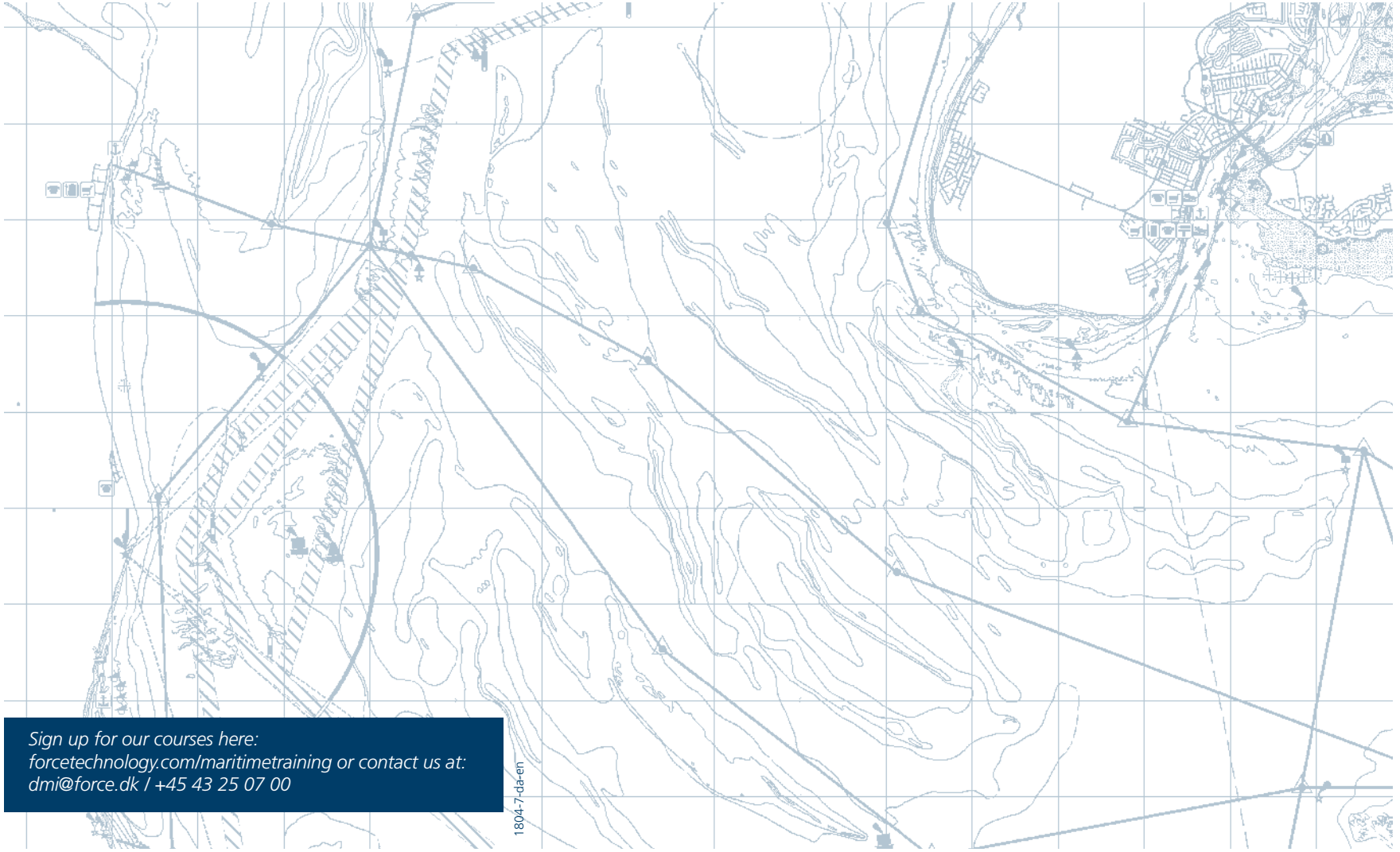
Maritime Training

Confidence through competence



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Realistic training facilities

Our courses combine theoretical lessons and practical training in our 360° field-of-view simulators. This way the participants gain the relevant knowledge and awareness of safety, efficiency, environment and communication.

Our pedagogical methods are based on the participant-logical concept which focuses on what the participants are expected to master in their daily work. From this a condensed list of learning points is developed and implemented into the lesson plan.

The simulator exercises are designed to transform the newly acquired theoretical knowledge into practical skills. The final part of the process is the debriefing sessions. These are a vital part of encouraging the participants to reflect on their actions during the training and thereby come to a new understanding of ways to improve their performance.

Our instructors are certified in pedagogical methods for simulator training and train all levels of deck officers.

