



# Hydrodynamics in Navy Ship Design | India

4 Day training course, Mumbai, 28 - 31 January 2025

Following our successful annual 5-day courses at MARIN Wageningen, we organize a 4-day course ‘Hydrodynamics in Ship Design’ in Mumbai. The course gives an overview of the latest developments in hull form and propulsor design, provides guidelines to implement CFD in ship design and addresses seakeeping and manoeuvring aspects. Each course day consists of a combination of lectures, case studies and assignments. See full concept programme on the last page.

The course is intended for professionals with a university degree in naval architecture, ocean engineering or equivalent education and working experience in the maritime industry. During the course there will be plenty of time for interaction with the MARIN team consisting of senior project managers working together with the industry every day.



## Participation fee

The course is subject to a minimum number of participants (25) and a maximum (35). For subscription of a group from the same company, discounts apply.

No. participants	Discount	Price
1-2	0%	€ 1,500, pp
3-4	5%	€ 1,425, pp
5-7	10%	€ 1,350, pp
8 or more	15%	€ 1,275, pp

*“Great and interesting course, thanks!,”*

*“Fantastic - great refresher!,”*

*“I would definitely recommend this course to my colleagues.”*

## Documentation

The course notes contain the full set of information as presented during the course. The course notes will be made available on the E-learning platform. Strict copyrights apply to the course notes and they shall not be made available or sold to other parties.

## Application

A registration form can be found at the MARIN website, [www.marin.nl](http://www.marin.nl). For more information, send an e-mail to [courses@marin.nl](mailto:courses@marin.nl) or contact Klaas Kooiker at [k.kooiker@marin.nl](mailto:k.kooiker@marin.nl), +31 6 5069 1224

## Concept course programme “Hydrodynamics in Navy Ship Design”

	28-Jan	29-Jan	30-Jan	31-Jan
8:30	Set-up and preparation			
8:45	Coffee	Coffee	Coffee	Coffee
9:00	Course introduction	Manoeuvring I <i>Introduction and criteria</i>	Case study viscous flow	Manoeuvring III <i>Prediction techniques</i>
9:15				
9:30	Resistance & propulsion I <i>resistance and hull forms</i>			
9:45				
10:00				
10:15		Viscous flow in hull form design		Resistance & propulsion III <i>Calm water model tests</i>
10:30	Break	Break	Break	Break
10:45	Resistance & propulsion I <i>propulsors</i>	Viscous flow in hull form design	Manoeuvring II <i>Hull forms and control devices</i>	Resistance & propulsion III <i>Full-scale trials</i>
11:00				
11:15	Seakeeping I <i>Introduction</i>			
11:30		Introduction case study viscous flow		Evaluation case study viscous flow
11:45				
12:00		Seakeeping I <i>Linear behaviour</i>	Seakeeping II <i>Non-linear behaviour</i>	Resistance & propulsion IV <i>Introduction propeller design</i>
12:15	Lunch	Lunch	Lunch	Lunch
12:30				
12:45				
13:00				
13:15	Wave making in hull form design	Seakeeping I <i>Linear behaviour</i>	Seakeeping II <i>Operability</i>	Resistance & propulsion IV <i>Introduction propeller design</i>
13:30				
13:45		Resistance & propulsion II <i>propeller-hull interaction</i>	Resistance & propulsion III <i>Cavitation Vibrations</i>	Closure + certificate
14:00				
14:15				
14:30				
14:45	Q & A	Q & A	Q & A	
15:00				