder rigging and boarding arrangements for operational proficiency.

MSTI-9107-Vessel characteristics, terminologies and hull markings (24 mins)

Course Description

This course introduces tugboat characteristics, terminology, and design features. Topics include vessel dimensions, load lines, propellers, and maneuvering essentials for safe operations.

MSTI-9108-Enclosed space precautions and entry (24 mins)

Course Description

This course provides awareness of hazards in enclosed spaces on board tugs. Participants learn essential safety precautions and guidelines for safe entry and work in such environments.

MSTI-9109-Safety and the SMS maintenance on Tugs (7 mins)

Course Description

This course highlights safety management on tugs, including emergency response, hygiene, and preventive practices. Case studies such as the ATB Buster Bouchard incident demonstrate the risks of poor SMS maintenance.

MSTI-9110-Bollard Pull and Towing Stability (21 mins)

Course Description

This course explains the principles of bollard pull testing, tug stability, and the risks of girting. Learners gain knowledge on prevention strategies and lessons from real towing incidents.

TUG-HSSE and PERSONAL CARE

MSTI-9201 Awareness of Drug and Alcohol Abuse Onboard (13 mins)

Course Description

This course raises awareness of the dangers of drug and alcohol abuse in maritime settings. It covers health and safety risks, the effects of abuse, alcoholism, real-life sea cases, and the importance of a ship's drug and alcohol policy.

MSTI-9202 Drug and Alcohol policy implementation and prevention onboard (21 mins)

Course Description

This course covers the development and implementation of drug and alcohol policies for maritime safety. Learners study policy components, compliance guidelines, onboard enforcement, and strategies for preventing substance abuse within the crew.

MSTI-9203 Testing and Consequences of a Positive Drug or Alcohol Test (19 mins)

Course Description

This course explains drug and alcohol testing procedures onboard, including methods of sampling and testing. It also highlights the consequences of a positive test result, possession of drugs, and the safety risks posed by substance abuse at sea.

MSTI-9204 Communication at work onboard (19 mins)

Course Description

This course focuses on workplace communication and its challenges in a maritime context. Learners examine the role of feedback, written communication, and the influence of cultural, linguistic, and diversity factors on team dynamics.

MSTI-9205 Communication for efficient ship operations (11 mins)

Course Description

This course trains seafarers in effective communication during critical ship operations. Topics include bridge and engine-room watchkeeping, communication during traffic, night operations, and adverse weather, ensuring smooth coordination and operational safety.

MSTI-9206 Leadership strategies and Concepts (13 mins)

Course Description

This course introduces leadership models, strategies, and styles relevant to maritime operations. It emphasizes effective leadership in multicultural environments and equips learners with practical approaches for managing diverse teams at sea.

MSTI-9207 Assertive Leadership (14 mins)

Course Description

This course provides practical leadership training with a focus on assertive communication. Participants explore leadership roles, mental habit patterns, effective team communication, and the importance of strong leadership during emergencies.

MSTI-9208 Motivating the Crew (10 mins)

Course Description

This course examines theories and practices of crew motivation for better performance. Using frameworks such as Maslow's hierarchy of needs, it guides leaders in motivating teams, exercising effective control, and fostering a positive work culture.

MSTI-9209 Teamwork for performance (21 mins)

Course Description

This course develops teamwork and collaboration skills among towing crews. Topics include conflict management, personnel assignment, mentoring, prioritization, and time/resource management. Learners also explore how cultural, racial, and gender considerations influence performance and appraisals.

MSTI-9210-Stress and Fatigue Awareness for Towing Crews (20 mins)

Course Description

This course builds awareness of stress and fatigue within the towing industry. It explores their negative effects on safety, common causes, and coping strategies. Learners gain insight into managing personal wellbeing to maintain safe and efficient operations.

MSTI-9211 Fatigue Management and Mitigation in Towing Operations (32 mins)

Course Description

This course examines the causes and risks of fatigue in tug and towing operations. It covers practical prevention measures, onboard fatigue management techniques, and case studies of fatigue-related near misses and accidents. Participants also explore tools and policies to mitigate fatigue and stress effectively.

TUG-LIFESAVING and FIRE PROTECTION

MSTI-9301-Fire Prevention on Tugs and Barges (17 mins)

Course Description

This course examines the causes and prevention of fires on tugs and barges. Topics include the chemistry and classes of fire, common sources such as smoking and electrical hazards, fire safety plans, means of escape, and good housekeeping practices to reduce fire risks.

MSTI-9302- Personal Protective Equipment (PPE) on Tugs and Barges (17 mins)

Course Description

This course highlights the correct use of personal protective equipment to ensure crew safety during tug and barge operations. It covers general PPE, specific requirements for tug/barge environments, and critical gear such as life jackets and immersion suits.

