



SKILLTRADE

# Skilltrade

From Introduction Hydrography to  
Certified courses

# Our services



- Hydrographic training and courses since 2000
- Developed by people who gained their experience in the field and taught by those same individuals
- Skilltrade provides courses and training in three areas:
  - Introductory and general courses
  - E-learning modules
  - Hydrographic Survey Category B programme

# Our organisation



- Huibert Jan Lekkerkerk, B.Sc. Hydrography / Cat. A (1995), B.Ee Maritime Electronics (1997), M.Sc. Geographical Information Management and Applications (2012)
- Guus Verhagen, BSc Maritime Science (2004), MICS, Pedagogic didactics (2002)
- Jan Appelman, Hydrography, Cat. A (1986), Navigation officer / Charge surveyor
- Axel de Meijer, Cat. B, owner G2 survey company
- Christa Ravensbergen, management assistant
- Johan Stam, managing director
- Pool of 16 skilled and experienced lecturers

# IHO accredited Category B course



- Skilltrade Category B programme has been officially recognised as such on the 1st July 2008
- In 2016 our programme received continued recognition as a FIG/IHO/ICA Class B Hydrographic Survey Programme in accordance with the Standards of Competence for Hydrographic Surveyors FIG/IHO/ICA S-5, Edition 11.1.0 including e learning modules

# IHO accredited Category B course



- Intense course of 30 weeks, a 12 week course in The Netherlands, preceded by a 13 weeks e-learning program and 1 week safety course.

Block	I	II-0	II-1	II-2	II-3	III	IV
Week	1 – 13	14	15 - 18	19 – 25	26	27 - 30	30 – max. 185
Modules	E-Learning	Safety induction	Basic modules	Essential and Optional modules	Educational Survey Project (ESP)	Field Training Project (FTP)	Field Proficiency Period (FPP)
Outcome	Eligible to enter Cat.B Course	BOSIET + OLF-supplement Universal Basic Survival	<ul style="list-style-type: none"> <li>• QINSy Online Cert.</li> <li>• Skilltrade Cert. of Attendance, or Skilltrade Cert. of Education</li> </ul>			FIG/IHO/ICA Cert. of Course Completion	FIG/IHO/ICA Cert. of Field Proficiency



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## Cat B Workshops includes :

- Port of Rotterdam
- Royal Dutch Navy
- Rijkswaterstaat – section North Sea
- Software by QPS – International well known
- Van Oord workshop
- Visit to an actual Dredging project
- “Stay in touch with latest technology”



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# E-Learning Courses

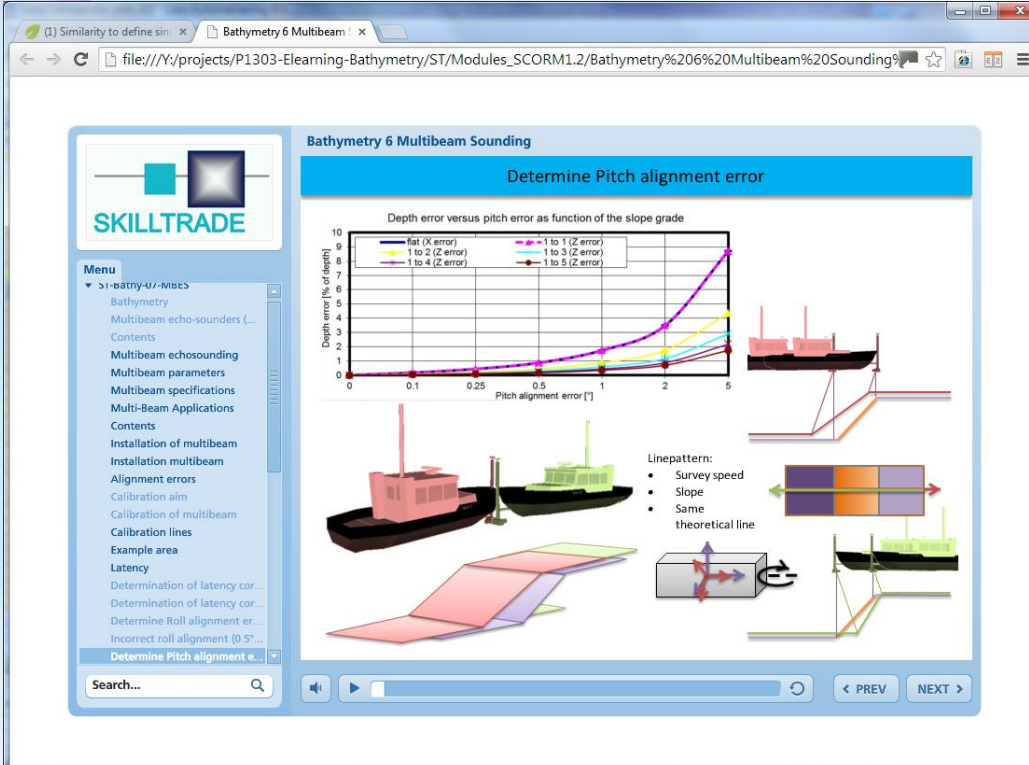
Since 2015 we offer the following E-Learning courses:

- Mathematics
- Physics
- Bathymetry
- Geodesy
- [Global Navigation Satellite Systems](#)

# E-Learning Courses

With the Moodle Mobile app the content of these courses is available, even when offline.