We use advanced modelling techniques to ensure a realistic environment in our training facilities. This is achieved by using mathematical ship models that respond exactly like the actual vessels.

Our models are based on an eclectic approach where sea trials as well as data from physical model tests derived from our towing tank, wind tunnel test facilities and from numerical calculations (CFD) is applied to ensure that the reactions of the simulated vessel replicate reality. The participants feel as if they are on board the specific vessel and not inside a simulator.

Tug Handling Training

Thomas Corneliusson, Tug Master at Svitzer

"When you are a beginner in the towing business, simulator training is a good learning tool! I appreciated the combination of theory and practical exercises in the simulator."

The participants learn best practice procedures for conducting tug operations and thereby improving safety. Our three-level training program is designed for tug captains and officers. The training is adjusted according to the tug type, the participants' level of experience and any other specific requirements of the client. Currently we offer training in the following tug types:

- Conventional, single and twin propeller
- Azimuth Stern Drive (ASD)
- Rotor tug
- Voith Schneider
- Carousel tug

Goals and objectives

The participants will enhance their knowledge and skills in safe tug manoeuvring under normal as well as extraordinary operations.

Customised tug training

The training is highly flexible as the content can be adjusted to the wishes, qualifications and
experience of the participants. Special emphasis on for example escort towage can be included.
We train both new and experienced crews. We also arrange training of special operations with up to four interactive tugs cooperating in the same operation.

A certificate is issued upon completion of the course.

Level one

At level one, the participants learn to handle their own tug safely during transit and simple towing operations according to the pilot's orders. The participants will also be trained in procedures before, during and after towing and in approaching and connecting to different positions on a vessel (pulling/pushing).

Level two

At level two, the participants learn safe handling of not only their own tug but of the whole towing operation. They learn how to prevent accidents and errors. They will also have the chance to refresh procedures from the level one course: towing of "cold" vessels, in and out of dry-dock, and escort towing. The participants will also experience the operation from the point of view of the pilot and captain by carrying out the manoeuvring from the bridge of the assisted vessel.

Note: If marine pilot(s) participate (recommendable), they will also experience the operation seen from the tug and interact with the participating tug masters during sessions and debriefings to improve cooperation and teamwork.

Level three

The level three course is tailor-made in order to address a specific complicated towing operation such as but not limited to towmaster duties, rig moves, tow out and positioning of construction elements and other large and heavy objects.

References: STCW A-II/1 and II/2.

Emergency Towing Training

Goals and objectives

The participants will gain knowledge and skills in handling emergency towing vessels (ETVs) in towing operations in all types of weather conditions.
The objective of the course is to provide the participants with hands-on training in handling ETVs, knowledge of the simulated vessel's operational limits and an opportunity to test and improve manoeuvring strategies. The lessons will provide an increased understanding of bridge management principles as well as the physical elements of handling an ETV.

Course description

The course focuses on providing hands-on training in handling modern ETVs engaged in emergency towing operations involving vessels of all sizes in all weather conditions.

Achievements

After completing the course, the participants will be able to:

- Plan emergency towing operations
- Ensure efficiency during emergency towing operations and adherence to the plan
- Communicate with all relevant parties, e.g. helicopter, VTS and casualty crew
- Carry out emergency towing operations coordinating two or more ETVs
- Select strategies for towing very large vessels
- Distribute towing forces on connecting points on board a casualty
- Perform emergency towing

Emergency Response Management

Goals and objectives

To promote safety of life and property at sea and the protection of the marine environment by improving deck officers' ability to manage crisis and emergency situations.
To test and assess the individual participant's strengths and weaknesses in relation to coping with emergency and crisis situations.

Course description

During simulator exercises designed with the occurrence of a range of realistic emergency and crisis situations, the participants are trained in the best practices of handling such situations. During detailed debriefings, the obtained knowledge will be transferred into skills.

Achievements

The participants will be able to manage crisis and emergency situations in a structured manner.
They will be aware of their individual strengths and weaknesses in relation to coping with crisis and emergency situations.

References: STCW: Table A-II/2 and A-III/2

Azimuth Propulsion Ship Handling

Goals and objectives

The goal of the Azimuth Propulsion Ship Handling training is to increase safe manoeuvring and navigation of vessels equipped with azimuthing propulsion.

This is done by giving the ship handlers knowledge and understanding of the manoeuvring behaviour and limitations of vessels such as large cruise vessels and tankers propelled and steered by pod propulsion systems or smaller vessels with Azipull or Z-drive systems.

Course description

The course consists of a combination of theoretical lessons and practical simulator exercises.The participants obtain the nescessary knowledge and skills to utilise the excellent manoeuvring abilities provided by azimuth propulsion as well as the limitations embedded in such systems.

