V INSTITUTE
OF ADVANCED STUDIES

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Win at V Institute

V INSTITUTE
OF ADVANCED STUDIES

Helping students build careers since 1941

Course Bulletin 2016

New Futures...
New Opportunities

GUIDING STUDENTS TO THEIR CAREER DESTINATIONS SINCE 1941

A little history...

1941. India had not won her independence yet; it was still a dream for the national leaders. But a little known man, in a lesser known State too had a dream.

SHRI V E ISAAC
FOUNDER, V INSTITUTE

Shri. V E Isaac's dream was to build an educational institution of excellence that would stand the test of time and empower the younger generation to build a great nation. Thus was born V Institute, an institution that had later become a beacon of hope for several thousands of aspiring youngsters aiming for a bright future.

70th Anniversary, 2011

Hon'ble Minister for Labour, Government of Kerala, Sri Baby John, inaugurating the 70th Anniversary Celebrations of V Institute

Win at V Institute

Welcome from the head of the Institute

V INSTITUTE
OF ADVANCED STUDIES

Welcome to the V Institute where we offer technical education in a wide range of innovative disciplines. The courses offered at our Institute were developed in response to industry needs in exciting niche areas of Land, GPS and Marine Surveying, Quantity Surveying and a set of basic courses recognised by the Government.

Choosing a course is not an easy task and we have put together this brochure to assist you with your choice. This brochure introduces to you the courses we offer, outline what you would be studying, and give you an idea of what career opportunities exist in the different areas of specialisation.

Our mission is to impart the best form of technical skills development , supported by competent staff and well equipped labs that would enable you to build a future for yourselves.

We strive to maintain world-class quality in everything we do. Our facilities and our training methodologies conform to the best standards. We are an ISO 9000 certified training institution.

Over the years, we have helped thousands of students secure high profile technical jobs within the country as well as abroad.

We continue in our quest in adapting to the needs of students and enabling them to pursue their chosen careers and a bright future.

Isaac Mathew, BSc (Engg.)
Director

New Futures. New Directions.

The V Institute is a dynamic and modern academic institution which has earned a reputation for excellence in technical training and student satisfaction since 1941.

Our courses start from basic ITI courses to highly advanced and sophisticated survey courses. Since inception, we have secured several firsts in the field of technical education. For instance, V Institute is the only institution in the country that offers courses and hands-on experience in land, aerial and marine survey. We are, in fact, the first in the country to have started a course in marine surveying.

We continuously upgrade our courses as well as methodologies with a mission to deliver the best form of technical training to our students.

THE ONLY INSTITUTION IN THE COUNTRY WHICH OFFERS COURSES IN LAND, GPS AND HYDROGRAPHIC SURVEY

ISO 9001 CERTIFICATION™ Intertek
UKAS MANAGEMENT SYSTEMS 014

V Institute is an ISO 9001:2008 certified institution

WHY CHOOSE V INSTITUTE?

1

A standing of 75 years delivering excellence in technical education for more than 100,000 students.

The Institute prides itself on the caring attitude of the staff who give the students the extra support and attention they need to succeed.

Since 1941, the Institute has helped several students secure jobs in India and abroad earning five-figure salaries in various fields of activity. Take a look at the alumni page of this brochure to know more about the successful students who have passed out of this Institution.

2

A wide range of technical courses to choose from

V Institute course offerings include advanced surveying using GPS, hydrographic surveying, Quantity Surveying, and a host of Government recognised courses such as the ITI and KGCE Courses.

The Institute's flexible, interdisciplinary outlook offers you the flexibility to select the best combination of courses that would help you fulfil your career objectives.

3

ISO certified Quality Training

V Institute is an ISO 9001:2008 certified institution

The labs and classrooms are fitted with the latest training tools and equipment from leaders in the trade. The Institute is the only institution in Kerala with a software lab equipped with a 10-user LisCAD, a10-user AutoPlotter and a 10-user Road Estimator.

Former Minister for Labour, Government of Kerala, Sri P K Gurudasan, handing over the ISO Certificate to Smt Aleykutty Mathew, Director, V Institute of Advanced Studies.

4

Most comprehensive Survey Courses in the country

V Institute is the only institution in the country offering such a comprehensive range of Survey courses including Quantity Survey, GPS, and Hydrographic Survey.

- **Placement assistance**
- **Fees concession for children of past students**
- **Flexible timings and duration for students who need to complete courses in restricted time-frames**
- **Special packages for individuals committed on self-employment**

V INSTITUTE OF ADVANCED STUDIES

V Institute offers a wide range of courses recognised by the Central and State Governments in various technical areas which have tremendous potential in the job market. This chart will help you find the right course that matches your requirement.

In addition to these base courses, the Institute also offers a set of advanced job-oriented courses, which are ISO certified.

CHOOSE A COURSE! BUILD A SUCCESSFUL CAREER

ISO 9001:2008 Certified Advanced Courses

- Diploma in Advanced Surveying using Total Station (Level I)
- Diploma in Advanced Surveying using Total Station (Level II)
- Diploma in Advanced Surveying using Total Station (Level III)
- Diploma in DGPS (Level IV)
- Diploma in Hydrographic Survey
- Advanced Diploma in Modern Survey Technology (Crash Course)
- Diploma in AutoCAD
- Diploma in Quantity Survey(Level I)
- Advanced Diploma in Quantity Survey (Level II)
- Diploma in Building Technology with AutoCAD

ITI Courses

Affiliated to the National Council for Vocational Training (NCVT), Ministry of Labour & Employment, Government of India.

