



PROSPECTUS 2020

INSTITUTE OF SURVEYING & MAPPING,
DIYATALAWA



PROSPECTUS

2020

**Institute of Surveying
and Mapping
Diyatalawa
Sri Lanka**

MESSAGE FROM THE DIRECTOR - INSTITUTE OF SURVEYING AND MAPPING



As the Director/ Senior Deputy Surveyor General (Training) of the Institute of Surveying & Mapping, Diyatalawa (ISMD), I am privileged to introduce the Institute of Surveying and Mapping as the backbone of the Survey Department of Sri Lanka in producing qualified and professional surveyors to the country.

Institute of Surveying and Mapping is dedicated to have its services to the nation since its inception. The initiating idea of formal training for Surveyors was in the mind of Mr. G.Snider (1811-1833) when he was a Principal Surveyor in charge of Colombo district. He personally taught mathematics and astronomy for Apprentice Surveyors. The first formal training was started by Mr. W.C.S. Ingles on 19th October 1896. Those who successfully completed the training were offered the opportunity to either join Survey Department, as Apprentice Surveyors or to pass the Surveyor General's licensing exam and practice as Licensed Surveyors.

With the introduction of first tertiary education establishment in the country, the Maradana technical college, training of Surveyors was handed on to Maradana technical college in 1908. Surveyors trained at Maradana Technical College were provided a practical training at the Survey Department and recruited as Trainee Surveyors. However, this training process was found not up to standards and Surveyor General decided to have a Training School run by the Survey Department. As a result the Surveyor General's Training School was established in 1910 at uplands, Modara. As the building used as training school at Modara was in dilapidated condition, a new location had to be found out.

Finally, an ideal location was found for the training school, which was the deserted Boer war prisoner's camp located in Diyatalawa. Accordingly, the Surveyor General Mr. A.J. Wickwar ordered to start the Surveyor General's Training School in Diyatalawa on 1st March 1924. Over time, It was necessary to introduce new technologies such as Photogrammetry, Electromagnetic Distance Measurements, etc to improve survey standards. As a result, the Surveyor General's Training School was upgraded as Institute of Surveying and Mapping on 21st of February 1967 with the assistance of the United Nations Development Programme. Later Institute of Surveying and Mapping was incorporated under Parliamentary Act no. 21 of 1969.

With the rapid development of the Land Surveying, Geo Informatics, Satellite Positioning, Remote Sensing, Soft Photogrammetry and Geographic Information Systems. Commencement of a Bachelor Degree Course in Surveying was very much in demand. The Institute of Surveying & Mapping commenced the first Bachelor Degree Course in Surveying in the country empowered by the Gazette no. 620/4 issued by the Higher Education Ministry on 24th July 1990.

Institute of Surveying & Mapping has been serving to the nation as pioneering education in Geo-Informatics and Land Management. Our focal point is to be the best educational institute in Land Management and Geo-Informatics in the Asian region.

N.J.Wijenayake,
Director/ Senior Deputy Surveyor
General (Training), Institute of
Surveying and Mapping,
Diyatalawa.

Preface

Prospectus 2020 being the fifth version of Prospectus of ISMD, has been arranged in five chapters so that one can walk through to find required information easily. This booklet is prepared with the aim of providing all the information related to the institute physically and academically. Information those were available at the preparation been included in this prospectus.

The first chapter provides general information of the institute such as history, function of the institute, etc. and second chapter describes location information, while the third chapter brings you out the information pertaining to the study programs and courses conducted by our institute. Information in regard to the managerial sector, staff detail included in chapter four and in the last chapter available infrastructure facilities are described.

Your comments, suggestions or corrections are most welcome by the editor for further improvements of the next version of the prospectus.

I would like to express my gratitude and sincere thanks to Mr. N.J.Wijenayake, the Director (ISMD) and Mr. K.T.C.Grero, D.S.G. (Academic) for providing necessary information, proof reading and proper guidance in completion of this prospectus successfully. Also my thanks are due to Mrs. S.M.R.A.Pathirathne, Asst. Lecturer, Mrs. G.P.A.R. Ganehiarachchi, Asst. Lecturer and Mr. R.P. Galappathi, Mapping Technical Officer to help me to produce this booklet in a good manner.

M.T.M.Rafeek,

Senior Lecturer/Senior Superintendent of Surveys,

Editor

OUR VISION

"...To be the focal point in Geo informatics Education, Training and Research in the South Asian Region aiming to produce Professional Expertise in 2025...."

OUR MISSION

"...Planning and conducting training courses relating to Geo-informatics, Updating Educational curriculums, Guidance in developing professional Capacity building and Providing Technical Expertise and consultancy services..."

CONTENTS

1. INTRODUCTION

1.1 HISTORY	7
1.2 THE MAIN FUNCTIONS OF ISMD	8
1.3 RECOGNITION OF ISMD AS A DEGREE- AWARDING INSTITUTE	9

2. LOCATION OF ISMD

2.1 GEOGRAPHICAL LOCATION AND GEOMORPHOLOGY	10
2.2 HOW TO REACH ISMD	11
2.3 GENERAL FACILITIES	11

3. STUDY PROGRAMMES

3.1 BACHELORS PROGRAMME	13
3.2 ORIENTATION TRAINING PROGRAMME	18
3.3 DIPLOMA PROGRAMME	21
3.4 CERTIFICATE COURSE	25
3.5 SHORT –TERM COURSES	27

4. GENERAL MANAGEMENT & STAFF

4.1 GENERAL MANAGEMEN OF ISMD	41
4.2 ADVISORY & COORDINATING BOARD	41
4.3 ACADEMIC STAFF	42

5. INFRASTRUCTURE FACILITIES

48

1. INTRODUCTION

1.1. HISTORY

Institute of Surveying and Mapping, Diyatalawa (ISMD) was established in 1967 with the aim of training surveyors. It was originally stated in Colombo in the year of 1912 by the name of survey training school and then moved to Diyatalawa in 1924. The school was turned, upgraded and named as Institute of Surveying and Mapping, Diyatalawa. The institute function under the Sri Lanka survey department (SLSD), which was established by a proclamation of the governor dated 2nd August 1800, two hundred and twenty years ago and is, therefore, one of the oldest civil state service in Sri Lanka. It functions under purview of the ministry of land and mainly engaged in surveying and mapping activities at national level in the country.

