V INSTITUTE OF ADVANCED STUDIES

LEARN HYDROGRAPHIC SURVEY

This course is intended for candidates working in hydrographic surveying in the marine oil and gas industry, coastal and port development, hydrographic services, and offshore construction to upgrade their skills, and to those seeking careers in these areas. The course provides the students practical knowledge and hands-on training in the application of techniques of hydrographic surveying and develops the essential skills required to carry out the various operational tasks in hydrography.

In just one year, an undergraduate student without any technical background is trained in Geoinformatics (from fundamentals to the most advanced Total Station & Real Time Kinematic DGPS Survey) and Hydrographic (Marine) Survey /Quantity Survey to become a competent professional for jobs in India and abroad with a high earning potential.

Course Content

History and importance of hydrographic surveying; tides and water currents; coast lining; positioning (horizontal and vertical controls); laws of sea; sonar theory and acoustic sensor fundamentals; echo sounder and sounding methods; sea-floor classification and feature detection; topographic surveying; dredging; survey planning; survey data processing; and final chart preparation; DTM and DEM; electronic navigational charts, and raster navigational charts, volume calculation from hydrographic survey charts; volume calculation for dredging; topographic information; bathymetric information; project work.

What is Hydrographic Survey?

It is the process of gathering information about water bodies such as rivers, lakes, seas and oceans. The purpose of collecting the information is to enable safe navigation of vessels such as ships and for the construction of marine structures like ports, harbours, light houses and installation of structures for oil exploration, drilling, cable communication, etc.

How is Hydrographic Survey conducted?

In hydrographic survey investigations, observations of depth of water, water current and sea bed sample collection are some of the key activities performed. The results of these investigations are presented in the form of a hydrographic chart. These charts provide the information on depth of water at various points, contours showing spot height, ocean current, analysis of sea bed samples and similar data.

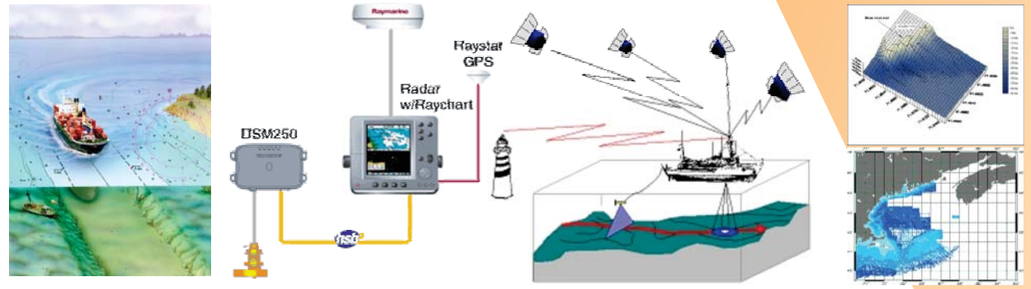
Hydrographic Survey equipment & methodology

Hydrographic survey investigations, require the following equipment:

Echosounders to determine the depth of water at any given location using ultrasound waves.

GPS Receivers to determine accurately the positron of sea bed features using the NAVSTAR Global Positioning System.

Automatic Tide Gauge and a Laptop Computer to run a Hydrographic Survey software application and processing the collected data.



For Whom

ITI Surveyors
Diploma, B.Tech
Experienced Professionals with Knowledge in Total Station

Entry Levels

5

Course Plan

Students should complete Levels 1 to 4 (as described on Page 5) before they can qualify to take this course

Advanced Hydrographic Survey using Single BeamEchosounders, DGPS, Data Acquisition & Processing Software
Project Work
M13, M14, M15, M16, P3
(6-8 Weeks)

Professional in Hydrographic Survey

LIVE PROJECTS

The curriculum provides extensive opportunities for the students to acquire practical knowledge and hands-on training through live projects arranged by the Institute.

Total Station

Quantity Survey

Hydrographic Survey

GPS Survey