Eligibility: SSLC or above
Duration: 2 years

- Draughtsman Civil
- Electrician
- Surveyor (one year)

KGCE Courses

Recognised by Department of Technical Education, Government of Kerala

Eligibility: SSLC or above
Duration: 2 years

- Civil Engineering
- Electrical Engineering
- Mechanical Engineering
- Automobile Engineering
- Refrigeration & Air Conditioning Engineering
- Electronics & Communication Engineering

Advanced Courses

Diploma in Advanced Surveying using Total Station
Learn surveying using the latest Digital Total Station
Page 5

Diploma in DGPS
Learn DGPS using the latest RTK System
Page 9

Diploma in Hydrographic Survey
Learn Hydrographic Survey
Page 10

Diploma in Quantity Survey

Advanced Diploma in Quantity Survey
Page 12

Advanced Diploma in Modern Surveying Technology
Total Station, GPS, Hydrographic Survey, LisCAD, AutoPlotter, Road Estimator and execute a Project work independently.
Page 14

COURSE MODULES

M1 Fundamentals of Surveying
Principles of land survey. Training in handling basic survey instruments.

M2 Chain Survey
Linear survey methods. Measurement with the aid of chain and cross-staff. Preparation of sketches.

M3 Using Prismatic Compass
Principles and use of prismatic compass, cardinal directions, magnetic bearings, deviation of the north indicated by compasses, the scope and accuracy in compass surveying.

M4 Plane Table Survey
Principles and use of a Plane Table for producing an on-site drawing.

M5 Dumpy Level
Principles and use of a Dumpy Level in surveying and building to transfer, measure, and set horizontal levels.

M6 Theodolite
Principles and use of a Theodolite for measuring both horizontal and vertical angles, in surveying and engineering work.

M7 Auto Level
Principles and use of an Auto Level in determining differences in height between two or more points, altitude and elevation.

M8 Digital Level
A digital level is used where multiple levellings are needed. The staff and distance readings are displayed digitally and so the output is error-free.

M9 Distomat
A distomat is used for electronic distance measurement (EDM). Students are trained to measure distances using the Distomat as well as the hand-held laser version which is mostly used for indoor measurements.

M10 Digital Theodolite
Digital Theodolite uses opto-electronic scanning to determine absolute angle measurements. Students are trained to measure horizontal angle, vertical angle, percentage slope and compute values using the instrument.

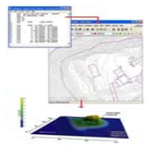
M11 Total Station
A Total Station consists of a theodolite with a built-in distance meter that can measure angles and distances simul-taneously. Students are trained on using the Total Stations for following applications: Surveying, area (plan), free station surveys, tie distance, remote height, computations (COGO), longitudinal and traverse profiles, contour map, cut & fill volumes, staking out, cross section, reference line, road programmes.

M12 Advanced Surveying using GPS

Compared to Total Station, GPS surveying offers the advantage that the points to be measured do not have to be mutually visible. Students are given an over view of GPS techniques and adequate exposure in the following areas using GPS: Control survey, static survey, mapping survey, stake-out, applied on network RTK, electrical wire survey, and road survey.

M16 Hydrographic Surveying
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.

S1 LisCAD
LisCAD is a software for the Engineer and Surveyor. Data from virtually any surveying instrument can be imported and turned into finished plans easily using LisCAD.The data base is designed to specifically support surveying and engineering tasks.



S2 Auto Plotter
Auto Plotter converts the entire field data collected by the surveyor to a finished map or drawing.

S3 Road Estimator
Road Estimator is a specialty software designed for Surveyors and Engineers for the computation of earthwork on cut and fill situations in a new road alignment, quickly and easily. Computation of other items such as WBM, and Black-topping can also be made using the Road Estimator software.

V INSTITUTE OF ADVANCED STUDIES

PROFESSIONAL COURSE IN
ADVANCED SURVEYING LEVEL 1 , 2, 3, 4

This is one of the most popular courses offered at V Institute, which trains the student to become a high quality professional surveyor equipped to handle state-of-the-art instruments and software applications. The course is so structured as to enable the students to enter the course at different levels depending on the basic educational qualifications attained by them.

For Whom	Entry Levels	Course Plan
SSLC/VHSE Plus 2 or Graduates	1	Surveying using Conventional Instruments **M1, M2, M3, M4** 1-2 Weeks
ITI Diploma Certificate holders in Chain Survey	2	Level and Theodolite Survey **M5, M6, M7** 2-3 Weeks
		Surveying using Modern Survey Instruments **M8, M9, M10** 2-3 Weeks
ITI Surveyors Diploma, B.Tech Experienced Professionals in India & abroad	3	Advance Survey with Total Station **M11** 3 Weeks → Downloading and Processing using survey softwares / Project work **S1, S2, S3, P1** 1 week → **Professional in Total Station Survey**
ITI Surveyors Diploma, B.Tech Experienced Professionals with knowledge in Total Station	4	Advanced Satellite Survey using DGPS & Software **M12, S4, P2** 2-4 Weeks → **DGPS Surveyor**

Course Path

SSLC/VHSE/Plus 2/Graduates	1–2–3	would lead to a Professional Total Station Surveyor
ITI, KGCE Chain Surveys	2–3	
ITI Surveyors/Diploma/B.Tech/Experienced professionals	3	
ITI Surveyors/Diploma/B.Tech/Knowledge in Total Station	4	would lead to a Professional GPS Surveyor
ITI Diploma/BTech (Ref Page 14)	1–2–3–4	would lead to a Professional in Modern Surveying Technology

LEARN SURVEYING USING THE LATEST
DIGITAL TOTAL STATION

This course is designed to prepare the students to handle sophisticated state-of-the-art survey equipment and to execute large survey projects. Knowledge in using Total Station offers careers in the following segments where total Station finds application:

Surveying: Survey and Land records (Field measurement book from 1970/digitization; Resurvey; Land acquisition)

PWD/other Civil Organizations: Levelling; Best fit alignment for new roads; Cut/Fill calculations

Forestry: Plantation Survey; Extent of encroachment, etc.