The commencement of training of surveyors was in the year 1896 that was more than one hundred years ago. Until then, the surveyors were trained in the field by being attached to experienced senior surveyors from whom they gained their knowledge by practical experience. The first training class for surveyors was conducted under the supervision of Mr. W.C.S. Ingles on 19th October 1896 in the Government training college in Colombo and proved to be a distinct success.

In 1908, it was decided to take advantage of the course offered at the newly formed Ceylon training college in Colombo following by a short practical training departmentally but did not proved to be satisfactory. Consequently, training of surveyors was entirely taken over by the survey department in 1912 by opening training school at “Uplands” Matuwal and practical training at Padukka. As the building at Uplands were declared unsafe by the public work

department (PWD), It was transferred to new quarters at Colombo Observatory and then, to the more congenial surrounding at Diyatalawa Survey Camp, which became the Institute of surveying and Mapping.

By then and by when technology advanced and sophisticated in methodology, and instrumentation came, it was considered necessary to introduce new techniques at training school, Diyatalawa. As a result, the school was upgraded in 1967 with the assistance of the United Nations Development project (ISMD). The Institute was incorporated by the government by an Act of Parliament in 1969, which is cited as the institute of surveying and Mapping ACT, No 21 of 1969.

1.2. THE MAIN FUNCTIONS OF ISMD

Prior to 1967, the training activities were purely confined to the training of surveyors for the survey department. Afterwards, the institute, being the largest and leading institute that provides training in surveying has gradually taken over almost all the basic training needs of the survey Department and some other organizations on request.

With the repaid and continuous development in the profession of surveying and Mapping, ISMD is appropriately changing its functions so as to fulfill the current needs.

The main functions Of ISMD at present can be categorically shown as

- ❖ To promote the sound application of surveying and Mapping Technology through programs of education, research and advisory services.
- ❖ To hold examinations for the purpose of ascertaining the persons who have acquired proficiency in surveying, leveling and mapping.
- ❖ To grant a diploma to persons who have pursued courses of

study in the institute and who have examinations of the institute.

- ❖ To grant the degree in surveying sciences who have pursued the course and been successful at the examinations.
- ❖ To update the knowledge and skills of relevant, organize regular refresher course.

1.3 RECOGNITION OF ISMD AS A DEGREE-AWARDING INSTITUTE

During the recent past, the fact that the advanced training facilities in land surveying and related field to award degree and diplomas, for instance, postgraduate diploma, were lacking in the country was severely considered. As Sri Lankans, we were thoroughly depending on institute abroad for such professional Level and land survey related need. Only a few officers in the survey department would secure such opportunities by way of foreign grants and scholarships. Hence, it was essential to upgrade the institute of Surveying Mapping to award the degree in Surveying Sciences.

In 1990, the Ministry of Higher education by an extraordinary gazette notification No 620/4 dated 1990.07.24 upgraded the institute of surveying and Mapping as a recognized degree awarding institute under the section 25 A of the universities Act No,16 of 1978. Once again UNDP played a prominent role in this connection by making necessary funds. The ISMD was physically strengthened and brought to academically sound institute though a Five-year project commenced in 1990. Under this project, many lecturers were trained overseas and infrastructure facilities of ISMD were upgraded. In addition to the diploma course, the ISMD started to conduct a four-year degree course in Surveying Sciences.

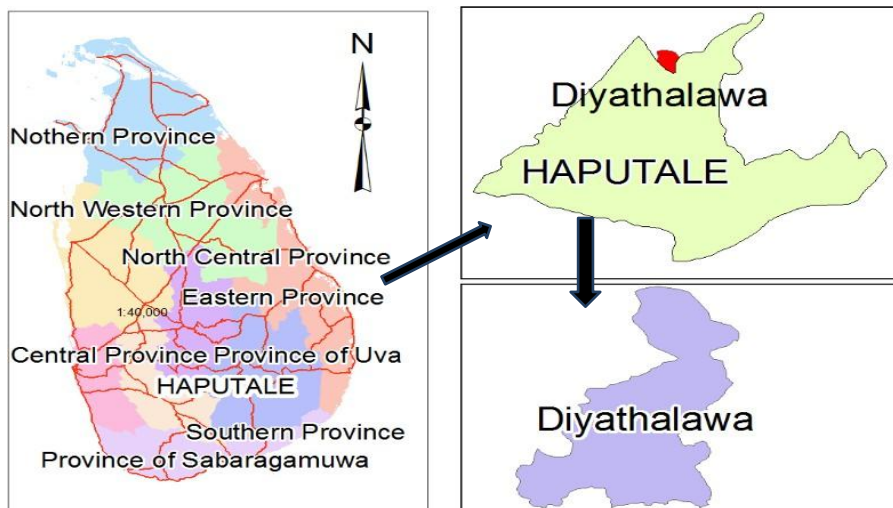
Since the first degree course was inaugurated on 4th October 1990 thirteen batches passed out and 484 students were conferred with their degree by now.

2. LOCATION OF ISMD

2.1 GEOGRAPHICAL LOCATION AND GEOMORPHOLOGY

The ISMD is the location at Diyatalawa about 200km away from Colombo in Sri Lanka. It embraces an area of nearly 25 Hectares in undulated terrain surface surrounded by sky hugging mountains, which contain eucalyptus, pine and tea plantations. It provides ideal situations studies and carrying out field exercises of students.

The altitude of the area is about 1200m above mean sea level. Geographically, the area is lying at $0^{\circ} 49' 02''$ in latitude and $80^{\circ} 57' 34''$ in longitude. It has different climatic conditions at different times in a year such as cool winters and warm summers. However, generally, a temperate climate remains throughout the year.



2.2 HOW TO REACH ISMD

Institute of surveying and Mapping is just close by the Diyatalawa town and adjoining to the Bandarawela-Diyatalawa main road and therefore, one can find it with no difficulty. The ISMD can be easily accessed either by bus bound for Bandarawela or Badulla from Colombo or by train bound for Badulla from Colombo.

