

Module descriptions and Learning assumed to be in place

(Specifications of learning assumed to be in place is subject to change)

Level 1 Modules

1. Introduction to Information Technology

Course Code: IIT5

Credits: 10

NQF Level: 5

Notional Hours: 100

Presentation method: Distance

Total Length of this module: 1.5 months

Please note that an exemption examination may be written for this module. A student will only be allowed to write the exemption test once. Upon failure of the test the student must complete the module and rewrite the examination. Students who wish to write the exemption examination must apply a month in advance.

This module focuses on an introduction to computer hardware, operating systems and local and wide area networks as well as some components in information technology. You will learn the functionalities of word processing, spreadsheets and the internet, and some of the terminology used in the information technology industry.

Learning assumed to be in place: None

2. Introduction to Human, Physical and Environmental Geography

Course Code: GEO5

Credits: 7

NQF Level: 5

Notional Hours: 70

Presentation method: Contact

Total Length of this module: 4 weeks

Geography is the study of both natural and man-made phenomena relative to a spatial dimension. This module has been designed as an introduction to both the human and physical aspects of our environment and serves to introduce each component as it relates to both South African and other global locations. The topics included in this module include: climatology, geomorphology, hydrology, human geography, population geography and economic geography.

Learning assumed to be in place: None

It is recommended that this module be completed concurrently with Practical Geography (GEO5P)

3. Practical Geography

Course Code: GEO5P

Credits: 5

NQF Level: 5

Notional Hours: 50

Presentation method: Contact

Total Length of this module: 3 days

Duration of workshop: One 3 day workshops (Examination to be written at the end of the workshop)

It will be expected of the student to complete some extra assignments after the workshop

The theoretical module, The Introduction to Human, Physical and Environmental Geography, will be complemented by a practical component, Practical Geography, which aims to further expanded on the previously introduced topics as well as provide a spatial perspective for each topic. This spatial perspective identifies a traditional application field of GISc and highlights the cross subject relationships between the fields of Geography and GISc.

Learning assumed to be in place: None

It is recommended that this module be completed concurrently with Introduction to Human, Physical and Environmental Geography (GEO5)

4. Map use and Evaluation

Course Code: MUE5

Credits: 5

NQF Level: 5

Notional Hours: 50

Presentation method: Mixed

Total Length of this module: 4 weeks

The spatial nature of geographic studies facilitates the display of information in map format, traditionally by map makers. As technology has improved, in the form of Geographical Information Systems, so too has the ability for non-specialists to produce maps. In order to accurately portray geographic information, a sound understanding of map making and use is needed. This module consists of a theoretical component, complemented by a practical component, and introduces you to: map making, map use, map analysis, map interpretation and map evaluation.

Learning assumed to be in place:

- Introduction to Human, Physical and Environmental Geography (GEO5)
- Practical Geography (GEO5P)

It is recommended that this module be completed concurrently with Practical Map Work (MUE5P)

5. Practical Map Work

Course Code: MUE5

Credits: 5

NQF Level: 5

Notional Hours: 50

Presentation method: Mixed

Total Length of this module: 3 Days

Duration of workshop: Two 3 day workshops (Examination to be written at the end of the second workshop) It will be expected of the student to complete some extra assignments after the workshop

This practical component, Practical Map work, of the Map Use and Evaluation module will make use of both traditional hardcopy maps, 1:50 000 topographical maps and 1:10 000 orthophoto maps, and the digital versions of the same maps for various South African locations. Skills covered in the theoretical component of the module will be used in the analysis and evaluation of topographic and orthophoto maps of South Africa. The knowledge obtained in these modules forms part of the foundation of GIS understanding.

Learning assumed to be in place:

- Introduction to Human, Physical and Environmental Geography (GEO5)
- Practical Geography (GEO5P)

It is recommended that this module be completed concurrently with Map Use and Evaluation (MUE5)

6. Introduction to GISc

Course Code: GIS5

Credits: 8

NQF Level: 5

Notional Hours: 80

Presentation method: Distance

Total Length of this module: 5 weeks

This module covers the theoretical component of Introduction to Geo-information Science. By the end of this module the student should be knowledgeable about the historical perspective of GISc, have a broader understanding of the concepts and terminology relating to GISc, and know and understand the components and different fields which contribute and form part of GISc. In addition the theory behind some of the topics presented in the GIS Basics (GIS5P) workshop will also be covered.