Archaeological Survey: Preparing global archaeological map, 3D models etc.

Industries: Ship building; Alignment of shafts; Building blocks; Aviation; Alignment of main shaft of aircraft

Disaster Management: Landslides; Dam settings; Dam monitoring, etc.

Coastal Management: Maintaining coastal zone

Defence: Construction; Missile launching azimuth

Miscellaneous: Satellite-azimuth observation; Antenna erection, etc.

What is Total Station?

A Total Station consists of a theodolite with a built-in distance meter (distancer) that enables measurement of angles and distances at the same time.

Most electronic Total Stations today have an opto-electronic distance meter (EDM) and electronic angle scanner. The coded scales of the horizontal and vertical circles are scanned electronically, and then the angles and distances are displayed digitally. The horizontal distance, the height difference and the coordinates are calculated automatically and recorded.

Total stations are supplied with a software package that enables most survey tasks to be carried out easily, quickly and elegantly.

Total stations are used wherever the positions and heights of points, or merely their positions, need to be determined.

Course Content

Applications covered in the Course

- Surveying
- Free Station Surveys
- Tie distance
- Road Design & Stake out
- Area (Plan)
- Remote Height
- Staking out
- Computation (COGO)
- Reference Line
- Longitudinal & Traverse Profiles
- Contour Map
- Cross Section
- Cut and fill volumes
- LisCAD
- AutoPlotter
- Road Estimator

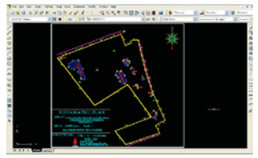
Major practical sessions covered in the Course based on overseas requirement

- Column alignments and column set-out (P1)
- Stake-out pile points with reference to existing structure (P2)
- Establishing new benchmarks and cross checking (P3)
- Lay out pipelines and marking inverted levels (P4)
- Lay out points for storage tanks (P5)
- Lay out transmission lines and bolt fixing (P6)
- Set out octagons, hexagons, circles, etc. (P7)
- Preparing Survey Reports to International Standards (P8)

APPLICATION PROGRAMMES USING
TOTAL STATION

Surveying

The measurement of an unlimited number of points is supported by the Surveying programme.



Free Station Surveys

This programme calculates the instrument station, along with the orientation of the horizontal circle, from measurements to at least two points, the co-ordinates, which are

Tie Distance

The application Tie Distance computes slope, distance, horizontal distance and azimuth of two target points measured on line, selected from the memory or entered using the keypad.

Road Design & Stake-out

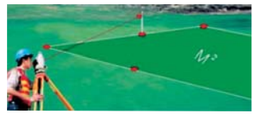
Uses straight line, Arc, Spiral and point to edit the plane and height design values of road. This function can conveniently decide the positions of mid line, border line and slope border according to the chainages on the road.

Reference Line

Facilitates easy setting out or checking of lines for buildings, straight sections of road, simple excavation etc.

Area (Plan)

Application Area (Plan) computes the area of a given plot automatically and display after the boundary points are entered sequentially in the clockwise direction.

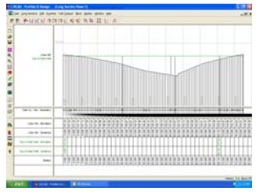


Remote Height

The height difference H between the ground point and the high point can be calculated at the touch of a button.

Profiles & Design

Longitudinal and traverses form the basis for the detailed planning and stake out of communication routes for the calculation of fill and for the best possible accommodation of the routes to the topography.



Staking Out

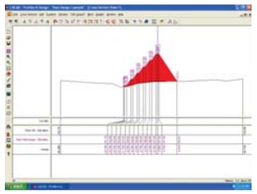
This programme calculates the required elements to stakeout points from coordinates or manually entered angles, horizontal distance and heights.

Computations (COGO)

Create and edit and examine points, lines, splines, polygons, text and alignments. The WYSIWYG graphics lets you know exactly where you are.

Cross Section

User can step through the cross sections along an alignment or go directly to a specific cross section.

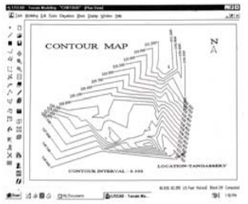


Cut & Fill Volumes

Calculate quantities to a base datum, or between surfaces. Additionally, height differences can also be calculated for evaluation or set-out on design projects.

Contour Map

User can prepare the contour map of a given area.



Major practical sessions conducted based on overseas requirements

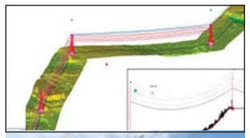
Column alignments and column set-out (P1)

Stake-out pile points with reference to existing structure (P2)

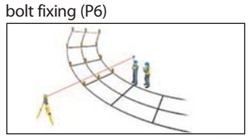
Establishing new benchmarks and cross checking (P3)

Layout pipelines and marking inverted levels (P4)

Layout points for storage tanks (P5)



Lay out transmission lines and bolt fixing (P6)



Set out octagons, circles, etc. (P7)

LEARN DGPS USING THE LATEST RTK SYSTEM

This course is designed to familiarize and provide a hands-on experience to the students on GPS-based surveying techniques. The course covers the following theory portions and extensive practical sessions.