*Contact us for a free two week trial*



The screenshot shows a web browser window with the following content:

- Browser Address Bar:** file:///Y:/projects/P1303-Elearning-Bathymetry/ST/Modules\_SCORM1.2/Bathymetry%206%20Multibeam%20Sounding%
- Page Title:** Bathymetry 6 Multibeam Sounding
- SKILLTRADE Logo:** Located in the top left corner of the course content area.
- Menu:** A vertical list of course topics on the left side, including:
  - Bathymetry
  - Multibeam echo-sounders (...)
  - Contents
  - Multibeam echosounding
  - Multibeam parameters
  - Multibeam specifications
  - Multi-Beam Applications
  - Contents
  - Installation of multibeam
  - Installation multibeam
  - Alignment errors
  - Calibration aim
  - Calibration of multibeam
  - Calibration lines
  - Example area
  - Latency
  - Determination of latency cor...
  - Determination of latency cor...
  - Determine Roll alignment er...
  - Incorrect roll alignment (0.5°...
  - Determine Pitch alignment e...** (highlighted)
- Main Content Area:**
  - Section Header:** Determine Pitch alignment error
  - Graph:** A line graph titled "Depth error versus pitch error as function of the slope grade". The y-axis is "Depth error (% of depth)" ranging from 0 to 10. The x-axis is "Pitch alignment error [°]" ranging from 0 to 5. The graph shows several curves representing different error ranges: flat (X error), 1 to 2 (Z error), 1 to 3 (Z error), 1 to 4 (Z error), 1 to 5 (Z error), and 1 to 1 (Z error).
  - Diagrams:** Several 3D diagrams illustrating multibeam echosounding. One shows a ship's transverse line pattern over a sloped seabed. Another shows a ship's longitudinal line pattern. A third shows a 3D coordinate system with axes X, Y, and Z.
  - Linepattern Legend:** A legend titled "Linepattern:" with the following items:
    - Survey speed
    - Slope
    - Same theoretical line
- Navigation:** A search bar at the bottom left and navigation buttons (PREV, NEXT) at the bottom right.



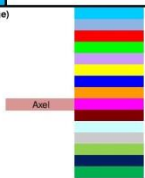
# CAT B Course schedule

13 weeks e-learning

A program which provides a practical comprehension of hydrographic surveying for individuals with the skill to carry out the various hydrographic surveying tasks