Learning Assumed to be in Place

- Introduction to Information Technology (IIT5)
- Introduction to GISc Practical (GIS5P)

It is recommended that this module be completed concurrently with GIS Basics (GIS5P)

7. GIS Basics

Course Code: GIS5P

NQF Level: 5

Presentation method: Contact

Credits: 4

Notional Hours: 40

Total Length of this module: 5 days

This module is a practical module which covers the basics of GIS. During this module students will gain experience in using GIS software and GIS data, interacting with and making maps, setting and transforming coordinate systems, acquiring, creating and editing GIS data, performing spatial analysis, and using different methods to share GIS results with others.

The module comprises of a five day hands on workshop which will involve the student completing practical exercises. On the last day of the workshop the student will write a practical examination. Four short assignments will also need to be completed during the workshop. At the end of the practical workshop, you should have a broader understanding of what a GIS can do, the functionality available in a GIS and the processes involved when analysing data in a GIS.

Learning Assumed to be in Place

- Introduction to Information Technology (IIT5)
- This module assumes that the student has no previous knowledge of GIS theory or any GIS software

It is recommended that this module be completed concurrently with Introduction to GISc (GIS5)

8. Applied Mathematics for GISc

Course Code: MAT5

NQF Level: 5 Diploma Level: 1

Presentation method: Mixed

Duration of workshop: 5 days (Examination to be written at the end of the workshop)

Credits: 12

Notional Hours: 120

Total Length of this module: 6 weeks

This module has a strong emphasis on mathematical thinking, fluency and appreciation of how maths concepts are applied so as to effectively solve GIS-related problems.

This module will focus on differentials, integral calculus of functions of one variable, partial derivatives, solving linear and non-linear equations, trigonometric functions, conic sections, vector geometry, matrix algebra, linear transformations and differential geometry.

Learning assumed to be in place: None

9. Physical Science for GISc

Course Code: MAT5

NQF Level: 5 Diploma Level: 1

Presentation method: Mixed

Duration of workshop: 5 days (Examination to be written at the end of the workshop)

Credits: 12

Notional Hours: 120

Total Length of this module: 6 weeks

This module has a strong theoretical component that is supplemented by some practical work. At the end of this course you should have a broader understanding of physical science concepts and how they are applied in GIS and remote sensing work. Concepts covered in the module will be: Simple harmonic motion; motion of mechanical waves, wave speed, interference, standing waves and resonance; ray and wave models of light and its reflection, refraction and interference; gravitational fields and potential energy; electric fields and potential energy; electric potential; magnetic fields.

Learning assumed to be in place: Applied Mathematics of GISc

10. Basic Statistics for GISc

Course Code: STA5

Credits: 12

NQF Level: 5

Notional Hours: 120

Presentation method: Mixed

Total Length of this module: 2 months

Duration of workshop: 5 days (Examination to be written at the end of the module)

This module has a strong emphasis on understanding the statistical processes which are:

- Data acquisition design and planning
- Data collection
- Data analysis
- Conclusions and recommendations based on analysis results

The student will learn basic statistical functions, including: regression, distributions, error theory, correlation and sampling. This module includes the calculation of probability, mean standard and deviation. This module will be applied in the GISc environment.

Learning assumed to be in place: Applied Mathematics of GISc

Level 2 Modules

11. Spatial Data Models

Course Code: SDM6

Credits: 10

NQF Level: 6

Notional Hours: 100

Presentation method: Distance

Total Length of this module: 6 weeks

This module focusses on the raster and vector data models used to represent real world features in a GIS. The representation of geometric primitives in the spaghetti model, topological model and network model are discussed. The module includes the different compression methods for raster data. It is also important to take note of the use of linear referencing and object orientated models in a GIS.