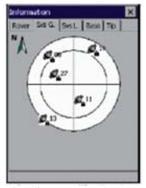
Theory

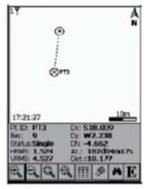
Introduction to GPS; GPS System Overview; Working principle of GPS; Satellite ranging and Position Calculation; GPS errors and their corrections; Differential Global Positioning System; Basic Geodetic Aspects; Surveying Using GPS; Static Surveys; Rapid Static Surveys; Kinematic Surveys; Real Time Kinematic Surveys; Processing of GPS survey data; Plotting of GPS survey data.

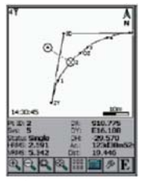
Practicals

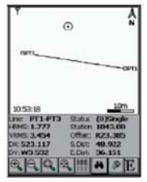
Receiver set up; Configuration of the receiver; Configuration of the terminal; Satellite tracking; Different parameters setting and Data storing; Localisation of WGS 84 Coordinates; Establishing stations and TBMs with reference to Survey of India BM (Control Points); Altitude; Stake out of the measured points and offsets; Self survey mode (absolute positioning); Static Surveys and rapid static surveys; Kinematic and RTK surveys; Post processing of surveyed data and exporting the data to AutoCAD; Topographic surveys using RTK mode and establishing control points using static mode; Precautions to be taken while using GPS receivers.

Typical Output derived from DGPS Surveying


Sky Plot


Stake out line


Stake out curve


Stake out line

What is GPS?

GPS stands for Global Positioning System. GPS is a satellite-based locating and navigating utility that determines a user's precise latitude, longitude and altitude by tracking signals from satellites. Depending on the type of receiver and certain other conditions, it is possible to achieve real-time position accuracies within meters or even centimetres, with position calculations several times per second.

Differential Global Positioning System (DGPS) is an enhancement to Global Positioning System that uses a network of fixed, ground-based reference stations to broadcast the difference between the positions indicated by the satellite systems and the known fixed positions.

DGPS is a fast growing technologically sophisticated field, with potential applications in many industries. The most common civilian applications are in land, air and marine navigation, and surveying. More recent applications include aircraft precision approach, robotics, IVHS (Intelligent Vehicle Highway Systems), construction, resource extraction, and geographic information systems (GIS).

Advantages of DGPS

- The relatively high positioning accuracies, from tens of metres down to the millimetre level.
- The capability of determining velocity and time, to an accuracy commensurate with position.
- The signals are available to users anywhere on the globe: in the air, on the ground, or at sea.
- Its is a positioning system with no user charges, and uses relatively low cost hardware.
- The position information is available in three dimensions, that is, vertical as well as horizontal information is provided.
- It is an all-weather system, available 24 hours a day.

DIFFERENT METHODS USED IN DGPS SURVEYING

There are several methods used in DGPS Surveying such as Real-time Kinematic Survey(RTK), Static Survey and Rapid Static Survey. Of the three, the most accurate and efficient system is the RTK. **Real Time Kinematic Survey** is a method that can offer positional accuracy in real time ±2cm. RTK requires dual frequency receivers, with a radio link between base station & rover and they both must tuned to the same frequency. **The GPS based survey courses offered at V Institute uses the RTK Survey System.**

- **Static Survey:** This was the first method of GPS Surveying used in the field and continues to be the primary technique today. It is widely used for control and geodetic survey .It involves long observation time(1-2 hours observation) depending on number of visible satellites.
- **Rapid Static Survey:** This method is used to measure base line and determine position up to cm accuracy with short observation time of about (5-20 minute observation time)The observation time depends on the length of base line and number of visible satellites. In rapid Static surveys ,a reference point is chosen and one or more rovers operate with respect to it .this method is used for detailing the existing network, establishing control points etc..It is similar to Static methods, but consists of short ended site occupation time.

APPLICATION PROGRAMMES USING GPS

Control survey

With static surveying function you can do high accuracy control survey and deformation, observation, cooperation with South post processing software. It ensures users to get high accuracy results and to complete kind of tasks, like coordinate conversion, data results, edit and output.

Mapping survey

Can quickly collect data and cooperates effectively with various surveying instruments to survey, such as total station. Powerful mapping software, which one can be, imported some graphics files, like Cass, to convenience the figure surveying and revision, the function of marked point, input and mapping range selecting can avoid repeated survey or lack of survey

Electric wire survey

This function is specially designed for the users in electric power sector. It can conveniently carry out power line selecting stake-out and data format convert, especially in some invisible areas such as mountains and hills. It offers three functions: road stake out, tower construction survey and stake out, electric wire reconnaissance. It can offer various tailored tools, and many types of files, especially the conversion of *.org file.

Applied on network RTK

Can connect with all kinds of network RTK. The network function not only realizes the RTK survey without base station, but also extends the working range. Thus improve the orientation accuracy and security.

Stake-out

Can conveniently make large-scale of Stake-out of point, line and curve, can record and check location at known point in real time, can control local quantity and ensure project quality.

