

BSc (Hons) Geomatics – (2 Years Top Up - Part-Time) – E351

1. Context and Objectives

This programme builds on a Diploma in Land Surveying/Diploma in Geomatics. It aims at providing an in-depth knowledge of the theory and methods in land surveying, mapping, cartography, photogrammetry, geographical information systems, and remote sensing, in order to prepare a skilled workforce in the field of Geomatics to meet regional, national, and international needs.

This BSc Top Up programme equips students with the knowledge and competencies required in order to excel in the fields of land administration and management, acquisition of spatial data, spatial data management, planning, legal matters, disaster management, and social and environmental issues. Students will also be exposed to the latest tools and technologies such as global navigation satellite systems, smart sensors, web-based GIS, and mobile technologies. This programme will also serve as a pathway for advance studies in the fields of Geomatics, Geo-Informatics, Land Surveying, Spatial Planning, Disaster Management, Hydrographic Survey, Marine Spatial Planning and Environmental Management.

The programme consists of two (2) years or levels.

Level 3 Modules

This programme builds on a Diploma in Land Surveying. The module GIS and Remote Sensing provides the basis for the modules Spatial Info Applications, CIVE 1016Y(1) and Hazards & Mapping and Community Empowerment, CIVE 2017Y(3), as from semester 2. In this level, the module Hydrographic Surveying module caters for training of the submerged structures in the sea and the seabed. As from this level, students get to learn about the various areas in which field surveys on land and at sea are integrated with information systems. A mini project is included in this level, to train students in conducting research studies.

Level 4 modules

In this level, the module Physical Planning and Planning Tools CIVE 3026Y(5), addressed planning tools for the marine environment, Marine Spatial Planning. The module Project and Real Estate Management CIVE 3024Y(5), supports understanding on the importance of sound survey techniques in land development. In this level, students undertake a final year research project where they are expected to illustrate sound survey skills and use of technologies for improving understanding of a particular research problem.

Objectives

The objectives of the programme are to:

- Provide students with both foundation skills and practical skills that will train them for the Surveying profession, and
- Engage students in practical sessions, field work and different activities which involve problem based learning skills.
- Provides students with the skills required for effective communication and lifelong learning skills.
- Enables students to appreciate the applicability of surveying techniques coupled with technology, such as remote sensing and geographical information systems to build database of spatial nature.
- Enables students to look into the possibility of creating their own enterprise

Competencies

After successful completion of this programme, students should be equipped with the following competencies:

- analytical, problem solving skills
- effective communication skills, adaptability and flexibility
- project management and entrepreneurial skills
- technical skills required for a surveyor
- technical skills required for a spatial data analysis expert

2. Learning Outcomes

At the end of this programme, the student should be able to:

- Conduct field surveys with high levels of accuracy
- Prepare both digital and hard copy maps from field survey data
- Undertake spatial data analysis using digital spatial database
- Prepare land cover maps to monitor long term changes in land development using satellite imageries
- Use spatial information systems to improve decision making.
- Evaluate prices of land based on current and upcoming development
- Undertake Hydrographic survey
- Work in teams and use effective communication skills, verbal, technical and written.

3. Teaching and Learning Methods

Modules shall be taught over a period of 10 weeks. Each module shall include 3 hours of contact per week, 6 hours of self study and 9 hours of other learning activities per week over the whole semester/year. The 30 hours of contact over a semester shall include, class hours, blended learning, tutorials and practicals (where applicable).

The teaching methods include:

- Face-to-face delivery
- Online delivery
- Practical sessions
- Tutorial sessions
- Class activities
- Field activities

Learning methods include the following among others:

- research and group work;
- Attending Workshops/Conferences recommended by the Department/Faculty;
- Site Visits/Trips;
- Field work
- Class Presentation/ Viva/ Demo;
- Experiential Learning;
- Placements/Internships;
- Guest lectures;
- Dissertation/ Project

4. Entry Requirements

General

As per General Entry Requirements for admission to the University for Undergraduate Degrees.