Learning assumed to be in place:

- Introduction to Geo-information Science (GIS5)
- GIS Basics (GIS5P)
- Introduction to Information Technology (IIT5)
- Map use and Evaluation (MUE5)
- Practical Map Work (MUE5P)

It is recommended that this module be completed concurrently with GIS Data Structures for Data Acquisition (SDM6P)

12. GIS Data Structures for Data Acquisition

Course Code: SDM6P

Credits: 2

NQF Level: 6

Notional Hours: 20

Presentation method: Contact

Total Length of this module: 2 Days

In this course, you will learn how to set up a data capture environment and to use the appropriate feature type when capturing data. You will also learn the basic theory and principles of spatial data models and structures that are used to capture data in a vector or raster GIS.

It is expected that the candidates will complete a project exercise in their own time and submit the result for evaluation.

Learning Assumed to be in Place

- Introduction to Geo-information Science (GIS5)
- GIS Basics (GIS5P)
- Introduction to Information Technology (IIT5)
- Map use and Evaluation (MUE5)
- Practical Map Work (MUE5P)

It is recommended that this module be completed concurrently with Spatial Data Models (SDM6)

13. Principles of Map Design

Course Code: PMD6

Credits: 12

NQF Level: 6

Notional Hours: 120

Presentation method: Distance

Total Length of this module: 6 weeks

Map design plays an important role in communicating results and decisions. This module will teach you the fundamentals of map design, generalization and aggregation. You will learn how to source maps from various sources and how to apply the correct colours, symbology and typography to create a visually pleasing map. These principles will be applied on 2D-maps, 3D-maps, web maps and thematic maps. You will also learn how to include maps in a report for effective communication.

Learning assumed to be in place:

- Introduction to Geo-information Science (GIS5)
- Introduction to Information Technology (IIT5)
- Map use and Evaluation (MUE5)
- Data Quality and Standards (DQS6)
- Projections and Coordinate Systems (PCS6)
- It is recommended that this module be completed concurrently with Designing Maps (PMD6P)

14. Designing Maps

Course Code: PMD6

NQF Level: 6

Presentation method: Contact

Credits: 2

Notional Hours: 20

Total Length of this module 3 days

This module teaches you how to create attractive maps which are easy to interpret and are properly designed for their audience and delivery medium, with an emphasis on applying fundamental cartographic design principles. You will learn how to follow a standard cartographic workflow to efficiently produce high-quality maps for print and online use.

Learning assumed to be in place:

- Introduction to Geo-information Science (GIS5)
- Introduction to Information Technology (IIT5)
- Map use and Evaluation (MUE5)
- Data Quality and Standards (DQS6)
- Projections and Coordinate Systems (PCS6)
- Designing Maps (PMD6)

It is recommended that this module be completed concurrently with Principles of Map Design (PMD6)

15. Projections and Coordinate Systems

Course Code: PCS6

NQF Level: 6

Presentation method: Mixed

Credits: 9

Notional Hours: 90

Total length of this module: 5 weeks

This module focuses on the use of geo-referencing systems, datums and map projections in a geographical information system. Topics that will be discussed include: geodesy, different coordinate systems and map projection types and characteristics. This module emphasises the use of the correct terminology and the practical application of knowledge in the GIS software.

Learning assumed to be in place:

- Introduction to Geo-information science (GIS5) or equivalent knowledge
- GIS Basics (GIS5P) or equivalent knowledge

It is recommended that this module be completed concurrently with Map Projections (PCS6P)

16. Map Projections

Course Code: PCS6P

NQF Level: 6

Presentation method: Mixed

Credits: 1

Notional Hours: 10

Total length of this module: 1 day

The foundation of understanding the concepts of map projections and coordinate systems begins here. This course covers the concepts of the Earth's shape, latitude and longitude, map projections; distortions and coordinate systems and datums. Participants learn how to use the existing coordinate systems of the software as well as customising their own and applying various transformations for converting their data between different geographic coordinate systems.