Road survey

Engineering Star offers road survey and stake-out function, which can be applied on road design and stake-out, control points extension, peg survey, section design and stake-out.

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.

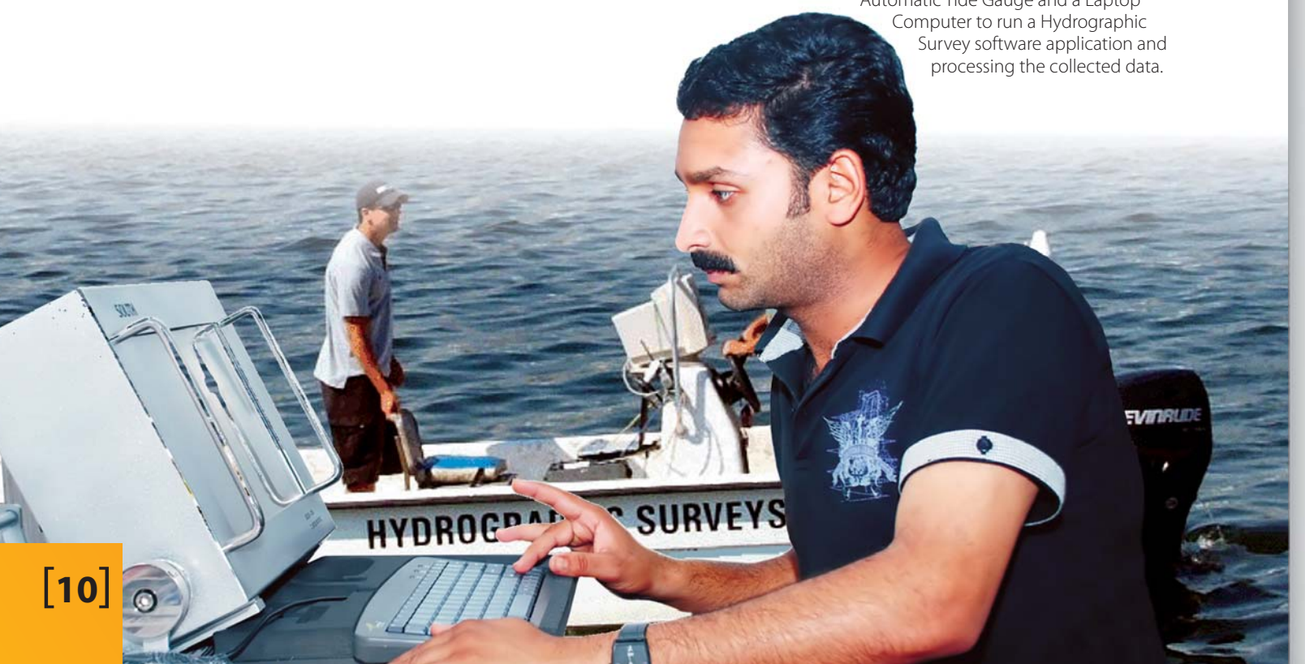
Hydrographic Survey equipment & methodology

Hydrographic survey investigations, require the following equipment:

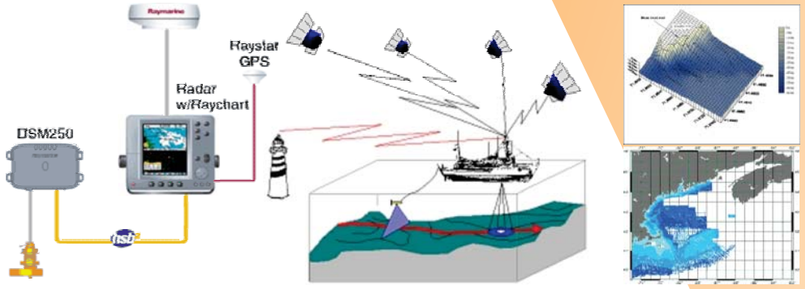
Echosounders to determine the depth of water at any given location using ultrasound waves.

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.



V INSTITUTE OF ADVANCED STUDIES



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

PROFESSIONAL COURSE IN
QUANTITY SURVEYING (LEVEL 1)

According to a report of the Associated Chambers of Commerce & Industry of India (ASSOCHAM), construction is projected to become $120-billion industry. Consequently there is a employment potential of over 90 million skilled people in various professions related to building construction and engineering. India is identified as a rich source of talent in these sectors.

It is in this context that V Institute has launched these courses to meet the projected needs of this booming industry.

We invite the young men and women of this country to train themselves in these areas and be prepared to fill the miilions of opportunities that would open up in a short period of time.

For Whom

B Tech*

Entry Level

1

Course Plan

Earthwork estimation
Q1

Building estimation including structural calculations of columns, beams, slabs, etc.
Q2

Minor bridges, highways, overhead water tanks.
Q3

Contract administration
Procurement & Tendering
Q4

FIDIC
Introduction, contracts, contractors, forms, etc.
Q5

Software Applications
Estima, Road Estimator and MS Excel
S6

Project Work
P4

Diploma in Quantity Survey

* Diploma holders and BTech students with back papers to complete are admitted based on merit.

Who is a Quantity Surveyor?

All construction projects have a cost and a budget. The project becomes efficient and profitable when the costs are managed efficiently.

It is in the management of the cost and budget that the role of the Quantity Surveyor becomes relevant and vital. From the moment a plan is drawn until the construction project has been completed, a quantity surveyor is likely to be involved in a legal, technical and financial capacity. He manages and control costs in construction projects which may involve use of a range of management procedures and technical tools to achieve this goal. He prepares standardised schedule of quantities of various works involved, construction materials needed and labour force required for accomplishing the projects. This enables the management to put the works on tender, pick up the builder who bid lowest price and to prepare bill of quantities and cost on completion.