Achievements

After the course, the participants will be able to:

- Perform practical manoeuvring of vessels with azimuth propulsion
- Use sea/cruise mode, harbour/manoeuvring mode, backup mode, joystick strategies and failure mode

Bridge Resource Management

Goals and objectives

The goal of this course is to reduce the number of incidents in maritime operations by teaching officers to utilise human and technical resources efficiently. The objective is to give the participants an increased knowledge and understanding of the impact of resource management on board, thereby creating a basis for developing and using Bridge Resource Management (BRM) skills in daily routines as well as during emergencies. They will develop awareness of their own behaviour and actions and become motivated to exercise new ways of behaviour.

Course description

The training is a combination of theoretical lessons, simulator exercises and case studies, all focusing on developing the participants' interpersonal skills. The participants will gain the necessary knowledge of BRM, and during the simulator sessions, the exercises will reinforce the theory and provide an opportunity to practise cooperation during both routine and critical work situations.

Achievements

The participants will be able to use the acquired teamwork skills in the daily routine work as well as in critical situations.

References: STCW as amended TABLE A-11/1 & II/2

Accident Investigation

Goals and objectives

The goal of the course is to ensure that learning opportunities arising from an incident will be captured effectively and the proper root causes will be identified to prevent similar incidents.

Course description

The participants will receive training in a fast-paced environment that includes realistic exercises, games, role-play, discussions and the use of advanced learning tools. All of which will ensure a rapid transfer of knowledge into skills. The course also provides practical advice and tools for the systematic investigation of human factors in marine casualties and incidents.

Achievements

After the course, the participants will be able to:

- Use the relevant techniques in accident investigation with focus on human factors
- Identify underlying causes and explanatory factors
- Make practical recommendations for corrective actions
- Use practical tips to write revealing reports
- Use effective interviewing techniques

VTS & Pilot Resource Management

Goals and objectives

The goal of this training is to increase safety in piloted waters with VTS coverage by improving the cooperation between the master of the ship, the pilot and the VTS operator.

Course description

Through BRM case studies, relevant simulator exercises and thorough debriefings, the participants learn resource management theory and practical implementation. The exercises are inspired by everyday situations with realistic traffic density.

Watchkeeping, emergency handling as well as search and rescue (SAR) are also included in theory and exercises.

The course applies to marine pilots as well as VTS operators.

Achievements

After the course, the participants will be able to:

- Carry out pilot - master exchange of information and briefing
- Efficiently utilise bridge teamwork with VTS as part of the team
- Communicate efficiently using SMCP (Standard Maritime Communication Phrases)

Human Factors Training

Goals and objectives

Human factors knowledge builds on the strengths and weaknesses of humans with the aim of ensuring that individuals are not exposed beyond their abilities. Human factors is of great importance to safety, efficiency and performance capabilities and consequently human factors knowledge is an essential component of leadership.

Course description

The training provides the participants with knowledge on why humans react the way they do when facing demanding situations and how to exploit this knowledge to improve human response in critical areas.

The course is tailor made to fit the participants' daily work environments. The course applies to all employees working in a dynamic environment, e.g. management, project managers and maritime employees.

Achievements

After the course the participants will be able to:

- Identify their own strengths and weaknesses
- Use the most advanced human factors techniques to enhance team and individual performance
- Understand human responses better
- Ensure effective communication in stressful situations
- Use practical tools to exploit team members' abilities to their maximum
- Understand errors and how to prevent or minimise their consequences

IMO960 Ship Handling Course for Marine Pilots

Goals and objectives

The participants will learn the capabilities and limitations of manoeuvring different types of vessels ranging from large tankers to small container feeders and from POD tankers to RoRo vessels.

Course description

The course focuses on practical ship handling based on best practices and theoretical knowledge. Various difficult ship handling tasks will be conducted in the simulator reflecting the real challenges pilots meet.

Achievements

After completing the course, the participants will have thorough knowledge of:

- Pivot point
- Fixed and variable propellers
- Standard rudders and high-efficiency rudders
- Bow and stern thrusters
- Manoeuvring strategy with PODs
- Constant rate of turn techniques
- Impact of wind and current
- Hydrodynamic effects: bank effect, ship-ship interaction, squat and shallow water
- Tug operations

References: IMO A.960 (23)

Training in Ship to Ship Operations

Goal and objectives

The training focuses on conducting Ship to Ship (STS) operations safely and efficiently using specific vessels. The participants will improve their ability to approach and go alongside in an STS operation with or without tug assistance.