Learning assumed to be in place:

- Introduction to Geo-information science (GIS5) or equivalent knowledge
- GIS Basics (GIS5P) or equivalent knowledge

It is recommended that this module be completed concurrently with Projections and Coordinate Systems (PCS6).

17. GPS and Land Surveying

Course Code: GPS6

NQF Level: 6

Presentation method: Distance

Credits: 11

Notional Hours: 110

Total Length of this module: 6 weeks

In this module, you will learn the basic theory of land surveying instruments and global positional satellite (GPS) systems. You will learn how a land surveying instrument and a GPS calculates position and what the benefits of each instrument are. You will also learn how and why positional errors may occur when measuring position with a GPS. In addition, you will learn more about the South African land laws, cadastral survey system and the land survey act and regulations.

Learning assumed to be in place:

- Projections and Coordinate Systems (PCS6) or equivalent knowledge.
- Map Projections (PCS6P) or equivalent knowledge.
- Introduction to GISc Practical (GIS5P) or equivalent knowledge.
- Introduction to Geo-information science (GIS5)

It is recommended that this module be completed concurrently with Basic GPS Knowledge (GPS6P)

18. Basic GPS Knowledge

Course Code: GPS6P

NQF Level: 6

Presentation method: Mixed

Credits: 3

Notional Hours: 30

Total Length of this module: 4 days

In this module, you will learn the basics of Global Navigational Satellite (GNSS) systems. You will learn how to use a GNSS to calculate position and how and why positional errors may occur. You will also have the opportunity to apply what you have learned by doing a basic practical field work exercise. You will also learn how to improve GIS data accuracy and field workforce productivity using ArcPad, the field mapping and data collection software designed for GIS professionals. You will learn a workflow for map-driven field data collection—preparing data and maps for use in the field, editing data to reflect real-world conditions, and getting updated data back into your GIS database when field work is completed. The attendee will have the opportunity to apply their knowledge on a practical exercise outside the training room environment.

Learning assumed to be in place:

- Projections and Coordinate Systems (PCS6) or equivalent knowledge.
- Map Projections (PCS6P) or equivalent knowledge.
- Introduction to GISc Practical (GIS5P) or equivalent knowledge.
- Introduction to Geo-information science (GIS5)

It is recommended that this module be completed concurrently with GPS and Land Surveying (GPS6)

19. Data Quality and Standards

Course Code: DQS6

NQF Level: 6

Presentation method: Distance

Credits: 8

Notional Hours: 80

Total Length of this module: 5 weeks

In this course, you will acquire theoretical skills to evaluate the quality of a data set. You will learn about the manipulation and management of spatial data, as well as the understanding of relationships between features and database attributes. You will also learn the importance of adopting standards for the use in a GIS. Effective communication skills will be introduced by submitting written and descriptive assignments.

Learning assumed to be in place:

- Introduction to Geo-information science (GIS5)
- GIS Basics (GIS5P)

It is recommended that this module be completed concurrently with Data Editing and Standards (DQS6P)

20. Data Editing and Standards

Course Code: DQS6P

NQF Level: 6

Presentation method: Mixed

Credits: 4

Notional Hours: 40

Total Length of this module: 5 days

In this course, you will acquire practical skills in the manipulation and management of spatial data, as well as the understanding of relationships between features and database attributes. This practical module has a strong focus on data editing. In addition, you will learn how to apply the management of data files in practice, create new data, and analyse spatial data to answer geographical questions.

Learning assumed to be in place:

- Introduction to Geo-information science (GIS5) or equivalent knowledge
- GIS Basics (GIS5P) or equivalent knowledge

It is recommended that this module be completed concurrently with Data Quality and Standards (DQS6)

21. Data Manipulation

Course Code: DTM6

Credits: 8

NQF Level: 6

Notional Hours: 80

Presentation method: Mixed

Total Length of this module: 5 weeks

After the successful completion of this course you should be able to explain the different spatial data models used to store GIS data on a computer. You should be able to outline the potential inaccuracies that may arise when converting between the different data models. You will also understand how attribute data tables are linked to spatial data. In addition, you will learn the difference between a CAD and GIS.