The technique of measuring quantities from drawings, sketches and specification prepared by architects and engineers for the preparation of Tender/Contract documents is known as taking off. The quantities so taken are used to prepare bills of quantities which usually are in accordance with a published standard method of measurement (SMM).

Some career possibilities

With a qualification in quantity surveying, career possibilities include contracting or private quantity surveying, building surveying, construction management or consultancy, accountancy and financial services management or estate management.

International opportunities may also be possible within the field.

ADVANCED COURSE IN
QUANTITY SURVEYING (LEVEL 2)

This course is designed for students who hve already completed the basic course in Quantity Survey. The course includes all essential aspects of quantity surveying and covers the following topics:

- Construction Technology, Building Services, Piling
- Procurement Procedures: Construction procurement, contractor selection.
- Economics of Design and Cost Planning: Design issues, factors that influence the cost of building, introduction to value management , contract documentation and specifications, life cycle costing.
- Estimation and costing: Value engineering, value management.
- Contract administration: Contract administration and quality control, changing the contract, contract administration and time.
- Risk Management: Risk and certainty in estimating and tendering.

For Whom

B Tech

Quantity Survey Level 1

Entry Level

2

Course Plan

Construction Technology (Q6)
Building Services, Piling

Procurement Procedures (Q7)
Construction Procurement, Contractor Selection

Economics of Design and Cost Planning (Q8)
Design issues, factors that influence the cost of building, introduction to value management, managing pluralism, contract documentation and specifications, life cycle costing.

Estimation and Costing (Q9)
Value Engineering, Value Management

Contract Administration (Q10)
Contract administration and quality control, changing the contract, contract administration and time.

Risk Management (Q11)
Risk and certainty in estimating and tendering.

Project Work
P4

Advanced Diploma in Quantity Survey
(12 weeks)

* Diploma holders and BTech students with back papers to complete are admitted based on merit.

CRASH COURSE

PROFESSIONAL COURSE IN
MODERN SURVEYING TECHNOLOGY

This is a comprehensive course intended for candidates aspiring for a position in the Surveying industry. The course covers all aspects of surveying including new technologies and hands-on training and expertise in state-of-the-art survey equipment and gadgets. In a matter of three to four months, 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 Survey to become a competent professional for jobs in India and abroad with a high earning potential.

For Whom	Entry Levels	Course Plan
ITI Civil KGCE	1	Auto Level, Digital Level, Digital Theodolite **M7, M8, M9, M10** (1-2 Weeks)
ITI Diploma B.Tech	2	Total Station, Processing software (LisCAD, AutoPlotter, Road Estimator) Introduction to AutoCAD, Project work **M11, S1, S2, S3,P1** (2-4 Weeks) → **Professional in Total Station Survey**
Knowledge in Total Station/ Experienced Professionals	3	Real Time Kinematic (RTK) DGPS, GPS, Processing Software, Project Work **M12, S4, P2** (1-2 Weeks) → **Professional in GPS Survey**
Knowledge in Total Station/ GPS	4	Hydrographic Survey using Echosounder and RTK GPS Project Work (4 Weeks) **M13, M14, M15, M16, P3** → **Professional in Hydrographic Survey**
		Professional in Modern Surveying Technology

PROFESSIONAL COURSE IN
BUILDING TECHNOLOGY with **AutoCAD**

SSLC/VHSE Plus 2 or Graduates	1	Building Construction & Building Drawing **Q12**
ITI Diploma B.Tech	2	AutoCAD **S5** (6 Weeks) → **AutoCAD Professional**
		Diploma in Building Technology with AutoCAD

V INSTITUTE
OF ADVANCED STUDIES

THE INSTITUTE'S
CAPABILITIES

- State-of-the-art computer lab
- Experienced and dedicated faculty
- Proven course methodology

Professionally made application software have changed the way surveys and engineering processes are conducted today. They have made the work of surveying extremely efficient and have vastly widened the scope of the profession. V Institute is one of the first institutions to adopt the use of these applications in spite of its prohibitive cost and availability. But it has paid dividends in the form of creating a large talent pool of professional quality young men and women most of whom have secured highly paid jobs in India and abroad, particularly in the Gulf countries.

State-of-the-art Computer Lab

The computer lab at V institute is the only one in Kerala that has a 10-user licensed version of LisCAD, the most popular Surveying and Engineering software, installed for imparting training to the students.

Estima is another application software used in the industry for computing estimates by Quantity Surveyors. V Institute is now authorised to sell Estima in India as their distributors.

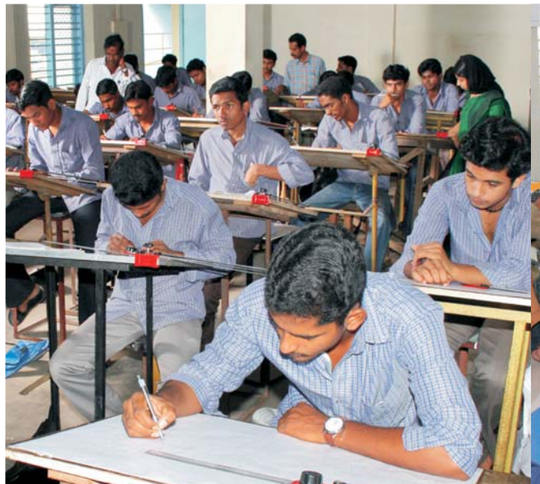
AutoCAD, AutoPlotter, Autodesk 3DSMax and Road Estimator are the other applications software which have been installed in the V Institute lab to provide hands-on training to the students.