Programme (Specific)

Diploma in Land Surveying or Diploma in Geomatics

5. Programme Duration

	Normal (Years)	Maximum (Years)
Degree:	2	4

6. Minimum LCCS Credits Required:

For Degree Award

Modules	Credits
Minimum LCCS Credits for Core Modules including final year project (18)	90
Dissertation	18
TOTAL	108

For Certificate Award

Total number of credits for the award of a Certificate is **72 LCCS credits**.

Students may opt for a Certificate in Land Surveying or Certificate in Geomatics (subject to the modules Hydrographic Survey - CIVE 3025Y(5) and Physical Planning and Planning Tools - CIVE 3026Y(5) having also been completed successfully), by making a written request, and provided they satisfy the requirements, as per University and Programme regulations.

7. Assessment and Deadlines

The assessment for each module may be based on one or a combination of the following:

- Examination
- Continuous Assessment (class tests, assignments, activities, practicals and oral presentations)
- Report Assessment (Final Year Project)

Assessment will be based on written examination (except for specific modules indicated) and continuous assessment (CA).

The weight of the CA will be at least 40%, while examination may carry up 60% of the total marks. The specific details and/or formula for the calculation of the final mark are provided in the Module Specification Sheet (MSS) for each module.

The written examination will be of 2hour duration for semester modules and 3hours duration for yearly modules. An overall total of 40% for combined continuous and written examination

components will be required to pass the module, without minimum thresholds within the individual continuous assessment and written examination. Written examination for the semester modules will be carried out at the end of the respective semester.

Module Spatial Info Applications – CIVE 2022Y(3) will be assessed entirely by coursework. The dissertation CIVE 3000Y(5) final year project will be submitted according to UoM rules and regulations.

Information regarding the classification of award and student grading is provided in the university regulations.

8. List of Modules

Code	Module Name	¹ L*/T*/P* (Contact Hours)	² Self-Study hrs	³ Other Learning hrs	⁴ LCCS Credits
CIVE 1016Y(1)	Geographical Information Systems & Remote Sensing	60	120	180	12
CIVE 1017Y(1)	Computing for Geomatics	60	120	180	12
CIVE 2022Y(3)	Spatial Info Applications	60	120	180	12
CIVE 2017Y(3)	Hazards, Mapping & Community Empowerment	60	120	180	12
CIVE 3025Y(5)	Hydrographic Survey	30	60	90	6
CIVE 3200(5)	Mini Project (Semester 2)	10	110	60	6
CIVE 3024Y(5)	Project & Real Estate Management	60	120	180	12
CIVE 3026Y(5)	Physical Planning & Planning Tools	60	120	180	12
CIVE 3126(5)	Entrepreneurship & Marketing	30	60	90	6
CIVE 3000Y(5)	Dissertation	10	380	150	18

Note:

¹Contact Hours; L*=Lectures, T* = Tutorials, P* = Practicals

² and ³ are detailed in the Programme and Module Catalogues.

⁴The LCCS Credits

9. Programme Plan

LEVEL 3 – SEMESTERS 1& 2			
Code	Module Name	¹L*/T*/P* (Contact Hours per Week)	⁴LCCS Credits**
CIVE 1016Y(1)	Geographical Information Systems & Remote Sensing	2+2	12
CIVE 1017Y(1)	Computing for Geomatics	2+2	12
CIVE 2022Y(3)	Spatial Info Applications	2+2	12
CIVE 2017Y(3)	Hazards, Mapping & Community Empowerment	2+2	12
CIVE 3025Y(5)	Hydrographic Survey	2+2	6
CIVE 3200(5)	Mini Project (Semester 2)	1+0	6
		TOTAL	60

LEVEL 4 – SEMESTERS 1& 2			
Code	Module Name	¹L*/T*/P* (Contact Hours per Week)	⁴LCCS Credits**
CIVE 3024Y(5)	Project & Real Estate Management	3+0	12
CIVE 3026Y(5)	Physical Planning & Planning Tools	3+0	12
CIVE 3126(5)	Entrepreneurship & Marketing	3+0	6
CIVE 3000Y(5)	Dissertation	1+0	18
		TOTAL	48