Learning assumed to be in place:

- Spatial Data Models (SDM6)
- GIS Data Structures for Data Acquisition (SDM6)
- Projections and Coordinate Systems (PCS6)
- Map Projections (PCS6P)
- Data Quality and Standards (DQS6)
- Data Editing and Standards (DQS6P)

It is recommended that this module be completed concurrently with Spatial and Attribute Data Transfer Methods (DTM6P)

22. Spatial and Attribute Data Transfer Methods

Course Code: DTM6P

Credits: 2

NQF Level: 6

Notional Hours: 20

Presentation method: Contact

Total Length of this module: 3 Days

After the successful completion of this course, you should understand the different vector, raster and attribute data transfer formats. You will be able to integrate different data formats from various available GIS software packages. You will also be aware of possible pitfalls that may arise when integrating data with various formats. In addition, you will learn how to use the data interoperability tool to import and export data sets to various formats.

Learning assumed to be in place:

- Spatial Data Models (SDM6)
- GIS Data Structures for Data Acquisition (SDM6)
- Projections and Coordinate Systems (PCS6)
- Map Projections (PCS6P)
- Data Quality and Standards (DQS6)
- Data Editing and Standards (DQS6P)

It is recommended that this module be completed concurrently with Data Manipulation (DTM6)

23. Introduction to Database Management Systems

Course Code: DBM6

Credits: 12

NQF Level: 6

Notional Hours: 120

Presentation method: Distance

Total Length of this module: 6 Weeks

Spatial databases form an integral part of any GIS. In this module you will learn to differentiate between data and information and, a spreadsheet and a database. You will learn what a relational database model is and how it works. You will also be able to design a simple relational database model for the use in a GIS. In addition, you will learn about other database models which exist.

- Data Quality and Standards (DQS6) or equivalent knowledge
- Data Editing and Standards (DQS6P) or equivalent knowledge

It is recommended that this module be completed concurrently with Building a Spatial Database (DBM6P)

24. Building a Spatial Database

Course Code: DBM6P

Credits: 2

NQF Level: 6

Notional Hours: 20

Presentation method: Mixed

Total Length of this module: 3 days

This course teaches the essential concepts and skills needed to efficiently create a spatial database, add data to it, and realistically model the real-world spatial relationships inherent to your data. You will learn about unique spatial database features which help ensure data integrity over time and why the spatial database is the preferred format for storing and managing geographic data. Course concepts apply to file-based and multiuser spatial databases.

Learning assumed to be in place:

- Data Quality and Standards (DQS6) or equivalent knowledge
- Data Editing and Standards (DQS6P) or equivalent knowledge

It is recommended that this module be completed concurrently with Introduction to Database Management Systems (DBM6)

Level 3 Modules

25. Analytical Methods

Course Code: ANM6

Credits: 12

NQF Level: 6

Notional Hours: 120

Presentation method: Mixed

Total Length of this module: 8 weeks

After the successful completion of this module, you should know all the different vector analysis methods and raster calculations that can be done in a GIS. You should also be able to plan and develop a cartographic model and build the model in a GIS. You will also learn how to effectively communicate through writing a report.

Learning Assumed to be in Place

- All Level 1 courses
- All Level 2 courses

It is recommended that this module be completed concurrently with Topics in Advanced Spatial Analysis (ANM6P) or Advanced Analysis and Map Design (AMD6P).

26. Topics in Advanced Spatial Analysis

Course Code: ANM6P

NQF Level: 6

Presentation method: Mixed

Credits: 2

Notional Hours: 20

Total Length of this module: 3 days

This course teaches a standard workflow that can be applied when analysing GIS data. Every analysis begins with a question and has criteria that must be considered. You will learn how the analysis question and criteria drive decisions about what data and tools will generate reliable information. Working with a variety of data and ArcGIS tools, you will perform different types of analyses to efficiently solve spatial problems.

Learning Assumed to be in Place

- All Level 1 courses
- All Level 2 courses

It is recommended that this module be completed concurrently with Analytical Methods (ANM6) or Advanced Analysis and Map Design (AMD6P).