Course description

The course focuses on the general principles of STS operations, incl. ship handling and manoeuvring, emergency aborting and safe watchkeeping. The participants will be trained in pre-planning incl. contingency planning and communication strategies during approach, mooring and unmooring.

Pilots, mooring masters, captains and officers are trained in advanced ship manoeuvring techniques during STS operations by improving communication and mutual understanding.

Achievements

After completing the course, the participants will have thorough knowledge of:

- Manoeuvring a vessel when carrying out an STS operation
- STS operation underway without tugs incl. ship/ship interaction
- Anchoring procedure
- Emergency response
- Safe securing of fenders and shift/sail with fenders
- Selecting fender size, amount of fenders and assessing their strengths and limitations
- Mooring arrangement, contact and agreement with the other vessel and procedures for mooring during STS, incl. mooring operations under different environmental conditions
- Use of checklist and exchange of experience between masters, pilots and mooring masters

FPSO Tandem Mooring

Goals and objectives

The course provides captains, officers and mooring masters with knowledge of tandem mooring. They will learn about the manoeuvring limitations of a specific vessel and environmental forces affecting the vessel's manoeuvrability.

Course description

The exercises will take place in three simulators representing the FSO, the tanker and the assisting tug. The participants will control the tanker and the assisting tug.

Achievements

After completing the course, the participants will have knowledge of:

- General principles of tandem operations
- Pre-planning and contingency planning
- Communication during approach, mooring, and unmooring
- Emergency aborting of tandem operations
- Safe watchkeeping during tandem operations
- Ship handling and manoeuvring during tandem operations
- Use of operational and safety checklists

Reference: STCW: Table A-II/1, Table A-II/2 and Table A-II/3

Ship Handling

Goals and objectives
The goal is to improve safety at sea by enhancing the participants' knowledge of manoeuvring
theory and training their skills in safe handling of different vessels.

Course description
The course consists of theoretical lessons concerning ship handling theory and hydrodynamics.
Specially designed simulator exercises transfer the theory into ship handling skills.
The participants test and improve their ship handling strategies and find the limiting environmental conditions for specific vessels.

Achievements
After completing the course, the participants will have thorough knowledge of:
- Bernoulli, pivot point, propulsion, rudders, bow and stern thrusters
- Constant Rate of Turn techniques
- Anchoring, wind and current
- Bank effect, ship-ship interaction, squat and shallow water

References: STCW Table A-II/1, Table A-II/2

Train-the-Trainers

Goals and objectives
The course provides knowledge and skills on how to teach different courses in the best possible way. It is designed for new simulator instructors and focuses on pedagogical skills, communicative tools and debriefing techniques.

Course description
The course is divided into two parts:

Part 1
The participants will learn to:
- Plan and execute training and education
- Evaluate participants individually during and on completion of the training
- Perform debriefing of the participants after simulator sessions
- Assess training efficiency and outcome
- Develop and design simulator courses

Part 2
This part of the course consists of:
- Tailor-making of courses
- Tailor-making of exercises
- Supervision and debriefing

Achievements
After the course, the participants will be able to prepare, carry out and evaluate training
programmes.

References: IMO Model course 6.10

Megaship handling

Goals and objectives

The goal of the course is to improve the participants' knowledge and manoeuvring skills when handling megaships efficiently and safely in confined waters.

Course description

The course consists of a combination of theoretical lessons and practical simulator training. The core value of the course is transforming theoretical hydrodynamic knowledge into manoeuvring skills – the art of ship handling.

The program combines theoretical knowledge and relevant exercises in our full-mission simulator. The practical scenarios focus on port manoeuvres, sailing in narrow channels, ship-to-ship interaction and squat and bank effects.

"The course is a great experience with lots of practical training from day one"

Stuart Mcallister, Master at Maersk

Achievements

After completion of the course, the participants will have increased their skills in:

- Manoeuvring strategy in confined waters for megaships
- Megaship handling in ports and restricted areas during different environmental conditions
- Understanding and coping properly with squat
- Understanding and coping properly with bank effect
- Understanding and coping properly with ship-to-ship interaction
- Standard ship handling theory.

IMO960 Tug Course for Marine Pilots

Goals and objectives

The marine pilots will gain an improved understanding of the possibilities and limitations of tug operations. During manoeuvring exercises, they will learn to communicate efficiently with pilots and tug masters.

Course description

The participants will receive theoretical training in the use of different types of tugs: conventional, ASD, Voith Schneider and rotor tugs. They will also learn how to perform emergency handling in hazardous towing situations. Finally, they will learn how to communicate with and give orders to the tugs as well as learn escort towing.