	course wk01							course wk02							course wk03													
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun							
Morning	B1 Mathematics	B4 Nautical Skills	E 4 Types of Hydrographic Surveys	Nautical Skills	practical exercise (tides, level & positioning)	Social program		Nautical Skills	Mathematics	Mathematics	B3 Physics	Exam - B1 Maths			Physics	Physics	Nautical	Exam - B3 (part 1) Physics										
Afternoon	Mathematics	Mathematics	B1 Theory of Errors	Mathematics				Nautical Skills	Mathematics	Workshop Port of Rotterdam	Physics	B4 Meteo			Physics	Workshop Hydrographic Services	Nautical	O2 workshop STEMA	B4 Meteo									
after 16.00								B4 practical visits / options																				
	course wk04							course wk05							course wk06													
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun							
Morning	Exam - B4 Nautical Science	Physics II	Physics II	Exam - E3 (part 2) Physics	B2 ICT - databases & GIS ESRI			E1 Underwater acoustics & Singlebeam	Underwater acoustics & Singlebeam	E7 Law of the sea	E2 Waves, Streams and Currents	E3 Geodesy			E2 Tides	E2 Tides	E5 Online Survey Software	E2 Processing of Tidal Influences	E1 Side Scan Sonar	E3 Mot + Geodesy								
Afternoon	Physics II	Physics II	Physics II	E3 Workshop iBlue					E5 Online Survey Software							NOVA	school holiday			1st Course evaluation								
after 16.00																												
	course wk07							course wk08							course wk09													
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun							
Morning	E3 Horizontal Positioning (LMK theory and calculations)	E3 Acoustic Positioning (Sondaryne Guest speaker)	Exams - E2 & E7	E1 Multibeam Echo - sounder				E3 Practical Horizontal Control	E3 Horizontal Control - calculations	E6 Environmental Science	Exam - E1	E3 Horizontal Positioning GPS			E6 Earth Science	E5 Online Survey software	Exam - E6	Hydrographic Specification & Project preparation	E3 Horizontal Positioning GPS - practical									
Afternoon		E4 Workshop Telemetry Telex							E5 Online Survey Software		E6 Workshop Peripus					E2 Workshop Van Oord & Boskalis												
after 16.00									Post exam																			
	course wk10							course wk11							course wk12													
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun							
Morning	Workshop Ocean Wave	E5 Online Survey software	Exam - E3	E4 Practical - soldering & fault finding & data telemetry	O2 Coastal Zone			O 4Rgs. Platforms, Drilling Terminology	Exam E-4	E4 Pipeline and Cable Operations & ROV	Education Survey Project, FRK, HUL & AdM Group1			E11 Full day course (working on site) - 1st	RWS	Education Survey Project, Processing & Reporting	Software - Exam E5 (GPS)	Logbooks & 2nd Course Evaluation										
Afternoon		B2 ICT - Networking						E4 VanOord workshop	E4 Full day course (working on site) - 2nd	RWS				Education Survey Project, FRK, HUL & AdM Group 2			Rest exam	Certificate Diploma ceremony										
after 16.00																	Evening program											
	wk13 - Module 4							wk14 - Module 4							wk15 - Module 4							wk16 - Module 4						
	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun	Mon	Tue	Wed	Thu	Fri	Sat	Sun
	SAIO safety training (Between 21st and 25th September 2017)							Practical / Training / Trainee period																				

Reedijk, Goedhart, v Sijp, Schiphorst, Brouwer (Nova College)  
 Rob van Ree  
 Hulbert-Jan Lekkerkerk  
 Johan Slam or Guus Verhagen  
 Piet de Jong  
 Fred Knif  
 Herman Hulstema  
 Peter v Os / Rinus Koelman  
 Axel de Meijer, Robert van Lil, Seger vd Breuk  
 Cees Laban & Jan van Dalisen  
 Ebelien van der Velde ( OPS )  
 Ed Esser & Johan van Schaak  
 George Spoelstra (ESRI)  
 guest lecturer Sondaryne  
 Ester Grootjans (Gaz de France)



**Exams:**  
 Basic-1  
 Basic-2 (part of E5)  
 Basic-3 (part 1)  
 Basic-3 (part 2)  
 Basic-4  
 Essential-1  
 Essential-2  
 Essential-3  
 Essential-4  
 Essential-5  
 Essential-6  
 Essential-7

**Date:**  
 15-sep-17 Mathematics  
 24-nov-17 ICT  
 21-sep-17 Physics 1  
 28-sep-17 Physics 2  
 25-sep-17 Mnautical Science  
 26-okt-17 Bathymetry  
 19-okt-17 Water levels, flows and tides  
 8-nov-17 Positioning  
 14-nov-17 Hydrographic Practice  
 24-nov-17 Hydrographic data (GPS)  
 1-nov-17 Environmental Science  
 19-okt-17 Legal Aspects

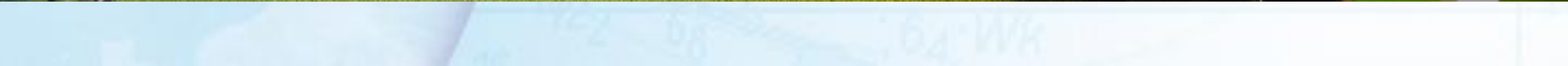
**Workshops**  
 Port of Rotterdam  
 Royal Dutch Navy  
 Stema  
 workshop meteo  
 iBlue  
 workshop ESRI  
 Teledyne Reson  
 Pentius  
 VanOord & Boskalis  
 Oceanwise  
 VanOord workshop  
 RWS Northsea  
 Caris - Dredging museum  
**Survey Project**

**Date:**  
 13-sep-17  
 19-sep-17  
 21-sep-17  
 22-sep-17  
 28-sep-17  
 29-sep-17  
 19-okt-17  
 26-okt-17  
 1-nov-17  
 6-nov-17  
 14-nov-17  
 17-nov-17  
 16-nov-17  
 16-nov-17  
 19-nov-17



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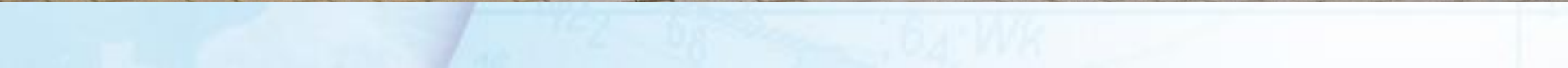