27. Terrain Analysis

Course Code: TRA6

NQF Level: 6

Presentation method: Mixed

Credits: 10

Notional Hours: 100

Total Length of this module: 5 weeks

In this module, you will learn the theoretical aspects of the different terrain analysis methods that can be used to analyse a surface. You will learn when to apply the different terrain analysis methods and how to combine these to do a suitability analysis. The different terrain analysis methods include: contours, slope, aspect profile plots and hydrologic functions. You will also learn how friction surfaces can be used to determine a cost path between two points. In addition, you will learn the different concepts of spatial estimation, cartographic models and how these can be used to solve complex problems. The student's written communication skills will be strengthened by submitting the assignments in the form of reports.

Learning assumed to be in place:

- All level 1 courses or equivalent knowledge
- All level 2 courses or equivalent knowledge

It is recommended that this module be completed concurrently with Terrain Analysis Practical (TRA6P).

28. Terrain Analysis Practical

Course Code: TRA6P

NQF Level: 6

Presentation method: Mixed

Credits: 2

Notional Hours: 20

Total Length of this module: 3 Days

In this module you will learn how to apply the different terrain analysis methods to analyse a surface. The different methods include contours, slope, aspect, hillshade and viewshed. During the practical sessions you will learn how to interpolate a surface from point measurements, generate different surfaces from a digital elevation model, calculate density from point data and perform visibility analysis. In addition, you will also learn how geoprocessing models can be developed to do suitability analyses.

Learning assumed to be in place:

- All level 1 courses or equivalent knowledge
- All level 2 courses or equivalent knowledge

It is recommended that this module be completed concurrently with Terrain Analysis Practical (TRA6).

29. Remote Sensing

Course Code: RES6

NQF Level: 6

Presentation method: Mixed

Credits: 10

Notional Hours: 100

Total Length of this module: 5 weeks

The purpose of this module is to introduce you to the basic concepts, terminology, methods and products of satellite images and aerial photographs. You will learn the differences between and benefits of aerial and satellite images. You will also learn where to source remote sensing images in South Africa as well as how to do aerial triangulation. In addition you will learn the basics of analysing images for the use in a GIS

Learning assumed to be in place:

- All level 1 courses or equivalent knowledge
- All level 2 courses or equivalent knowledge

It is recommended that this module be completed concurrently with Practical Applications of Remote Sensing (RES6P).

30. Practical Applications of Remote Sensing

Course Code: RES6P

NQF Level: 6

Presentation method: Contact

Duration of workshop: 3 day (Examination to be written at the end of the workshop)

Credits: 2

Notional Hours: 20

Total Length of this module: 3 days

In this practical module you will learn how and where to obtain remote sensing images. You will learn the basics of image processing, classification and transformation. In addition you will learn to interpret information derived from remote sensing images.

Learning assumed to be in place:

- All level 1 courses or equivalent knowledge
- All level 2 courses or equivalent knowledge

It is recommended that this module be completed concurrently with Remote Sensing (RES6).

31. Introduction to Programming

Course Code: IPR6

Credits: 11

NQF Level: 6

Notional Hours: 110

Presentation method: Distance

Total Length of this module: 7 weeks

Python scripts can reduce the time spent on complex or repetitive tasks, enabling GIS users to be more productive. This course covers the theoretical aspects of the following topics in Python: data types and structures, numbers, variables and naming conventions, statements and expressions, string literals, lists and tuples, objects, functions and methods, paths, modules, conditional statements and loop structures. Several assignments will need to be completed and a theory exam written at the end of the module.

Learning assumed to be in place:

- All level 1 courses or equivalent knowledge
- All level 2 courses or equivalent knowledge

It is recommended that this module be completed concurrently with Introduction to Geo-processing Scripts using Python (IRP6P).

