

Skilltrade Hydrography Training

**From starters entry
to certified Surveyor**

Skilltrade “brief” history

- Start in 2000 as part of DOOR agency
- To make use of existing “freelancers” knowledge within “DOOR”.
- Re-start in 2007 to certify “Hydrographic Surveyor”
- Accredited in 2008 by IHO for “Hydrographic Survey Category B” including Offshore - and Coastal management
- To improve local content and train at client’s location



Curriculum Hydrographic Survey Category “B” schedule

- Commercial driven within 12 weeks
- To allow international students on 90 days visa
- Scheme with basic and essential competences as defined by FIG / IMO / ICA international Advisory Board on Standards
- Includes workshop visits and a practical project
- Great support by Dutch Industry – no subsistence
- 14 different instructors (Consultants) industry related

Dutch Industry support

- Rijkswaterstaat – vessel at open sea for two full days
- Van Oord workshop visit (handling of logistic)
- QPS software training – basic in 5 days
- Sonardyne – Acoustic Positioning lecture
- N Sea Survey – processing errors
- Periplus – archeological survey explanation
- Teledyne Reson – single and multi-beam
- Veripos and Trimble – education support
- Boskalis & van Oord – visit a dredging project
- Noble Drilling – rig move details
- To implement and understand various aspect of Hydrography

Curriculum IHO Course “Category B”

A program which provides a practical comprehension of hydrographic surveying for

	course wk01							course wk02							course wk03						
	20-jan-14 Mon	Tue	Wed	Thu	Fri	Sat	Sun	27-jan-14 Mon	Tue	Wed	Thu	Fri	Sat	Sun	3-feb-14 Mon	Tue	Wed	Thu	Fri	Sat	Sun
Morning	Mathematics	Mathematics	Mathematics	Mathematics	Mathematics			Nautical	Nautical	Nautical	Nautical	Physics			Physics	Applied Survey Maths	Exam - B3 (part 1)	Types of Hydrographic Surveys	practical exercise (tide level & positioning)		
Afternoon	Physics	Physics	Physics	Nautical	Nautical			Physics	Physics								Tides	Port of R'dam			
after 16:00																			Evening program		
	course wk04							course wk05							course wk06						
	10-feb-14 Mon	Tue	Wed	Thu	Fri	Sat	Sun	17-feb-14 Mon	Tue	Wed	Thu	Fri	Sat	Sun	24-feb-14 Mon	Tue	Wed	Thu	Fri	Sat	Sun
Morning	Meteo Consult	Exam - B1	Waves, Streams and Currents	Theory of Errors & Geodesy	Geodesy			Underwater acoustics & Singlebeam	Law of the Sea	workshop - Van Oord & Boskalis	Physics	Physics			Tides	Exam - B3 (part 2)	ICT - Databases & GIS	ICT - Networking	Multibeam Echo - sounder		
Afternoon	workshop - STEMA	practical - knots / splicing														Teledyne Reson	Workshop Porpoise				
after 16:00								Exam - B4												1st Course evaluation	
	course wk07							course wk08							course wk09						
	3-mrt-14 Mon	Tue	Wed	Thu	Fri	Sat	Sun	10-mrt-14 Mon	Tue	Wed	Thu	Fri	Sat	Sun	17-mrt-14 Mon	Tue	Wed	Thu	Fri	Sat	Sun
Morning	Environmental Science	Acoustic Positioning (Atlas Service Guest speaker)	Side Scan Sonar	Exams - E2 & E7	Horizontal Positioning - GPS			Horizontal Positioning (LMK theory And calculations)			Exam - E1	Earth Science	Horizontal Positioning - GPS - practical		Online Survey software (QPS)	Online Survey software	Online Survey software	Software - Exam E5 (QPS)			
Afternoon				Hydrographic Service					Gyro, Pitch & Roll E3							Workshop tBlue			Exam-E6		
after 16:00																					
	course wk10							course wk11							course wk12						
	24-mrt-14 Mon	Tue	Wed	Thu	Fri	Sat	Sun	31-mrt-14 Mon	Tue	Wed	Thu	Fri	Sat	Sun	7-apr-14 Mon	Tue	Wed	Thu	Fri	Sat	Sun
Morning	Practical - Horizontal Control	Horizontal Control - calculations	Hydrographic Specifications & project preparation	Practical - soldering & fault finding & data telemetry	Survey for dredging Ops, Interp. and Volume calc			Pipeline and Cable Operations & ROV	Rigs, Platforms, Drilling Terminology	Exam E-4	Survey Project Singlebeam & Multibeam			RWS					Certificate - Diploma ceremony		
Afternoon		Exam - E3								VanOord workshop					Survey Project Singlebeam & Multibeam			Survey Project - Processing & Reporting	Logbooks & 2nd Course Evaluation		
after 16:00																					
	wk13 - Module-4					wk14 - Module-4					wk15 - Module-4					wk16 - Module-4					
	14-apr-14 Mon	Tue	Wed	Thu	Fri	21-apr-14 Mon	Tue	Wed	Thu	Fri	28-apr-14 Mon	Tue	Wed	Thu	Fri	5-mei-14 Mon	Tue	Wed	Thu	Fri	
	SAIO safety training (Before 20th January?)										Practical / Training / Trainee period										