Course Methodology

V Institute, after years of fine-tuning, have perfected a course methodology that has proven itself to be one of the most effective in technical training. The students spend extensive hours of hands-on training and field activity that they are fully conversant on all aspects of the subject to take on a challenging occupation when they complete the course at V Institute.

Experienced faculty

The faculty at V Institute comprise outstanding professionals who are committed to their task of imparting training to the students. They have years of experience in handling the various instruments as well as the nuances of the application software used for the training. Many of them are practising professional who share their time and experience with the students moulding them to quality professionals.



COURSE STRUCTURE

No.	Courses	Qualification	Duration	Fundamentals of Surveying	Chain Survey	Prismatic Compass	Plane Table	Dumpy Level	Theodolite	Auto Level	Digital Level	Distomat	Digital Theodolite	Total Station	Project Work-1	LisCAD	Auto Plotter	Road Estimator-1	RTK DGPS	GPS Software	Project Work-2	Introduction to GIS	Basic Geodacy	Digital Cartography	Hydrographic Survey	Project Work-3	AutoCAD	Earthwork Estimation	Building Estimation & Structural Calcul	Minor Bridge & Highways	Procurement & Tendering	FIDIC- Introduction	Road Estimator-2 & Estima Software	Project Work - 4	Construction Technology	Procurement Procedures	Economics of Design & Cost Planning	Estimation and Costing	Contract Administration	Risk Management	Building Construction & Building Drawing
			Course Modules	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	P1	S1	S2	S3	M12	S4	P2	M13	M14	M15	M16	P3	S5	Q1	Q2	Q3	Q4	Q5	S6	P4	Q6	Q7	Q8	Q9	Q10	Q11	Q12
1	Diploma in Advanced Surveying using Total Station (Entry Level - 1)	SSLC / Plus 2 Graduates (in any discipline)	12/14 Weeks	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●																								
2	Diploma in Advanced Surveying using Total Station (Entry Level - 2)	ITI (Civil / Chain Survey) KGCE Civil, etc	10/12 Weeks					●	●	●	●	●	●	●	●	●	●	●																								
3	Diploma in Advanced Surveying using Total Station (Entry Level - 3)	ITI(Sur) Dip/B. Tech or persons with prior experience	3/4 Weeks											●	●	●	●	●																								
4	Diploma in DGPS (Entry Level - 4)	Knowledge in Total Station	2/4 Weeks																●	●	●																					
5	Diploma in Hydrographic Survey (Entry Level - 5)	Knowledge in Total Station & GPS	8/10 Weeks																			●	●	●	●	●																
6	Diploma in Modern Surveying Technology	ITI /Dip/B. Tech KGCE	3/4 Months							●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●																
7	Diploma in AutoCAD	ITI/Dip/B.Tech	6 Weeks																								●														
8	Diploma in Quantity Survey (Entry Level - 1)	ITI Civil/Diploma B. Tech	6/8 Weeks																									●	●	●	●	●	●	●								
9	Advanced Diploma in Quantity Survey (Entry Level - 2)	ITI / Dip/ B. Tech Experienced Persons	12/16 Weeks																															●	●	●	●	●	●	●	●	●
10	Diploma in Building Technology with AutoCAD	VHSE, Plus 2 Graduates	6 Weeks																								●															●

Due to continuous development, the course structure might change without prior notice.

THE INSTITUTE'S
ALUMNI: OUR AMBASSADORS

Students of V Institute always tend to keep in touch with the institution and their teachers many years after they have left the institution and reached their desired destinations.

Here are a few of our students who have recently left the institution and doing well in their chosen fields of activity. We wish them years of fulfilling life and happiness.

Liyakkath Ali (TS)
Quantity Surveyor
IKK Group
K S A

Akhil M (TS)
Surveyor
Sree Dhanya
Trivandrum
Kerala

Shankar Ganesh (TS)
Surveyor
Arab Construction Co.
Muscat

Cibin Mathew Johan(TS)
Site Engineer
Vadassery Construction
Kottayam
Kerala

Nandu S (GPS
Asst. Surveyor
Ved Adms Co.
Abu Dhabi
UAE

Ajesh Kumar J (QS)
Site Superviser
Gulf East Co.
Qatar
Doha

Kiran Thomas (TS)
Trainee Surveyor
Government of Kerala
Hydrographic Survey
Port Wing
Trivandrum
Kerala