32. Introduction to Geo-processing Scripts using Python

Course Code: IPR6P

Credits: 3

NQF Level: 6

Notional Hours: 30

Presentation method: Contact

Total Length of this module: 4 Days

Python scripts can reduce the time spent on complex or repetitive tasks, enabling GIS users to be more productive. This course teaches how to create Python scripts to automate tasks related to data management, feature editing, geoprocessing and analysis, and map production using ArcGIS. In addition, incorporating SQL queries into a script will be covered. You will also learn how to share your Python scripts so your key GIS workflows are accessible to others.

Learning assumed to be in place:

- All level 1 courses or equivalent knowledge
- All level 2 courses or equivalent knowledge

It is recommended that this module be completed concurrently with Introduction to Programming (IRP6).

33. GISc & T: Ethics and Law

Course Code: LAW6

Credits: 16

NQF Level: 6

Notional Hours: 160

Presentation method: Mixed

Total Length of this module: 2 months

Duration of workshop: 2 day workshop

This module focuses on the important role of ethics in the GISc industry. Topics such as professionalism, ethics and issues that may arise in the workplace are introduced. This module will demonstrate how some acts pertaining to the GIS industry, including the Geomatics Profession Act, Parts of the Constitution of the Republic of South Africa, Spatial data infrastructure act and the Promotion of Access to Information Act to name a few, can guide you when posed with challenging decisions. In addition, this module will emphasize the importance of metadata and some aspects of business and project management. You will also learn how to apply the different acts when sharing data among organizations.

Learning Assumed to be in Place

- All level 1 courses or equivalent knowledge
- All level 2 courses or equivalent knowledge

It is recommended that this module be completed concurrently with Sharing GIS Content on the Web (LAW6P).

34. Sharing Content on the Web

Course Code: LAW6P

Credits: 2

NQF Level: 6

Notional Hours: 20

Presentation method: Mixed

Total Length of this module: 3 Days

A GIS should support the sharing of geographic content across multiple platforms, so it is accessible to everyone who needs it, when they need it, however they want to access it. This course teaches you how to turn your authoritative GIS data, workflows, and maps into services that can be: published online, on a server, or a portal; easily embedded in web maps and websites; accessed by desktop, web, and mobile applications; and deployed to servers on secure internal networks. You will learn how to determine which sharing option is appropriate for your needs.

Learning assumed to be in place:

- All level 1 courses or equivalent knowledge
- All level 2 courses or equivalent knowledge

It is recommended that this module be completed concurrently with GISc & T: Ethics and Law (LAW6).

35. Data Considerations for Map Design

Course Code: DCM6

Credits: 16

NQF Level: 6

Notional Hours: 160

Presentation method: Mixed

Total Length of this module: 3 months

Duration of workshop: 2 days (Presentation. Length of the workshop depends on the number of students)

This module focuses on the compilation of new maps from scratch. The different sources of spatial and attribute data in South Africa are discussed. The student will have the opportunity to search for and acquire data from various sources on the internet. The influence of generalization, map scale and projections are emphasized. For this module, you will have to study the use of GIS in any application field. You will then plan and develop a project or system that must be executed successfully. The project must demonstrate that you can successfully apply your GIS skills to solve a real world problem. This module also gives you the opportunity to present what you have learned during the diploma by doing an oral presentation.

Learning assumed to be in place:

- All level 1 courses or equivalent knowledge
- All level 2 courses or equivalent knowledge
- All other Level 3 courses or equivalent knowledge.

36. Advanced Analysis and Map design (Elective)

The course content of this module is the same as:

- Designing Maps
- Topics in Advanced Spatial Analysis

Course Code: ADM6P

Credits: 4

NQF Level: 6

Notional Hours: 40

Presentation method: Contact

Total Length of this module: 5 days

In this module, you will acquire practical skills in understanding and using Geographic Information Systems (GIS). The course addresses spatial problem solving by focusing on both the theoretical / conceptual and practical aspects of GIS data and spatial analysis. Students learn how to prepare and integrate spatial data into advanced analysis workflows, visualise the data using cartographic techniques as well as identify and interpret spatial patterns.

Learning Assumed to be in Place

- All Level 1 courses
- All Level 2 courses

It is recommended that this module be completed concurrently with Analytical Methods (ANM6) and Principles of Map Design (PMD6).