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Hull training for:

- **Initial Design**
- **Sales Impressions**
- **Hull Optimization**
- **Final Design**
- **Fairing for Production**
- **Reverse Engineering:**
  - **Hull from GA**
  - **Hull from linesplan**
  - **Hull from point cloud**
  - **Hull from Photo-grammetry**
  - **Hull from other measurements.**

Why Rhino?

Rhino costs a fraction of other software for modeling hulls.

Rhino is good for initial design up to production fairing.

Native Rhino is enough for modeling and fairing of most hull types.

Testimonial

"I have been a Rhino user for about fifteen years and I considered myself a competent modeler. However, I learned more about Rhino in four days at Rhinocentre than I did in fifteen years of teaching myself. I highly recommend this course."

Winston Pynn

Instructor, Naval Architecture

Marine Institute of Memorial University, Canada

Hull Design and Fairing Training for Professionals Level 1 & 2

Ships – Yachts – Workboats – Multihulls

Rhino enables accurate, flexible and fair vessel hull design with the "Rapid Hull Modeling Methodology". This method is developed by RhinoCentre in co-operation with other professionals in the marine industry. After years of offering training and services to leading companies in the marine industry worldwide, RhinoCentre finally developed the unique training modules: Prepare2d input and Hull Design and Fairing Level-1 and Level-2.

These three modules are now combined in a three day training that unveils the mystery of Class-A fairing to any designer, naval architect and shipyard. One free extra day enables you to work on your own project under our assistance. You decide which program makes you successful and productive:

	Programs and prices for open training		Price per person (excl. VAT)
1	Hull design and fairing Training Level 1 & 2	**Three days**	**€1980**
	Work on your project	Fourth day	Free
2	Program 1 + Feedback support on your work	8 hours at your request	€1980 + €560 = **€2540**
3	Program 1 + 2 + Project support for your business	16 hours at your request	€2540 + €1120 = **€3660**

Please ask for prices for In-Company training
Find the discount for extra trainees from the same company down below

Every trainee is asked to send in their specific hull type which will be practiced during the course. By sending it in, we can check the feasibility and assist you to be successful. Send in a 3d model, lines plan, general arrangement plan or some images.

Two extra services are offered for a special price:

1. Feedback support when you want us to help you out with your hull design and fairing after the training. Just send us your files and we take a look, make suggestions and get you rolling again. This is really practical becoming more professional in finding an elegant hull definition and clever strategy.
2. Project support for your business means that you can hire us to set up a hull definition for your type of ship hull whether it is a new design or reverse engineering of an existing hull shape from a lines plan for example.

Small print:
1 - Prerequisites for this training: Rhino Level 1 training or six months of working with Rhino.
2 - For designing aft bulb hulls and twin skeg hull configurations the T-Splines plugin for Rhino is required. Even then this Rapid Hull Modeling Methodology is required.
3 - Support hours have to be spent within six months after the training.

Training Program:

- Prepare 2D input:
  - Prepare 2D AutoCAD drawings to be used as input for 3D Rhino.
  - Use the prepared AutoCAD drawing in a clever and clean way.
  - Using images (PDF, JPG etc.) as a reference for quick and accurate 3d modeling.
- Hull design and fairing Level 1:
  - Setting up a hull definition from scratch based on the Rapid Hull Modeling Methodology.
  - Analyze the hull surface quality, hull surface character and hydrostatics.
  - Fairing techniques that lead to Class-A surfaces.
  - About curvature graph and continuity (G0/G1/G2/G3/G4).
  - Generate a lines-drawing.
  - Examine example hull types to be used as a starting point for future hull design:
    - Several types of merchant vessels.
    - Several types of (mega) yachts.
    - Several types of workboats.
- Hull design and fairing Level 2:
  - Model a 3d hull from an existing 2d lines plan or general arrangement drawing.
  - Finding the best strategy; understanding before making decisions.
  - Put a strategy into practice.
  - Generate dynamic sections, waterlines and buttocks.
  - Create and maintain developability.
  - Advanced analysis.

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Research Institutes like **MARIN** also rely on Rhino. They can directly use your hull surface for their purposes.

Only Rhino can integrate the design of the hull, superstructure, interior, deck layout, structure and technical installations in one 3D-model fast and flexible.