International Category “B” students

- Marketing is vital for every success, however a word of mouth is better in our industry
- Since 2007 we have Global Marine as client
- Since 2008 we have Swedish Navy as client
- Since 2010 we have Nigerian Port as client
- Since 2012 supported IMO Africa due to new lay-out of Shipping Channel East Africa (8 countries)
- Since 2013 we have Port of Basra as client
- 2014 more interest from the Middle East

New Energy developments

- New markets need people either onshore or offshore; Hydrography perfect background
- Renewable energy: Windmills parks, tide turbines installation and wave power
- GIS is now a common subject
- A trend is new smaller “local” survey companies



“Educated” surveyors

- New Technologies will attract new Surveyors
- Category “A”
- MSc for interpretations and reporting (geology, geophysics)
- Processing with more data
- Electronics Engineer – multi task
- All to take part still at the spot (offshore)
- Make use of competence records

Intake Assessment form for Hydrographic Survey



In addition to your CV please complete the general and specific questionnaire below, which is aimed at assessing your level of relevant survey experience. By filling out this form you declare that, to the best of your knowledge and belief, the provided information is true, correct and complete.

Upon completion email to: info@skilltrade.nl

Each question should be answered in one of the following categories where “A” refers to not familiar / Novice to “E” Familiar / Expert

A	Not familiar	Novice
B	Familiar, never used / operated	Familiar with Industry
C	Familiar, occasionally used / operated	Knowledge of Industry
D	Familiar, regularly used / operated	Working in Industry
E	Familiar, expert user / operator	Expert

	A	B	C	D	E
Bathymetry					
B1 Acoustic fundamentals					
B2 Acoustic propagation losses					
B3 Acoustic velocity					
B4 Ray tracing					
B5 Acoustic noise					
B6 Transducers					
B7 Recording					
B8 Sounder calibration					
B9 Sounding reduction					
B10 Sounding accuracy					
B11 Acoustic sweeps					
B12 System selection					
B13 Side scan systems					
B14 Side scan data interpretation					
B15 Multibeam transducers					
B16 Multibeam coverage and accuracy					
B17 Multibeam calibration					
B18 Multibeam data management					
B19 Laser bathymetry					
B20 Remote sensing bathymetry					
B21 Mechanical techniques					
B22 Inspection techniques					
B23 Single beam sounder					

Re-training is an investment

- Introduction Hydrography 2 Days 30-50 applicants a year
- We are successfully training Engineers who are dealing indirectly with Survey – Saipem Milan (Advanced Introduction Hydrography of 5 days)
- Understanding of survey procedures in tender documents for Design and Route -Engineers (Seaway Heavy Lifting)
- Awareness of survey for ROV personnel and junior surveyors (Bourbon Offshore, Italy)
- Training of electrical engineers as multi-functional provides more background info (Allseas & SS7)
- Two weeks course [Morphology for NPA, Nigeria](#)
- Be aware 50% of Hydrography personnel is education so 50% is coming in via other channels

Education support

- To make information available by training by experienced field related instructors.
- Industry is considering HNC /HND module
- To support the industry with “Handbooks of Offshore Surveying”
- Competence - IMCA driven
- E-learning also in Hydrography