MARITIEME ACADEMIE HOLLAND

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# 12 weeks theoretical training

- The inclusion of e-learning created option to add new technology to the Basic modules
  - GIS (in cooperation with ESRI and Ocean Wise)
  - Fault finding (Kongsberg and ITC )
- QPS training including certificate (online - and processing)
- The course includes a concise Educational Survey Project

# Field Training Project



- After completion of the 12-week theoretical course in IJmuiden, the student needs to gain at least 4 weeks experience in a fully supervised Field Training Project in a qualified survey organisation
- Qualified Assessor and Skilltrade Verifier
- FTP-Task book
- FTP reflects the level of knowledge outlined in the Skilltrade-Nova College Category B syllabus
- After successful completion of this project the student is awarded the FIG/IHO/ICA Certificate of Programme completion.

# Field Proficiency Period



- After successful completion of the FTP, the candidate may join a max. 3-year Field Experience phase to consolidate hydrographic knowledge and to obtain the necessary practical experience as a hydrographic surveyor.
- Field Experience should accumulate to a total of 365 operational days, that are logged in a Task book.
- After successful completion of Field Experience the student is awarded the FIG/IHO/ICA Certificate of Field Proficiency.
- Equals IMCA grade I Senior Surveyor

# Certificates



After successful completion of 12 week theoretical training in The Netherlands

**QINSy Online Certificate**

**Skilltrade Certificate of Education**

After completion of Field Training Project

**FIG/IHO/ICA Cert. of Course Completion**

After completion of Field Proficiency Period

**FIG/IHO/ICA Cert. of Field Proficiency**

# Results



Up to and including June 2019 (23 <sup>rd</sup> Class)		
Number of students	196	100%
Failed and/or stopped	21	10,7%
Skilltrade Cert. of Education	175	89,3%
FIG/IHO/ICA Cert. of Programme Completion	154	78,6%
FIG/IHO/ICA Cert. of Field Proficiency	69	35,2%



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## Future developments

- MOU signed with university of : Halifax and AAST in Alexandria, Egypt
- Cooperation with Geo – ICT (HND education for Land surveyors via E Learning)
- Involved with webinars to introduce Hydrography profession
- Cooperation with Maritime Institute Willem Barentsz to provide a CAT A in English (in progress)

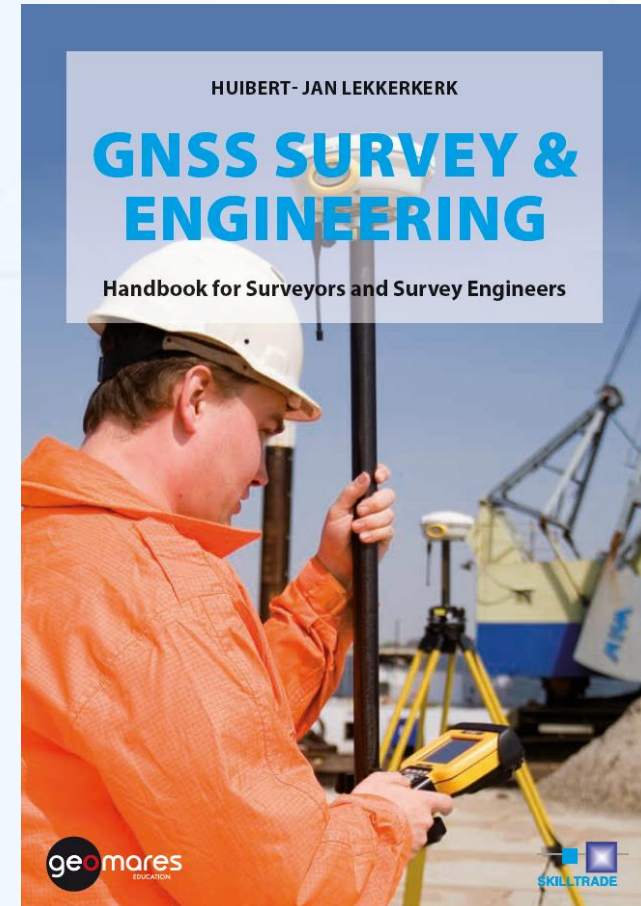


# Publications

- New book GNSS Survey & Engineering.
- Updated Handbook of Offshore Surveying



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“Since being accepted, both my theoretical and practical knowledge has developed considerably, with many opportunities to progress”



**BIBBY**   
**OFFSHORE**  
because we love this business'

After graduation: “The candidate is then considered to be Graduate level and is ready and prepared for a full-time role“



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# SKILLTRADE

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