The bus route from Colombo to Diyatalawa lies via main towns namely, Avissawella, Rathnapura, Pelmadulla, Balangoda, Beragala, and Haputhale and the Journey takes about 7 hours. The rail line runs through picturesque countryside and tea plantations touching main towns, Kandy, Hatton, Nanuoya, Pattipola, and Haputhale, and it takes about 9 hours to reach Diyatalawa. There is no doubt that travelling by train is much more interesting and enjoyable as it runs through hilly areas surrounded by extensive low lands and waterfalls with picturesque scenes.

2.3 GENERAL FACILITIES

On the shopping front, no one will be disappointed at Diyatalawa. The Closest thriving commercial city is Bandarawela situated 5 Km away from ISMD while one can meet daily needs at Diyatalawa Shopping area. Bandarawela, renowned for flowers, is one of the most attractive and beautiful city in the island and always congested with both local and foreign tourists. Getting to Bandarawela from Diyatalawa is easy as there is a frequent and regular bus service between Diyatalawa and Bandarawela.

Many of the leading schools in the Uva province are situated at Bandarawela. These schools provide an excellent education to the children of the suburb in major three languages Sinhala, Tamil and English.

As for health facilities, government hospitals are available at Diyatalawa and Bandarawela. In addition, one can find a well-known Ayurvedic hospital at Diyatalawa just close by the government hospital.

Diyatalawa town is also equipped with, among others, state Banks, Railway Station, cinema hall, Post office, Temples, Churches and mosques etc., so that dwellers in and around Diyatalawa can meet their daily requirements conveniently. Other infrastructure facilities like telephone, electricity and water also provide a regular service to the public.



3. STUDY PROGRAMMES

The Institute of Surveying and Mapping offers Five Programmes.

1. Bachelors Programme
2. Orientation Training Programme
3. Diploma Programme
4. Certificate Course
5. Short-Term Courses

3.1 BACHELORS PROGRAMME

3.1.1 BACHELORS' DEGREE COURSE IN SURVEYING SCIENCES

It is a 150-credit degree programme . This course has been designed so as to provide knowledge on Photogrammetry, Remote Sensing, Hydrography and Cartography other than Geodesy and Land Surveying. It consists of additional subjects such as Land Law, Land Valuation, and Professional Studies, which make it suitable for Land Administration as well.

3.1.2 Course Objectives :

- ✓ The main objective is to produce eminently suitable professionals in the fields of Land Surveying, Geodesy, Photogrammetry, Remote Sensing, Geographic Information System, Land Information System and Cartography.

- ✓ The degree programme includes industrial training component to enhance practical skills of graduates to assemble and assess land and geographic related information extraction and visualization for the purpose of planning and development of the country.
- ✓ Identify and apply relevant spatial science principles to solve problems and analyze geospatial applications data.
- ✓ Establishing, designing and maintaining geospatial technologies and infrastructure standards.
- ✓ Logically, rationally and legally conducting the surveying activities.
- ✓ Demonstrate responsibilities and self-learning skills through meaningful and constructive reflection.

3.1.3 Admission Requirements:

All applicants should be above 18 years of age. And

Direct Admission from B.Sc. degree holders: Should have B.Sc. Degree (with Mathematics or Physics as a subject of the degree) or Information Technology (having passed Mathematics in GCE A/L examination) or civil engineering from a recognized university or institute recognized by University Grant Commission and have been recruited as an apprentice surveyor to Survey Department according to existing Sri Lanka Survey Service Minute. or

Admission from the Departmental officers: Sri Lanka Technological Service (SLTS) officers in Survey Department of Sri Lanka who satisfy the following conditions are admitted to the degree programme.

Officers working and confirmed in their post in Sri Lanka Technical Service of Survey Department and passed G.C.E. (A/L) in Mathematics at old or . Should have passed a competitive written examination conducted by the examination branch of Survey Department.

3.1.4. Programme Structure:

Course Code	Course Title	Credit Rating
1101	Calculus	1.0
1102	Elementary statistics	2.0
1103	Vector Analysis	1.0
1104	Series	2.0
1105	Spherical Trigonometry	2.0
1106	Newtonian Mechanics	2.0
1107	Waves	2.0
1108	Light and Optics	2.0

1201	Geometry	2.0
1202	Differential equations	2.0
1203	Operations on matrices	2.0
1204	Numerical analysis	2.0
1205	Applied statistics	2.0
1206	Complex variables	2.0
1207	Electricity & Magnetism	2.0
1208	Electronics & Thermal Physics	2.0

2101	Cartography I	2.0
2102	Geodesy I	2.0
2103	Land Surveying I	3.0
2104	Land Surveying I Practical	8.0
2105	Technical English	2.0
2106	Land Administration	2.0
2107	Professional Studies	2.0
2108	Survey Regulations	2.0
2109	Computer Science	4.0

Course Code	Course Title	Credit Rating
2201	EDM	2.0
2202	Land Law & Land Consolidation	2.0
2203	Land Surveying II	2.0
2204	Land Surveying ii Practical	8.0
2205	Geodesy II	2.0
2206	Cartography II	2.0
2207	GIS I	2.0
2208	Remote Sensing I	2.0
2209	Photogrammetry I	2.0

3101	Land Surveying III	2.0
3102	Land Surveying III Practical	8.0
3103	Adjustment theory I	3.0
3104	Geodesy III	3.0
3105	Photogrammetry II	3.0
3106	Remote Sensing II	3.0
3107	GIS II	4.0

3201	Adjustment Theory II	2.0
3202	Land Surveying IV	2.0
3203	Modern systems in land surveying	2.0
3204	Geodesy IV	3.0
3205	Photogrammetry III	2.0
3206	Cartography III	
3207	Remote Sensing III	
3208	Hydrography	2.0
3209	Urban And Rural Planning	2.0
3210	Research Project	6.0

Course Code	Course Title	Credit Rating
4101	Geodetic Task	12.0
4201	Industrial Training In Field**	14.0

3.1.5. Course Fee

For more information please refer the website; www.ism.ac.lk

3.1.6. Contact Details

Deputy Surveyor General (Academic):

Tele/Fax: 057- 2229235

email : dsgacademic@survey.gov.lk



3.2. ORIENTATION TRAINING PROGRAMME

3.2.1. Orientation Training Programme for Surveying Graduates

This course included three modules and each module consists of two months period. The final Written examinations will be conducted at the end of last modules on all the subjects in addition to assignments, tutorials and practical examinations. Normal passes are based on the cumulative Point Hour Ratio. Minimum Cumulative Point Hour Ratio of 2.00.