The participants will carry out practical sailing exercises supporting the theoretical lessons. Here they will learn:

- Manoeuvring different types of tugs
- Escort towing
- Handling of emergencies

The course substitutes Ship-to-Ship operations course part 1.
References: IMO Resolution A. 960(23) part 5.5.6.

"The course was carried out in a professional manner; my colleagues and I were brought up to date on our knowledge and abilities".

Søren Westerskov, Chief Pilot at DanPilot

Polar Code Course

Goals and objectives

This course provides training for navigation officers who operate ships in polar waters and to address additional provisions deemed necessary for consideration beyond existing requirements of the SOLAS and MARPOL Conventions.

Achievements

To promote safety of life and property at sea and the protection of the marine environment by improving deck officer's knowledge operating in Polar Waters.

More specifically, a participant successfully completing this course will gain:

- ability to contribute to safe operation of vessels in polar waters
- understanding of ice characteristics and areas where different types of ice can be expected in the area of operation
- understanding of vessel performance in ice and low air temperature
- understanding of safe operations and ship manoeuvrability in ice
- awareness to monitor and ensure compliance with legislative requirements
- understanding to apply safe working practices and to respond to emergencies
- understanding and awareness of correct crew preparation, working conditions and safety
- understanding the need to ensure compliance with pollution prevention requirements and
- prevent environmental hazards, and
- understanding skills to perform manoeuvres in order to safely operate ships in polar waters.

References STCW Code, specifically the tables A.V/4-1 and A-V/4-2.

Jack-up training

Goals and objectives

The objective of the course is to enhance safety by applying the proper procedures for conducting safe jacking operations. Especially the challenges in understanding soil data and how to mitigate the risks involved will be addressed. Paired with our, state of the art simulator, theory will be transformed into operational knowledge.

Course description

By training different handling skills through practical exercises in the simulator in challenging conditions such as rapid penetration, punch through, stuck legs etc., the participants are familiar with the situations should they occur.

Achievements

During theoretical lessons and practical simulator exercises, the participants will:

- enhance their knowledge of, and skills in understanding data on seabed conditions.
- enhance their planning capabilities for operations in demanding environmental conditions.
- enhance their knowledge of, and skills in handling challenging seabed conditions, e.g. punch through, rapid pene-tration and deeply penetrated legs.
- enhance their knowledge of Human Factor Issues and skills in the use of Human Factor Issues, such as commu-nication, planning, briefing and situational awareness.
- enhance safety by applying the proper procedures for conducting safe jack-up operations

Our instructors

Robert Smyth

Captain Robert Smyth is a senior instructor with extensive sea and training experience. Robert's expertise includes towing, DP and ship-to-ship transfer. Robert is trained as master mariner, chief and navigation officer (Norway). He also holds diplomas in ship management (UK) and pedagogical training (Denmark).

Guillermo Gomez Garay

Captain Guillermo Garay is a senior instructor with extensive sea and training experience. His expertise includes on-board assessment, risk assessment, accident investigation, BRM and human factors. Guillermo is trained as master mariner, chief and navigation officer in Argentina and in pedagogical training in Denmark.

Jens Tommerup

Captain and instructor Jens Tommerup has served on board general cargo ships, container vessels, tankers and ferries as mate and as master on board tankers from 2,000 tdw up to 110,000 tdw. Jens has been an instructor at FORCE Technology for the last 5 years. He holds an unlimited master´s license and all relevant tanker endorsements.

Carl Thue Rabjerg

Captain and senior instructor Carl Thue Rabjerg has extensive experience as a specialist and consultant/navigational instructor. He has served on board container vessels, tankers, ferries and as master and chief officer on board ferries and RoRo vessels. For twenty years, he has been teaching ship handling, azimuth manoeuvring, emergency response and BRM/CRM/MRM at FORCE Technology.

Torben Solmer

Captain Torben Solmer is Team Leader for Dansim and instructor with extensive sea experience. He has served on tankers, ferries (fast and conventional) as mate and as Master on Offshore Supply Vessels (PSV, AHTS and SSV). He is a Master Mariner and holds an unlimited DP certificate, Lloyds ISM Lead Auditor certificate, KELVIN TOPSET Senior Accident Investigator Certificate.

Guesthouse

We offer accommodation in our guesthouse located at our own site. Each of the 10 comfortable single/double rooms have their own bathroom. The guesthouse also has a small kitchen and a large sitting room with a television.

All the rooms overlook fields and woods. Within walking distance is Dyrehaven, one of the most beautiful parks in Denmark and listed on UNESCO's world heritage list.

Please contact ino@force.dk to book a room.

All reservations are made on a 'first come - first serve' basis.