MSTI-9303-Emergency preparedness and distress signals (25 mins)

Course Description

This course emphasizes the importance of preparedness for maritime emergencies. Participants will learn about alarm signals, pyrotechnic and DSC-based distress signals, and procedures to ensure coordinated and effective emergency response.

MSTI-9304-Firefighting on Tugs and Barges (24 mins)

Course Description

This comprehensive course equips crew with strategies and practical knowledge for firefighting at sea and in port. Topics include fire detection systems, operational readiness, machinery space firefighting, firefighting in accommodations, and personal safety measures during emergency response.

MSTI-9305-Liferafts for Crew Survival (21 mins)

Course Description

This course covers the essential aspects of liferafts on tugs, including manual and davit launching procedures, proper entry and survival techniques, and onboard maintenance requirements. It prepares crew members to respond effectively during abandonment scenarios.

MSTI-9306- Life-Saving Appliances (LSA) for Towing vessels (14 mins)

Course Description

This course focuses on the life-saving appliances required on towing vessels. It provides detailed knowledge of lifebuoys, liferings, and line-throwing appliances, ensuring crew members are familiar with their use and maintenance in emergency situations.

MSTI-9307-Global Maritime Distress and Safety System -GMDSS (17 mins)

Course Description

This course introduces the Global Maritime Distress and Safety System, its role in enhancing maritime communication and emergency response, and its functional requirements. Participants will gain a clear understanding of the capabilities of GMDSS equipment and its importance for tug and towing operations.

TUG-NAVIGATION

MSTI-9401-Position fixing and depth-measuring equipment (21 mins)

Course Description

This course introduces navigational instruments for determining position and depth, including sextants, GPS, echo sounders, and Doppler logs. Participants will gain skills in position fixing and depth measurement for safe navigation.

MSTI-9402-Heading and Steering Systems (25 mins)

Course Description

This course explores ship heading and steering technologies, including magnetic and gyro compasses. Emphasis is placed on steering systems and their role in maintaining navigational accuracy.

MSTI-9403-Primary Navigational Aids (25 mins)

Course Description

This course examines primary electronic navigation aids including radar, ARPA, and ECDIS. Learners will compare ENC and RNC charts while developing skills in modern electronic navigation systems.

MSTI-9404-Integrated Bridge Equipment (20 mins)

Course Description

This course introduces Automatic Identification Systems (AIS) and their integration with ECDIS and GPS. Students will learn how integrated bridge systems enhance vessel monitoring and navigation safety.

MSTI-9405-Navigation Recording, Monitoring, and Alerting System (9 mins)

Course Description

This course covers navigation data recording and monitoring systems, including VDR, S-VDR, and course recorders. Participants will also study LRIT and BNWAS for safety and compliance.

TUG-ENGINEERING

MSTI-9501-Building Blocks of Electricity (10 mins)

Course Description

This course introduces the basic concepts of electricity, beginning with atomic structure, EMF, and current. Learners will study voltage, conductors, insulators, semiconductors, and resistance as building blocks of electrical systems.

MSTI-9502-Basic Laws of Current Electricity (22 mins)

Course Description

This course provides a foundation in electrical laws, including Ohm's Law and Kirchhoff's Laws, with applications in series and parallel circuits. Students will also explore energy, power, and practical circuit analysis.

MSTI-9503-Marine Storage Batteries (15 mins)

Course Description

This course introduces the construction, operation, and types of marine storage batteries, including lead-acid and alkaline. Emphasis is placed on battery applications, maintenance, and safe handling procedures.

MSTI-9504-Magnetic Induction for AC Generation (19 mins)

Course Description

This course explores the principles of magnetism and electromagnetic induction as the basis of AC generation. Learners will study Faraday's Law, induced EMF, and the processes of producing alternating current.

MSTI-9505-AC Voltages, Currents and P.F. (11 mins)

Course Description

This course covers the principles of direct and alternating current, waveform characteristics, and RMS values. Students will gain an understanding of power factor, its impact on electrical systems, and methods for improvement.

MSTI-9506-AC Circuits (21 mins)

Course Description

This course introduces the fundamentals of AC circuits, exploring the behavior of resistors, capacitors, and inductors in alternating current systems. Participants will analyze waveforms, phase relationships, and the operation of series, parallel, and combination RLC circuits.

MSTI-9507-Metering and Instruments (19 mins)

Course Description

This course introduces electrical measuring instruments such as moving iron, moving coil, induction type, and digital meters. Participants will learn calibration, current and potential transformer measurements, and insulation resistance testing.

MSTI-9508-DC Generators (20 mins)

Course Description

This course covers the construction, operation, and types of DC generators, including their armature windings and reactions. Emphasis is placed on performance characteristics, voltage build-up, and load testing.