3.2.2. Course Objectives

After successful completing of the course candidates will be capable of handling surveys according to the statutory law in Sri Lanka, and utilize the government resources (Human, Finance and Physical) according to Financial Regulation and Establishment Code.

3.2.3. Admission Requirements

Should have Bachelor's degree (B.Sc) in Surveying Science from recognized University or Institute.



3.2.4 Programme Structure

Course Code	Course Title
OC11001	Standing Orders I
OC11002	Professional Studies I
OC11003	IT Applications
OC11004	Digital Data Management
OC11005	Department Survey Regulations I
OC11006	Special Types of Surveying I
OC11007	Technical Report and Presentation I

OC12001	Standing Orders II
OC12002	Professional Studies II
OC12003	Modern Technology
OC12004	Department Survey Regulations II
OC12005	Special Types of Surveying II
OC11006	Technical Report and Presentation II

OC13001	Department Survey Regulations. III
OC13002	Special Types of Surveying III
OC13003	Technical Report and Presentation III

3.2.5. Course Fee

For more information please refer the website; www.ism.ac.lk

3.2.6. Contact Details

Deputy Surveyor General (Academic):

Tele/Fax: 057- 2229235

email : dsgacademic@survey.gov.lk



3.3. DIPLOMA PROGRAMME

3.3.1. Diploma of Cartographic Technician / Remote Sensing Technician / Photogrammetric Technician / Aerial Photographer and Laboratory Technician / Litho Technician / Process Technician/Typographer

3.3.2. Course objectives

To cater to the needs of the Survey Department in the training of its Cartographic, Remote Sensing, Photogrammetric, Aerial Photographer and Lithography Technicians.

3.3.3. Admission Requirements

Should have passed the G. C. E. (A/L) Examination in three subjects in science/mathematics/technology subject stream in one sitting with two subjects of Combined Maths and Physics.

and

Should have passed the G. C. E. (O/L) Examination in six (06) subjects in one sitting with credit passes for Sinhala/Tamil/English language, Science, Mathematics and another one subject

3.3.4 Programme Structure

Course Code	Course Title	Credit Rating
SLTS111001	English I (ENGL I)	01
SLTS111002	Mathematics I (MATHS I)	02
SLTS111003	Physics I (PHY I)	01
SLTS111004	Elementary Surveying I (SUR I)	02
SLTS111005	Surveying Practical I (SURP I)	02
SLTS111006	Cartography I (CARTO I)	02
SLTS111007	Remote Sensing I (RS I)	02
SLTS111008	Photogrammetry I (PHOTO I)	02
SLTS111009	Departmental Orders I (ORDERS I)	02
	Total	16

SLTS112001	English II (ENGL II)	01
SLTS112002	Departmental Orders II (ORDERS II)	01
SLTS112003	Elementary Surveying II (SUR II}	02
SLTS112004	Surveying Practical II (SURP II)	02
SLTS112005	Cartography II (CARTO II)	02
SLTS112006	Remote Sensing II (RS II)	02
SLTS112007	Photogrammetry II (PHOTO II}	02
SLTS112008	Computer Science I (CS I)	01
SLTS112009	Geographical Information System I (GIS I)	01
SLTS112010	Land Information System (LIS) & Parcel Fabric	01
	Total	15

Course Code	Course Title	Credit Rating
SLTS211001	Mathematics II (MATHS II)	02
SLTS211002	Physics II (PHY II)	01
SLTS211003	Elementary Surveying III (SUR III}	02
SLTS211004	Surveying Practical III (SURP III)	02
SLTS211005	Cartography III (CARTO III)	02
SLTS211006	Lithography I (LITHO I)	02
SLTS211007	Typography I (TYPO I)	02
SLTS211008	Photogrammetry III (PHOTO III}	02
	Total	15

SLTS212001	Mathematics III (MATHS III)	02
SLTS212001	Physics III (PHY III)	01
SLTS212001	Geographical Information SystemII (GIS II)	01
SLTS212002	Computer Science II (CS II)	01
SLTS212003	Cartography IV (CARTO IV)	02
SLTS212004	Remote Sensing III (RS III)	
SLTS212005	Lithography II (LITHO II)	
SLTS212006	Typography II (TYPO II)	
SLTS212007	Processgraphy I (PROCESS I)	
SLTS212008	Photogrammetry IV (PHOTO IV}	
SLTS212009	Air Navigation (NAV)	
SLTS212010	Mini Project	05
	Total	12

3.3.5. Course Fee

For more information please refer the website; www.ism.ac.lk

3.3.6.Contact Details

Deputy Surveyor General (Academic):

Tele/Fax: 057- 2229235

email : dsgacademic@survey.gov.lk



3.4 CERTIFICATE COURSE

3.4.1. National Certificate in Survey Field Assistant (NVQ Level 2/3)

In the training programme, a trainee will learn the entire process of assisting the surveyor to carry out any type of land surveys. This essentially includes survey instrument handling and caring during and after the surveys.

3.4.2. Course objectives

The candidates who successfully complete the training programme will qualify as survey field assistants and are capable of being working as a survey field assistants in the industry.

3.4.3. Admission Requirements

Should have passed the G. C. E. Ordinary Level Examination in six (06) subjects with at least two credits passes in not more than two sittings.

3.4.4. Programme Structure

Module Code	Module Title
M-01	Identification of survey site
M-02	Preparation of site for surveying
M-03	Preparing sketch of the survey site
M-04	Setting up surveying and leveling instruments
M-05	Carrying out surveys
M-06	Maintaining instruments
M-07	Record keeping
M-08	Maintaining sub stores.
M-09	Maintaining the services of officers.
M-10	Maintaining the relationship

3.4.5. Course Fee

The course fee is Rs. 5,000/= per participant.