Logbook registration



- The CAT B certificate is obtained after a successful result of exams
- The Diploma is obtained after a period of two years to fill in a logbook as IMO requirement for “ Officers” and IMCA required for Grade 1
- The logbook shows a weekly activity report, monthly report and survey equipment explanation
- Skilltrade support and record the logbook during the two years period
- All results of exams and logbook remains in their archive for inspection by IHO

New Developments

- Skilltrade introduce: Distance learning
- Based on Modules system - per subject
- Available now: Bathymetry Module
- Supported by our Handbooks
- Supported by tele conference and reply by email
- Closed with an exam via coördinator
- GPS and Positioning next in March 2014
- More information through our [website](#)

Survey Engineers

- They have a multi-functional task
- They had an education intensively -mostly BSc
- To train surveyors or ROV Pilots to become an electronic Engineer shortly is not the idea
- We introduce “Fault Finding and Interface problems based on competence level
- How to report a problem if you’r offshore

Costs and results

- Skilltrade an independent source
- Can cooperate with Maritime Institutes
- Report to clients about applicant level
- CAT B € 205 / lecture / day, exclusive accommodation, travel includes local travel to workshops
- Market or client driven as technology moves on
- Results reported to IHO yearly
- IHO Accreditation every 6 years

Our view and conclusion

- This profession provides different approaches
- ECDIS requires certified Hydrographic personnel
- Next to manufacturing training principles remain key to success
- To assist governmental bodies to upgrade their staff
- Improve level of interest from starters to Project Managers
- A worthwhile investment in a local or international environment as a must for our industry

Excursion - Port of Rotterdam





SKILLTRADE

Meteo Consult



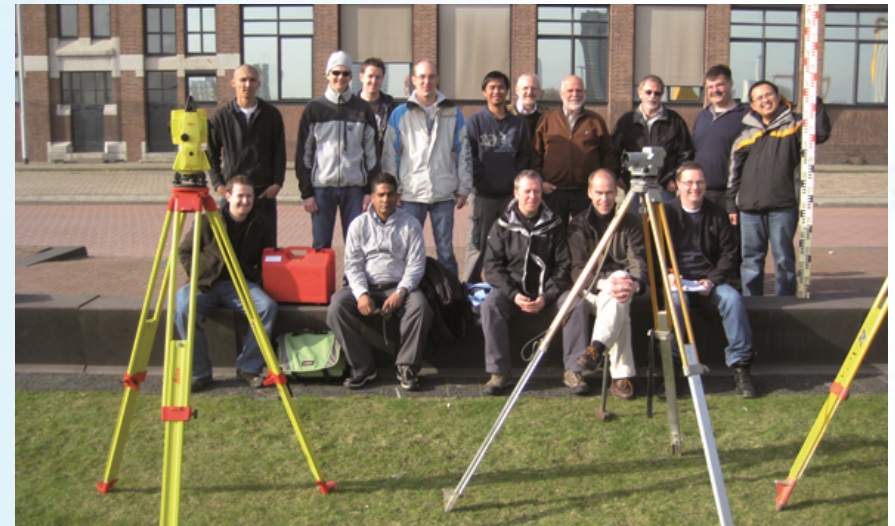
Teledyne Reson - Lecture



Hydrographic Service at Royal Dutch Navy



Horizontal Positioning - LMK





Practical – Soldering & Fault Finding & data telemetry





SKILLTRADE

Survey Project – Singlebeam & Multibeam





Dutch Ministry of Infra-structure and the Environment





SKILLTRADE

Survey Project Singlebeam & Multibeam



Nigerian Port Authorities

NPA wants to initiate a Company Specific hands-on training for 6-8 delegates to be hosted in Rotterdam & facilitated by Skilltrade.

I propose the course title as:

MORPHOLOGICAL & HYDRODYNAMIC MEASUREMENT TECHNIQUES, PROCESSING & REPORTING.

- The course contents shall include the composite of morphological & hydrodynamic measurements (turbidity, tide, temperature, salinity, seabed sampling/coring of <12m, sub-bottom profiling).
- Practical of above equipment