MSTI-9509-DC Motors (19 mins)

Course Description

This course introduces the operation, types, and applications of DC motors. Participants will explore speed control, terminal identification, reversing, and performance characteristics.

MSTI-9510-Alternators (32 mins)

Course Description

This course covers the construction, operation, and testing of single-phase and three-phase alternators. Learners will study voltage build-up, automatic regulators, load testing, and synchronization methods.

MSTI-9511-AC Motors (32 mins)

Course Description

This course introduces the principles, construction, and types of AC motors. Participants will learn about operation, control methods, applications, and maintenance of AC motor systems.

MSTI-9512-Transformers (25 mins)

Course Description

This course explains the working principles, construction, and types of transformers used on board ships. Students will study three-phase connections, efficiency, protection, oil testing, and methods to prevent faults.

MSTI-9513-Electrical Protection and Switch Gear (36 mins)

Course Description

This course introduces faults in generators and motors, along with protective devices such as relays, fuses, and breakers. Learners will explore overload protection, earth faults, tripping schemes, and electric shock hazards.

MSTI-9514-Onboard Electrical and Control Systems (33 mins)

Course Description

This course covers shipboard electrical installations, distribution systems, and essential versus non-essential loads. Emphasis is placed on emergency supplies, insulation testing, alarm circuits, and remote shutdowns.

MSTI-9515-Conventional Propulsion System for Tugs (25 mins)

Course Description

This course introduces conventional propulsion systems including propellers, transmission systems, rudders, and bow thrusters. Students will examine controllable pitch, ducted propellers, and ship handling factors.

MSTI-9516-Steerable Propeller Systems for Tugs (22 mins)

Course Description

This course explores steerable propulsion systems including Z-drives, azipods, and Voith-Schneider propellers. Participants will learn about their installation, operation, advantages, and application in tug operations.

MSTI-9517-Steering Gear (25 mins)

Course Description

This course provides an overview of different types of steering gear, including ram type, rotary vane, and all-electric systems. Students will study their construction, operation, troubleshooting, maintenance, and emergency steering procedures.

MSTI-9518-Machinery Safety (15 mins)

Course Description

This course covers safe working procedures in engine rooms and machinery spaces, including lighting, tools, and workshop equipment. Learners will gain awareness of hazards, safe practices, and machinery space layouts.

MSTI- 9519-Electrical Safety (15 mins)

Course Description

This course introduces safe practices when working with electrical equipment, batteries, and battery rooms. Participants will learn about electric shock hazards, isolation procedures, and the use of permits for safe work.

TUG-MANAGEMENT

MSTI-9601-Introduction to Tugs and Barges (25 mins)

Course Description

This course introduces the tug and barge industry, covering different tug types, harbor tugs, and tank barges. Learners will also explore alternative fuels, hybrid tug designs, and emerging propulsion technologies.

MSTI-9602-Subchapter M for the Towing Industry (29 mins)

Course Description

This course explains Subchapter M regulations governing tugboats and the towing industry on U.S. waterways. Students will study its relationship with the ISM Code and its role in compliance and safety.

MSTI-9603-Towing Safety Management System (34 mins)

Course Description

This course introduces the Towing Safety Management System, highlighting its advantages and regulatory requirements. Participants will also explore the Responsible Carrier Program, Subchapter M, and risk management practices.

MSTI-9604-Introduction to Tug and Barge Hydrostatics (15 mins)

Course Description

This course provides an overview of hydrostatic pressure, flotation theory, and transverse metacenter concepts. Students will build a foundation for understanding vessel buoyancy and stability.

MSTI-9605-Principles of Ship Stability (21 mins)

Course Description

This course introduces fundamental stability concepts including definitions, curves, and transverse statical stability. Learners will examine stability criteria, loss of stability consequences, and intact stability requirements.

MSTI-9606-Factors of Stability on Tugs and Barges (18 mins)

Course Description

This course covers key stability factors including trim, list, and free surface effect. Emphasis is placed on watertight integrity, watertight doors, and maintaining safety at sea.

MSTI-9607-Tugboat Hull Design and Towing Equipment (28 mins)

Course Description

This course explores tugboat hull design principles and the essential equipment used in towing operations. Students will gain an understanding of structural features and safe towing practices.

MSTI-9608-Workspace familiarization on Tugs (29 mins)

Course Description

This course provides an introduction to key tug workspaces, including the wheelhouse, engine room, and confined spaces. Learners will also study deck equipment such as mooring and anchoring systems.

MSTI-9609-Vessel Security Plan (30 mins)

Course Description

This course introduces vessel security planning, including assessments, responsibilities, and access management. Participants will practice drills, contingency planning, and awareness measures to enhance onboard security.