3.4.6. Contact Details

For more information please refer the website; www.ism.ac.lk

3.5. SHORT - TERM COURSES

The institute has successfully conducted more than 10 short-term courses by now for the officers attached to other organizations and students of Universities, Technical colleges, Military Academy etc. The course duration, content and other specifications are changed appropriately depending on the background of course participants concerned and the organization to which they are attached. The institute recognizes that there is an increasing demand for these courses and as such, these courses are reviewed regularly by the authority and takes necessary measures to enhance the quality. The feedback of the participants at the end of each course will be taken into consideration in this respect.

In addition, Short-Term Refresher courses are conducted for the officers in the Survey Department (SLSS officers) who are, at present, working as Govt. Surveyors and SLTS officers under a special project known as Continues Professional Development Project (CPDP). A summarized description of all courses conducted so far is given under this subsection. More information, if needed, can be obtained from the Director of ISMD.



3.4.1. Outline of Available Short Courses

Course Code	Course Name
SC 0300	Fundamental of surveying
SC 0301	Basic Leveling
SC 0302	Surveying & Levelling for Engineering students
SC 0303	Total Station for Topographical Surveys and Setting Out
SC 0304	Road Surveys
SC 0305	Survey Plans & Related Laws
SC 0306	AutoCAD for Plan Beginners
SC 0307	GIS for Beginners
SC 0308	Advanced GIS
SC 0309	Remote Sensing and Photogrammetry for Mapping
SC 0310	Introduction Programme on Navigation
SC 0311	Training programme on GNSS



Course Code : SC 0300

Course Name:	Fundamental of Surveying & Levelling
Synopsis:	The course has been designed for those who have basic know ledge in Survey Field
Course Content:	
	<p>✓ Theodolite Surveying: <i>Linear and angular measurements, booking principle of survey measurement, Traversing & Detail Surveying with Theodolite, preparation of coordinate sheet and preparation of a survey plan using conventional methods.</i></p> <p>✓ Levelling, Longitudinal Section (LS) & Cross Section (CS): <i>Acquire knowledge on fundamental of levelling, correct methods of spirit levelling and profile levelling, Level Book Keeping and reduction of Level Line by Rise & Fall Method and LS & CS survey along a road.</i></p> <p>✓ Surveying with Total Station: <i>Introduction to the concept of total station and familiar with handling of total station.</i></p>
Target Group :	Draughtsman, Quantity Surveyors, Technical Officers & Engineering Assistants
Course Duration :	5 days
Time Period :	08.00 am to 05.00 pm
Nature of the Course :	Lectures & Practical
Course fee per candidate :	Rs. 20,000.00 + Vat (Inclusive of accommodation)
Benefits :	A certificate of attendance will be awarded at the end of the course
Course Evaluation :	Practical tasks will be evaluated to measure performance.
Number of Participant: Minimum 20 participants and maximum 30	

Course Code : SC 0301

Course Name:	Basic Levelling
Synopsis:	The course is aimed at students with little or no previous experience of using levelling equipment.
Course Content:	
	<ul style="list-style-type: none"> ✓ Introduction to Levelling :Definitions, Introduction to Leveling Instruments, Establishment of Bench mark for Leveling ✓ Leveling Procedures :Fundamentals of Leveling, Methods of Booking, Height of Collimation and Rise & Fall method, Reducing level ✓ Practical field Levelling Exercise :Practice in reading and booking, Sources of error in levelling and acceptable closures, Two peg test field practical &Instrument check, Practical field levelling exercise practical covering topographical detail levelling, Setting out levels for Site datum – (Establishing a TBM) ✓ Use of digital levels (overview)
Target Group :	Draughtsman, Quantity Surveyors, Technical Officers & Engineering Assistants
Course Duration :	2 days
Time Period :	08.00 am to 05.00 pm
Nature of the Course :	Lectures & Practical
Course fee per candidate :	Rs.8,000.00 + Vat (Inclusive of accommodation)
Benefits :	A certificate of attendance will be awarded at the end of the course
Course Evaluation :	Practical tasks will be evaluated to measure performance.
Number of Participants: Minimum 20 participants and maximum 30	

<i>Course Code : SC 0302</i>	
Course Name:	Surveying & Levelling for Engineering students
Synopsis:	The course has been designed for those who have learning surveying & leveling as subject in their studies
Course Content:	
	<ul style="list-style-type: none"> ✓ Introduction to Concept & Principle of Surveying ✓ Chain Survey & Linear Measurements: <i>Field measurement, Field Book Keeping & Plan Work.</i> ✓ Theodolite Surveying: <i>Observing, booking and reducing, Horizontal angles, vertical angles and slope distances and detail Survey, Calculations - co-ordinates, angles, bearings, Preparing plan using field notes and calculating extents.</i> ✓ Fundamentals of Leveling : <i>Fundamentals of Leveling, Introduction to Leveling Instruments, Establishment of Bench mark for Leveling, Calculation Reduced Level</i> ✓ Theory & Practical for Road Longitudinal & Cross Section(LS&CS) ✓ Introduction to Total Station Survey : <i>Field data collection using Total Station & Data Downloading and Processing</i> ✓ Introduction to Construction Survey: <i>Engineering Survey & Plan Work, Setting outs of building and vertical & horizontal curves.</i> ✓ Introduction to Global Positioning System (GPS) : <i>Introduction to GPS & Field data collection using Hand Held GPS & Processing.</i>
Target Group :	Engineering Students
Course Duration :	10 days
Time Period :	08.00 am to 05.00 pm
Nature of the Course :	Lectures & Practical
Course fee per candidate :	Rs. 40,000.00 + Vat (Inclusive of accommodation)
Benefits :	A certificate of attendance will be awarded at the end of the course
Course Evaluation :	Practical tasks will be evaluated to measure performance.
Number of Participants: Minimum 20 participants and maximum 30	