Legin Raj (QS)
Quantity Surveyor
Gulf Resources Co.
KSA

Krishnan Kutty (DGPS)
Survey Engineer
Ayesa Consultancy
Kadappa
Andhra Pradesh

Mathew P P(QS)
Site Engineer
Al-ameen Construction Co.
Sharjah
UAE

Prasoon C T (TS)
Site Engineer
GS1, Hyderabad

Akhil Dev (TS)
Surveyor
Cherian Varky & Co.
Ernakulam
Kerala

Pintu Kumar(TS)
Surveyor
Gulf Construction Co.
Abu Dhabi
UAE

Eldose joy (Hydro)
Trainee
CGO Service Pvt. Ltd.
Mumbai

Vishnu P Chandran (TS)
Surveyor
New Survey Construction
Munnar

Senthil Kumar (TS)
Surveyor
Construction Co.
Dubai
UAE

Magudapathi (TS)
Supervisor
Spinning Mill
Ramanathapuram
Tamil Nadu

Aghil Gopinath (QS)
Site Engineer
Mary Math Construction
Kochi
Kerala

Jaya Pradeep S (TS)
Supervisor
Travancore Devaswam
Board
Trivandrum
Kerala

Vaithilingam (TS)
Site Engineer
Curam Construction Co.
Oman

Vijesh K Vijayan(TS)
Site Engineer
Accex Construction Co.
Oman

Reji Varghese(DGPS)
Foreman
Arabian Project Co.
KSA

Muhammed Shijas (QS)
D'man
Khathara Gulf Co.
KSA

Viraj A R (TS)
Software Developer
Chartered Co.
Kochi
Kerala

Sarthak Choundhary
Civil Engineer
H C L Construction
Ranchi

Mathew John (TS)
Surveyor
Construction Co.
Singapore

Placement in India

- L&T, Chennai
- Good land Surveyors, Chennai
- Survey. com, Chennai,
- Jay group, Ernakulam
- Theoval Surveyors , Banglore
- Alpine Wineries, Karnataka
- ABM Civil ventures, Meridian, Ernakulam
- Bhageeratha Constructions, Ernakulam
- Nenith, Chennai
- Spread Survey Ernakulam
- Pentagon Survey, Bangalore
- Vision International and Mapping Company, Cochin
- Landmark, Cochin,
- Bhavana Constructions and Builders, Cochin
- Carmel Construction Company, Aluva
- Lekshman and Company, Kollam
- Techno Park , Trivandrum
- Tata Tea, Munnar
- Skyline Builders, Trivandrum

Placement in Other Countries

- KEC International
- Premiere International, Oman
- L&T Quarter Gas, Doha
- Yas-Al-Ahammed Tr. and Contracting LLC
- Global Essa Coating Est, Abhudabi
- Wadvadams, Dubai
- NCPC, Sharjah
- Al-Jabir Cont. LLC
- Prime Builders LLC
- Gulf Petro Chemicals
- Gulfar Cont.Co.
- EverSendai Eng. LLC, Sharjah
- Hiba Constructions, Jeddha
- Sal Sabin Muscat,
- Ever Sendai Eng LLC, Dubai
- Habalmuhary and Airayas Cont LLC, Dubai,
- Frico International LLC, Dubai
- Al-Darlain Gorouke, Abu Dhabi
- Power Line Gulf Construction, Dubai
- Al-Darlain Gorouke, UAE
- Khalid Bin Ahammed & Sons LLC, Muscat
- UCE, Doha
- Al-Hator Engg. Dubai
- Accurate Survey Sharjah
- Ducodallcor Betty, Dubai
- Erco Oman LLC,
- Al- Naboodha Cont. Co, Dubai,
- Khan Sheb Civil Engg. LLC, UAE
- Trags Electrical, Doha
- Global Survey Engg, UAE.

V INSTITUTE
OF ADVANCED STUDIES

INFUSING
INDUSTRY-READINESS

In keeping with the tradition of the Institution which is completing 75 years on a mission to nurture technical skills in young men and women and to fulfill a vital need for the country's development in the form of skilled human resources, we infuse industry-readiness in the students once they complete the courses.

The Institute engages the students in live projects where they can try out the knowledge they have acquired in their chosen discipline on real-life situations under the guidance of expert trainers. The students get to acquire hands-on experience and find expression to their native talents. This would make the transition from education to employment rather smooth.

Several corporates have come forward in support of this programme where they can coach the potential candidates outside of their establishments and bring them in when the need arises, ready to be put straight on the job.

SURVEYING INSTRUMENTS

The world class South Instruments and Systems are now available in India through V Geodesic Systems & Services, Kollam, a sister concern of V Institute.

The range of products available through V Geodesic Systems & Services include GPS Systems, Total Stations, Digital Theodolite, Auto Level, Collimator, Laser Level, Prism Systems and Accessories.

Total Station

- Solid body, handy edm, high accuracy
- Absolute encoding, initialization not needed
- Complete application programs menu customization
- Internal memory more than 100,000 points

Digital Theodolite

- Easy-to-use keypad
- Complete functions

Auto Level

- Excellent sealed structure for using in any weather I Exclusive closed magnetic field, magetically-dampened compensator
- Friction-braked rotation and endless horizontal drive

GPS

- Complete cable free design
- Built-in transmitting radio
- Advanced technology of data link
- Optimized 3-proof design
- Powerful application software

AUTHORISED SOUTH SURVEY INSTRUMENTS DEALER

Prisms and Accessories

- Single & Triple Prisms, Prism Poles & Bipods, Ranging Poles & Tripods, Prism Boxes.

First Collimator setup in Kerala for Calibration of Total Station

Survey instruments need to be continuously calibrated to ensure accuracy and reliability of their readings. This has to be performed by experts with the help of the appropriate instruments and techniques.

V Survey Instruments and Systems have a team of experts well trained to handle the calibration and servicing of any models of Total Stations,

Other Services

Corporate Training

- Total Station
- Digital Theodolite
- LisCAD Training
- One-day Training on the application of Total Station and GPS
- Estima Software
- AutoCAD Training

Job Work

- Land Survey, Area, Cut &Fill Volume Contour, Profile & Cross Section using Total Station and Digital Level
- Prepare plans using AutoCAD & estimates using Estima Software

Trained manpower

For projects in India and abroad.