



Ice Ahead

Have a safe journey?



ICE NAVIGATION TRAINING COURSES IN FINLAND

Does your crew have

RELEVANT OPERATIONAL

Ice may seriously

impair ship's speed and manoeuvrability as well as hazard its structural integrity. Virtually minor operational mistakes due to lack of training and skills in ice navigation can cause very costly damages and off-hire.

Examples of typical ice-induced damages:

- broken or deformed propeller blade
- dented or ruptured shell plating and framing
- ship-to-ship collision
- damaged rudder blade and/or steering machinery
- grounding



On ICETRAIN ice navigation training course your crew will learn how to

- navigate safely in ice
- maintain the ship in operable condition
- reduce costs and save time



Practical training sessions

USE OF RADAR

- Finding the way through ice
- Adjusting radar settings correctly

SIMULATOR TRAINING

- Approaching the ice infested area
- Independent navigation in ice conditions
- Convoy operations and icebreaker assistance
- Manoeuvring in port

ONBOARD TRAINING (optional)

- Demonstration and observation of operations onboard an **Icebreaker**
- Operational ice navigation training onboard school vessel **Katarina**
- Subject to an optional arrangement in course programme

SCALE MODEL TRIAL (optional)

- Possibility to practice manoeuvring on a **ship scale model in ice basin**
- Subject to an optional arrangement in course programme

COLD WATER SURVIVAL

TRAINING (optional)

- Wintertime effects to survival crafts
- Cold water survival
- Hypothermia
- Training with anti-exposure suits and immersion suits
- Subject to an optional arrangement in course programme



PERSONAL SKILLS for ice navigation?



Course content outline

1. Introduction to Ice Operation

Ship-Ice -Interaction

- Ice conditions and ice qualities
- Ship performance in ice
- Ice induced damages

Ship design for Ice Operations

- Typical hull forms
- Propulsion concepts
- Ice classification and ice strengthening
- Special systems for ice going ships

Icebreaker Operations

- Operational qualities of icebreakers
- Real-time information systems
- Modes of escorting and assistance

Management issues

- Rules and regulations
- Safety and environmental aspects
- Setting the right attitude for ice operation
- Collaboration between fleet management, maritime authorities and ships

2. Navigation and shiphandling

Voyage planning and preparations

- Pilot books and navigation guides
- Weather information systems
- Ice information systems, ice codes and ice charts
- Planning the approach to forthcoming ice fields
- Real-time information and route plan updates

Watchkeeping during passage

- Routines during navigation in open and ice infested sea areas
- Operation and maintenance of bridge accessories
- Use of radar

Shiphandling and manoeuvring

- Independent operation in different ice conditions
- Avoiding damages to hull, rudder and propeller
- Procedures when meeting and overtaking
- Operation under pilotage
- Procedures during icebreaker assistance
- Berthing and unmooring

Simulator training

3. Cargo handling and deck machinery

Cargo handling operations

- Operation and controlling of ballast tanks and piping
- Adjusting draught and trim in accordance with ice class
- Items specific to given ship/cargo type

Operation, maintenance and protection of deck machinery, deck piping, valves and fittings

4. Safety, emergency and survival

Icing and ship stability

- Factors affecting ice build-up rate
- Estimating ice mass and its influence on stability
- Methods for removing of ice

Occupational health and medical first aid

- Effect of cold upon human organism
- Proper clothing and outfit
- Treatment of cold induced injuries
- Risk factors when working on icy deck

Fire fighting, evacuation and survival

- Maintenance of fire-fighting equipment and systems
- Fire-fighting practice
- Maintenance of life-saving equipment and systems
- Operation of shipboard evacuation equipment

ICETRAIN is a three-day training course for deck officers. ICETRAIN provides your deck crew with multiple practical exercises and instructions on operating in very cold climate and variable ice conditions.

ICETRAIN courses can also be tailored to include optional elements, such as real cold water survival training, observing operations onboard an icebreaker, or opportunity to experience scale model testing in ice basin.

ICETRAIN courses are designed and instructed by world's leading Ice Navigation Specialists and Finnish Maritime Academies. The participants having successfully passed the course are certified by Germanischer Lloyd.

Ensure safety, save time and money.
Sign up to ICETRAIN course now!

Frequent courses – check current training schedule at www.icetrain.fi
Courses also available upon request.

For additional information, contact info@icetrain.fi or visit our web-site www.icetrain.fi



Aker Arctic

