



# Hydrodynamics in Ship Design | Wageningen

**Course 2024**

We at MARIN are more than happy to share our knowledge and expertise. Being a maritime research institute, we do this every day, by working together with the industry through our commercial work and within Joint Industry Projects and Cooperative networks. Another way of sharing know-how is through the specialist courses we organise.

**When**

March 11 - 15 (5 days) 2024

**Where**

MARIN Wageningen,  
The Netherlands

**Costs**

€ 4,000.00 (including lunches,  
welcome drink and course dinner  
on Thursday)

**Registration**

[https://registrations.marin.nl/cours  
e-hydrodynamics-in-ship-design](https://registrations.marin.nl/cours-e-hydrodynamics-in-ship-design)

We organise tailor made courses, always focusing on specific research subjects, because technological developments change rapidly. Our 'trainers' are the project managers that work together with the industry each day. The course 'Hydrodynamics in Ship Design' gives an overview of the latest developments in hull form and propulsor design, provides guidelines to implement CFD in ship design, discusses the importance of model tests and addresses seakeeping and manoeuvring aspects (see course programme on the next page).

This course is intended for both existing professional staff and for newcomers in the maritime industry. Participants should have a university degree in naval architecture, ocean engineering, equivalent education or experience.

Each course day consists of a combination of lectures, case studies and assignments. Prior to the course week, an E-learning platform will be opened for the participants. On this platform, introductions to the lectures and hand-outs of the presentations will be made available. This allows the participant to prepare for the lectures and interact with the 'trainers' in between sessions.



## Contact

### Application

To ensure your participation (number of participants is limited), please fill in the registration form at <https://www.marin.nl/en/events/hydrodynamics-in-ship-design-wageningen>

For more information, send an e-mail to [courses@marin.nl](mailto:courses@marin.nl)

### Payment

Fee is to be paid upon receipt of invoice.

Payment made payable to:  
MARIN, The Netherlands;  
Account number 53 93 39 156,  
IBAN number  
NL77ABNA0539339156  
ABN-AMRO Bank N.V., Amsterdam

## Conditions

### Venue

The course will be held at MARIN, Haagsteeg 2, Wageningen, The Netherlands

### Accommodation

Hotel accommodation is not included in the course fee and has to be arranged by yourself. Nearby hotels are:

- Hotel WICC ([www.wicc.nl](http://www.wicc.nl)) 10 minutes' walk from MARIN.
- Hotel Wageningsche Berg ([www.hoteldewageningscheberg.nl](http://www.hoteldewageningscheberg.nl)) 20 minutes by bike or 10 minutes by taxi or car.

Block bookings for both hotels have been made. For reservation instructions, we refer to the hotel info leaflet on the website.

### 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.

### Number of participants

The course is subject to a minimum number of participants (12) and a maximum number of (25). Admittance to the course will be on first come first served basis. The following group reduction is valid:

No. Participants	Reduction	Price	Reduced price
1	0%	€ 4,000.00	€ 4,000.00
2	0%	€ 8,000.00	€ 8,000.00
3	10%	€ 12,000.00	€ 10,800.00
4	10%	€ 16,000.00	€ 14,400.00
5	10%	€ 20,000.00	€ 18,000.00
6	20%	€ 24,000.00	€ 19,200.00

### Cancellations

In case of a cancellation by the participant, the following rules apply:  
Cancellation within 1 week of the start of the course: 50% of the course fee.  
In other cases, the cancellation is free of charge.

In case MARIN has to cancel the course in view of insufficient participation, the entire fee will be refunded.

### Closing date

Closing date registration: February 15, 2024.

# Concept Course programme “Hydrodynamics in Ship Design” 2024

	Mon 11 Mar	Tue 12 Mar	Wed 13 Mar	Thu 14 Mar	Fri 15 Mar
9:00 - 12:00	<p><b><u>Resistance &amp; propulsion basics</u></b> Hull forms, Propulsors</p>	<p><b><u>Wave making resistance</u></b> Fundamentals, Hull form design (incl case study)</p>	<p><b><u>Viscous flow</u></b> Introduction, Hull form design (incl case study)</p>	<p><b><u>Seakeeping</u></b> Introduction, Linear behaviour, Non-linear behaviour, Operability (incl case study)</p>	<p><b><u>Manoeuvring</u></b> Performance &amp; criteria, Hull form, Control, Prediction techniques</p>
Lunch					
13:00-16:30	<p><b><u>Resistance &amp; propulsion basics</u></b> Propulsors ship interaction, Energy saving devices, Experiments (incl case study)</p>	<p><b><u>Propeller design</u></b> Introduction, Cavitation, Noise&amp;vibration</p>	<p><b><u>Power prediction</u></b> Statistical methods</p> <p><b><u>Full scale trials</u></b></p>	<p><b><u>Seakeeping</u></b> Operability (incl case study)</p> <p><b><u>Tour MARIN facilities</u></b></p>	
	Welcome Drink			Course Dinner	