<i>Course Code : SC 0303</i>	
Course Name:	Total Station for Topographical and Engineering Surveys
Synopsis:	The course has been designed for those who have basic knowledge in Survey Field
Course Content:	
	<ul style="list-style-type: none"> ✓ Concept and Principle of Surveying ✓ Introduction to Total Station – Familiarization instrument settings, prism constant and atmospheric corrections. Setting up jobs, storing co-ordinates ✓ Field data collection using Total Station: Collecting data using Total Station for a given small block including all detail & Data Downloading and Processing. And Preparing plan using field notes from Total Station Instrument and calculating extents. ✓ Engineering Surveys With Total Station: Familiarizing to do levelling with Total Station and do engineering surveys for small block and prepare contour plan. ✓ Setting out with Total Station: Using Survey Drawing software and spread sheets to help input data and check Setting out of as built points, Setting out by bearing and distance & Setting out by co-ordinates.
Target Group :	Quantity Surveyors, Technical Officers, Engineering Assistants & Engineers
Course Duration :	05 days
Time Period :	08.00 am to 05.00 pm
Nature of the Course :	Lectures & Practical
Course fee per candidate :	Rs. 20,000.00 + Vat (Inclusive of accommodation)
Benefits :	A certificate of attendance will be awarded at the end of the course
Course Evaluation :	Practical tasks will be evaluated to measure performance.
Number of Participants: Minimum 20 participants and maximum 30	

<i>Course Code : SC 0304</i>	
Course Name:	Road Surveys
Synopsis:	The course has been designed for those who have basic knowledge in Survey Field
Course Content:	
	<ul style="list-style-type: none"> ✓ Introduction to Levelling: Definitions, Introduction to Levelling Instruments, Establishment of Bench mark for road works ✓ Levelling Procedures for Road Surveys: Fundamentals of Levelling, Methods of Booking, Height of Collimation and Rise & Fall method, Reducing level, Practice in reading and booking, Sources of error in levelling and acceptable closures, Two peg test field practical & Instrument check & Establishing a TBM for road surveys. ✓ Principles of route location and design: The theory of circular, parabolic and spiral curves; highway and railway geometric design; area and volumes of earthwork ✓ Theory & Practical for Road Longitudinal & Cross Section (LS&CS) ✓ Setting out horizontal circular curves –Basic calculations
Target Group :	Technical Students, Quantity Surveyors, Technical Officers & Engineering Assistants & Engineers
Course Duration :	03 days
Time Period :	08.00 am to 05.00 pm
Nature of the Course :	Lectures & Practical
Course fee per candidate:	Rs. 12,000.00 + Vat (Inclusive of accommodation)
Benefits :	A certificate of attendance will be awarded at the end of the course
Course Evaluation :	Practical tasks will be evaluated to measure performance.
Number of Participants:	Minimum 20 participants and maximum 30

<i>Course Code : SC 0305</i>	
Course Name:	Survey Plans & Related Laws& Techniques
Synopsis:	The course has been designed for those who have basic knowledge in Survey Field
Course Content:	
	<ul style="list-style-type: none"> ✓ Acts on surveying ✓ Handling of survey requisition properly & Preparation of sketches to locate places for surveying. ✓ Introduction to various categories of plans, maps, diagrams & tracings ✓ Reopening boundaries in the ground using plans ✓ Maps & Plans reading ✓ Data collection using modern techniques & displaying ✓ Introduction to Grid coordinates system ✓ Using Hand Held GPS, storing & downloading the collected data into Computer. Field data collection ✓ Overlaying the downloaded data on Google Maps & locating using them. ✓ Introduction to acts on land & land administration ✓ Visiting programme (Photogrammetric lab, Museum)
Target Group :	Land officers & Colony officers.
Course Duration :	2 day
Time Period :	08.00 am to 05.00 pm
Nature of the Course :	Lectures & Practical
Course fee per candidate :	Rs. 8,000.00 + Vat (Inclusive of accommodation)
Benefits :	A certificate of attendance will be awarded at the end of the course
Course Evaluation :	Practical tasks will be evaluated to measure performance.
Number of Participants: Minimum 20 participants and maximum 30	

<i>Course Code : SC 0306</i>	
Course Name:	AutoCAD for Plan Beginners
Synopsis:	The course has been designed for those who are already occupied in the in land administrative sector.
Course Content:	
✓	<i>Introduction to AutoCAD and Working with the Windows Environment</i>
✓	<i>Creating Your First Drawing, Viewing and Plotting a Drawing, Basic CAD</i>
✓	<i>Creating Basic Geometry, Annotating a Drawing with Text and Hatching</i>
✓	<i>Preparing survey plan with field notes and calculating extent.</i>
✓	<i>Introduction to SDCad and plan preparation using SDCad.</i>
✓	<i>Introduction to digital TL preparing process in Survey Department</i>
Target Group :	Who would need to have a certificate as an Auto cad Draftsman in their career development
Course Duration :	3 day
Time Period :	08.00 am to 05.00 pm
Nature of the Course :	Lectures & Practical
Course fee per candidate :	Rs. 9,000.00 + Vat (Inclusive of accommodation)
Benefits :	A certificate of attendance will be awarded at the end of the course
Course Evaluation :	Practical tasks will be evaluated to measure performance.
Number of Participants: Minimum 20 participants and maximum 30	

<i>Course Code : SC 0307</i>	
Course Name:	GIS for Beginners
Synopsis:	The course has been designed for those who have interested to learn basic knowledge in GIS
Course Content:	<ul style="list-style-type: none"> ✓ Introduction to GIS: Overall introduction to GIS with its capability and function in geographical data analysis, Data Modelling & Different types of data input to Data Input in GIS. ✓ Displaying Spatial Information: Adding collected data into GIS environment and preparation of digital maps and map layouts for different purposes. ✓ Data Georeferencing and Digitization: Transformation of image into local coordinate system with known control points and collecting data from georeferenced image using digitizing technology. ✓ Data Analysis: Analysing of spatial and attribute data of a particular area and building up queries for decision making. ✓ Preparation of Database: Preparation of Database to create individual GIS and doing spatial analysis with available tools.
Target Group :	GIS users from Forest, Wildlife, Archaeological departments & Land Use Planners, Decision makers, Policy developers, Head of the departments
Course Duration :	3 days
Time Period :	08.00 am to 05.00 pm
Nature of the Course :	Lectures & Practical
Course fee per candidate :	Rs. 9,000.00 + Vat (Inclusive of accommodation)
Benefits :	A certificate of attendance will be awarded at the end of the course
Course Evaluation :	Practical tasks will be evaluated to measure performance.
Number of Participants: Minimum 20 participants and maximum 30	