Design any ship type with a fair hull surface in a few hours including basic hydrostatic analysis and a lines plan. Editing a design later is done in no time.

For a master in hull modeling the job of accurate reverse engineering from an existing lines plan is a matter of two or three days work.

The **Orca3d** plugin for Rhino makes modeling and fairing even easier, and adds tools for (real time) hydrostatics, intact stability, resistance calculation, and more.

The **T-Splines** plugin is the next step to model complex aft bulb hulls and twin skeg propeller arrangements as a single surface.

Export your Rhino hull to any analysis tool (damaged stability, CFD etc.) or engineering software.

The free **Grasshopper** plugin enables parameterization of ship design. This is especially useful for exploring design ideas, create variations on a theme or eliminating dumb work.

As designing and fairing hulls in Rhino is so fast it is easy to compare several designs on certain parameters to come to the best solution and prove this to the client.

Training details:

- For availability as open training, see our training schedule
- This training is also available in-company on your location. Please contact us for prices and details.
- Maximum of eight trainees
- Prices per person for open training:
  - Program 1: € 1980,- excl. VAT
  - Program 2: € 2540,- excl. VAT
  - Program 3: € 3660,- excl. VAT
  - Discount for more trainees from the same company:

Trainees	1	2	3	4	5	6	7	8
Discount	-	5%	10%	15%	20%	25%	30%	35%

- **Register now or mail us for more info at info@rhinocentre.nl**
- Training days from 09:00 to 17:00 with a lunch at 12:30.
- Lunch, coffee, tea and fresh drinks are included
- Training facility at RhinoCentre: Google maps
  Address: Westersingel 4, 8913 CK, Leeuwarden, the Netherlands
- RhinoCentre is a "McNeel Authorized Training Center".
- The training includes a splendid training manual.
- Training language is English
- RhinoCentre provides training laptops (English OS and Software).
- You are allowed to use the example hulls from the training for commercial purposes.

Trainer
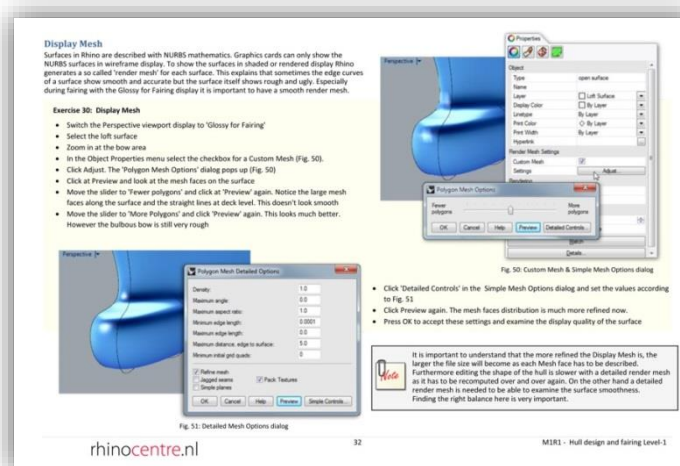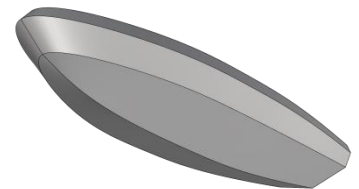
Gerard Petersen is naval architect, founder of RhinoCentre and uses Rhino since 2001 in his projects in the most integrated way. Petersen developed hull design and fairing skills to be able to develop innovative concepts with unique hull shapes like the integrated trimaran Kenau. The trimaran project proved that Rhino is a professional tool to turn an idea into reality.

RhinoCentre

Since 2003 RhinoCentre shares and increases Rhino knowledge in offering training, consultancy and other services to the marine industry worldwide. The best example is the joined development of the Rapid Hull Modeling Methodology with people of several companies and organizations. On the other hand RhinoCentre is in close contact with McNeel & Associates, the developers of Rhino as well as plugin developers to make Rhino even better. RhinoCentre maintains with most of our customers a long lasting relationships based on trust and equality.

Info

Don't hesitate contacting us for more information at info@rhinocentre.nl or call +31 58 2131855

Example page of the training manual

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