<i>Course Code : SC 0308</i>	
Course Name:	Advanced GIS
Synopsis:	The course has been designed for those who have basic knowledge in GIS
Course Content:	
	<ul style="list-style-type: none"> ✓ Introduction to Advanced GIS: <i>Overall introduction to GIS with its capability and function in geographical data analysis, Data Modelling & Different types of data input to Data Input in GIS.</i> ✓ Creation of Own GIS: <i>Preparation of Database to create individual GIS for different purposes.</i> ✓ Dealing with Cad Data to Create Land Information System(LIS): <i>Processing of Cad Data for preparation of parcel based LIS and to perform parcel based analysis.</i> ✓ Build-up of Model Builder &Data Analysis: <i>Developing of Model builder and performing spatial analysis for different purposes.</i> ✓ 3D Analysis: <i>Processing of different source of elevation data and preparation of contours & 3D models and working with ArcScene environment.</i> ✓ Customization of GIS: <i>Introduction to customization of GIS project according to the user requirement</i>
Target Group :	GIS users from Forest, Wildlife, Archaeological departments & Land Use Planners, Decision makers, Policy developers, Head of the departments and
Course Duration :	3 day
Time Period :	08.00 am to 05.00 pm
Nature of the Course :	Lectures & Practical
Course fee per candidate :	Rs. 9,000.00 + Vat (Inclusive of accommodation)
Benefits :	A certificate of attendance will be awarded at the end of the course
Course Evaluation :	Practical tasks will be evaluated to measure performance.
Number of Participants: Minimum 20 participants and maximum 30	

<i>Course Code : SC 0309</i>	
Course Name:	Remote Sensing and Photogrammetry for Mapping
Synopsis:	The course has been designed for those who have involved in Mapping Process and Image Interpretation
Course Content:	
	✓ <i>Introduction to Photogrammetry and the trend of photogrammetry in today.</i>
	✓ <i>Digital Photogrammetry and mapping with drone cameras.</i>
	✓ <i>Principles of survey control and sighting of control stations</i>
	✓ <i>Introduction to Remote Sensing and Type of Remote Sensing Images and its characteristics</i>
	✓ <i>Hand Held on session with different kind of images with different software</i>
	✓ <i>Data extraction from images</i>
	✓ <i>Map updating with satellite images</i>
Target Group :	Technical officers from different departments who are involved in mapping activities
Course Duration :	2 days
Time Period :	08.00 am to 05.00 pm
Nature of the Course :	Lectures & Practical
Course fee per candidate :	Rs. 6,000.00 + Vat (Inclusive of accommodation)
Benefits :	A certificate of attendance will be awarded at the end of the course
Course Evaluation :	Practical tasks will be evaluated to measure performance.
Number of Participants: Minimum 20 participants and maximum 30	

<i>Course Code : SC 0310</i>	
Course Name :	<i>Introduction Program on Navigation</i>
Synopsis:	The course is for those who are using maps & GPS receivers for navigation
Course Content:	
✓	History of mapping & Map reading: <i>Introduction of maps produced by the Survey Department & Basic Elements of Maps Reading.</i>
✓	Introduction to usage of handheld GPS : <i>Coordinate collection, navigation and processing</i>
✓	Introduction of GPS base station: <i>Visit to GPS base station and acquiring related knowledge</i>
✓	Introduction to photogrammetry: <i>visit to photogrammetric lab</i>
✓	Guided tour to museum
Target Group :	Hand held GPS users, Navigators, Map users & Military Officers
Course Duration :	01 day
Time Period :	8.00 am to 05.00 pm
Nature of the Course :	Guided tour
Course fee per candidate :	Free of charge
Benefits :	N/A
Course Evaluation :	N/A
Note: Only provided for security forces & Educational institutes	

<i>Course Code : SC 0311</i>	
Course Name:	Training Program on GNSS
Synopsis:	To provide an understanding of fundamental concept of GNSS
Course Content:	
	<ul style="list-style-type: none"> ✓ Introduction to GNSS and Type of Receivers : <i>Concept of GNSS, Type of GNSS Receivers & Handheld GPS & Software related to Handheld GPS such as OziExplorer, Base camp & QGIS</i> ✓ Coordinate System & Parameters: <i>Introduction to different terms such as Geoid, Ellipsoid, Datum, Map Projection (Transverse Mercator) & SLD99 Parameters</i> ✓ System Architecture of GNSS: <i>Space, Control, User, Signals, Accuracy & Errors</i> ✓ Measurement & Positioning: <i>Types of positioning – RTK, Static, Satellite based augmentation System & Dilution of precision</i> ✓ Application of GNSS: <i>Determining a Location, Navigation, Tracking, Mapping & Timing</i>
Target Group :	Technical Officers
Course Duration :	5 days
Time Period :	08.00 am to 05.00 pm
Nature of the Course :	Lectures & Practical
Course fee per candidate :	Rs. 20,000.00 + Vat (Inclusive of accommodation)
Benefits :	A certificate of attendance will be awarded at the end of the course
Course Evaluation :	Practical tasks will be evaluated to measure performance.
Number of Participants: Minimum 20 participants and maximum 30	

4. STAFF AND FACILITIES

4.1. GENERAL MANAGEMENT OF ISMD

The Management of ISM is vested on two statutory bodies: Academic Committee and Advisory & Coordinating Board.

The Academic Committee comprises of Director, the chief executive of ISMD and all other lectures, takes all academics decisions on curriculum, syllabus design, research & development, the appointment of examiners and moderators, and other academic matters that arise from time to time; however, the acceptance should be obtained from the Advisory & Coordinating Board.

The Advisory & Coordinating Board mainly deals with policy and management matters, and it also considers the recommendation of the Academic Committee with respect to academic matters. This Board has been appointed by the Hon. Minister of Lands to advise Surveyor General in taking policy decisions and other related activities connected with the affairs of the Institute. The Advisory & Coordinating Board usually meets once a month.

4.2 ADVISORY & COORDINATIG BOARD

Existing Advisory & Coordinating Board consists of following members:

1. Mrs. A.L.S.C.Perera - Chairman, Surveyor General
2. Mr. K.L.A.Ranasinghe Silva – Member, Former Surveyor General
3. Dr. K.Thavalingam - Member, Former Surveyor General
4. Prof. S.B.Weerakoon – Member, University of Peradeniya
5. Mr. W.T.M.S.B.Tennakoon – Adl. Surveyor General (Non Member)
6. Mr. N.J.Wijenayake – Secretary, Director (ISMD)

4.3 ACADEMIC STAFF

4.3.1 ISMD Senior Lectures:



Director

Mr. N.J. Wijenayaka

Senior Lecturer

B.Sc. (Hons) (University of Ruhuna, Sri Lanka)

Higher Diploma in Surveying (ISMD, Sri Lanka)

M.Sc. in Geoinformatics (ITC, The Netherlands)

Certificate in Urban Land Administration

Swedesurveys –Sweden

E-mail – snrdsgtr@survey.gov.lk



Mr. K.T.C. Grero

Senior Lecturer

Diploma in Survey Technician

(Advanced Level)(ISMD, Sri Lanka)

B.Sc. in Surveying Sciences (ISMD, Sri Lanka)

Higher Diploma in Surveying (ISMD, Sri Lanka)

M.Sc. in GIS & Remote Sensing (University of Peradeniya, Sri Lanka)

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Mr. M.T.M. Rafeek

Senior Lecturer

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Mr. T.D. Weeraperuma

Senior Lecturer

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Mr. B.L.P.U. Silva

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Mrs. S. Panagoda

Senior Lecturer

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Mrs. A.L.B. Gunasinghe

Senior Lecturer

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4.3.2 ISMD Lecturers:



Mr. H.M.S.J.C.B. Herath

Lecturer

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Mr. V. Saman

Lecturer

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Mr. I. Welikanna

Lecturer

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Sri Lanka)

Higher Diploma in Surveying (ISMD,
Sri Lanka)

E-mail – indikaw_welikanna@yahoo.com

4.3.3. ASSISTANTLECTURERS



Mrs.S.H. Ramyalatha
Diploma in Survey Technicians (Advanced Level) (ISMD, Sri Lanka)
Higher Diploma in Surveying (ISMD, Sri Lanka)



Mrs. R.A.S. Ranatunga
B.Sc. in Surveying Science (Sabaragamuwa University of Sri Lanka)
M.Sc. in Geoinformatics (University of Peradeniya, Sri Lanka)



Mrs. S.M.R.A. Pathirathne
B.Sc. in Surveying Science (Sabaragamuwa University of Sri Lanka)



Mr. P.W.C.N.J. Perera
B.Sc. in Surveying Science (Sabaragamuwa University of Sri Lanka)



Mrs.G.P.A.R. Ganesharachchi
B.Sc. in Surveying Science (Sabaragamuwa University of Sri Lanka)

4.3.4. Visiting Lecturers from the Senior Staff Officers of the Survey Department

Besides to above academic panel, time to time academic expert in different field will visit to ISMD as visiting lecturers to deliver lectures on following subjects.

- ✓ Hydrography
- ✓ Urban and Regional Planning
- ✓ Land Valuation
- ✓ Information Technology



5. INFRASTRUCTURE FACILITIES

The institute is provided with a lot of facilities; academic and welfare, to facilitate students, staff and others involved in administrative work in order to function all the academic and non-academic activities of the institute efficiently and effectively.



Computer Laboratory



The ISMD is well equipped with a computer laboratory possessing computers that support high quality modern software. The laboratory is open during the office hours and also in the night when the necessity arises. All the course participants, whatever the course, including consultancy services and short term courses will be given basic knowledge of selected computer applications. All these computers are on one network under ISMD Local Area Network (LAN).

Technical Library



The ISMD library is one of the most valuable assets of the institute. It has a numerous number of books in various fields, particularly in Surveying Sciences, Geodesy, Remote Sensing, GIS, Computer Science, Physics, Mathematics and so forth. The library is regularly flooded with journals, periodicals, research papers and proceedings in the field of Surveying and Mapping and also different fields related to. According to the recent censuses there are journals and research papers in the library.

All textbooks are shelved separately according to their fields in a very systematic manner so that one can access any desired book easily, it devotes a special section to facilitate readers to refer books. All the students and staff members are automatically entitled to the lending membership at this library. Participants who attend short courses, however, are only allowed to refer the books in the reference section but not to borrow. Reference section as well as lending section is open for users during the office hours (From 0700h to 1545h) on week days.

Also initiative steps have already been taken to include all the information about books that are available in the library in a computer system so as to provide easy access to books. Consequently, readers can find the availability and location of a book within few seconds and need not to walk through shelves searching for books.

Photogrammetry Laboratory



This laboratory is equipped with an Analytical Stereo plotter (Planicom P3) with PHOCUS software and drum plotter, one Wild B8 stereo plotter for Wide and Super Wide angles, Aerial photographs, Cameras, Stereoscopes, Parallax bars and other accessories necessary for proper training. This lab provides all the necessary facilities to carry out Photogrammetry practical effectively.

Survey Instruments and Equipments



An essential part of every course conducted by the institute is to carry out practical training related in Surveying and Levelling. To meet this requirement, ISMD has established an instrument and equipment unit, which plays a vital role in practical training. It possesses a good collection of instruments ranging from very old ones to very modern ones.

Transportation



Unlikely in other institutions, ISMD should have a good transport service in order to provide transportation frequently needed for field tasks in training programs and other administrative activities.

Accommodation



All regular students and permanent staff members are provided with accommodations within the ISMD premises during their staying. An extensive building program was launched under a special project funded by the UNDP at the time of promoting the institute as a degree-awarding institute in the late nineties. Under this project, ISMD was significantly improved physically, besides its academic enhancement. Two story buildings where all administrative and academic staff are housed, two story buildings for ladies hostel and gent's hostel, and three buildings for lecturer's residents can be cited as new additions, among others, to the ISMD premises.

Not only for the regular students but also for the course participant those who attend on short-terms courses will be provided with lodgings upon the request. However, the institute has limited facilities for married students.

All the quarters and hostels are equipped with limited furniture to meet the basic requirement of the occupants, but more items can be obtained, if needed, based on the additional payment for the excess. Occupants are expected to make a nominal payment exclusive of electricity and water for the period of stay.

The administrative authority of ISMD is very much particular and vigilant on the behavior of all inmates of ISMD premises and has imposed codes of disciplines on them with the aim of preservation of behavior dignity of the institute.

