DIPLOMA IN INFORMATICS
(Extended curriculum programme with foundation provision)
Dip (Informatics) - NQF Level 6 (360 credits)
Qualification code: DPIFF0
SAQA ID: 103078, CHE NUMBER: H/H16/E061CAN

Campus where offered: Soshanguve South Campus

REMARKS

a. Admission requirement(s) and selection criteria:

Please take note that all completed applications received within the published due dates will be ranked. After consideration of the Departmental Student Enrolment Plan, only the top ranking applicants will be selected. Once a programme is full, a waiting list will be in place to provide an opportunity for applicants to fill places of those who did not register on time. Applicants will be informed of their status per official letter from the Office of the Registrar, alternatively, they can check their application status on the TUT website, www.tut.ac.za.

- **FOR APPLICANTS WITH A SENIOR CERTIFICATE OBTAINED BEFORE 2008:**

Admission requirement(s):
A Senior Certificate or an equivalent qualification with an E symbol at Higher Grade or a D symbol at Standard Grade for English and Mathematics.

Recommended subjects:
Computer Science and Physical Science.

Selection criteria:
Swedish formula.

SYMBOL	HG VALUE	SG VALUE
A	5	4
B	4	3
C	3	2
D	2	1
E	1	

Applicants who score 9 or more points according to the formula for academic merit will be invited for an interview or a risk profile test.

Applicants will be notified to make an appointment with the departmental secretary for the interview or test. This rule applies to all applicants, as well as to applicants who are already registered at other institutions.

- **FOR APPLICANTS WITH A NATIONAL SENIOR CERTIFICATE OBTAINED IN OR AFTER 2008:**

Admission requirement(s):
A National Senior Certificate with a bachelor's degree or a diploma endorsement, or an equivalent qualification, with an achievement level of at least 3 for English (home language or first additional language) and 4 for Mathematics or Technical Mathematics or 6 for Mathematical Literacy.

Recommended subjects:
None.

Selection criteria:
To be considered for this qualification, applicants must have an Admission Point Score (APS) of at least **23** (with Mathematics or Technical Mathematics) or **25** (with Mathematical Literacy). Life Orientation is excluded for APS calculation. Life Orientation is excluded for APS calculation.

Assessment procedure(s):
Applicants who achieve the minimum APS of **23** will be considered. Applicants with a score of **21** (with Mathematics or Technical Mathematics) or **24** (with Mathematical Literacy) will be added to a waiting list.

- **FOR APPLICANTS WITH A NATIONAL CERTIFICATE (VOCATIONAL) AT NQF LEVEL 4:**

Admission requirement(s):
A National Certificate (Vocational) at NQF Level 4 with a bachelor's degree or a diploma endorsement, with at least 40% (APS of 3) for English (home language or first additional language) and 50% (APS of 4) for Mathematics or 70% (APS of 6) for Mathematical Literacy, and 50% for Life Orientation (excluded for APS calculation), and 50% (APS of 4) for any other three compulsory vocational subjects.

Selection criteria:
To be considered for this qualification, applicants must have an Admission Point Score (APS) of at least **23** (with Mathematics) or **25** (with Mathematical Literacy) will be considered for the extended programme. Life Orientation is excluded for APS calculation.

Assessment procedure(s):
Applicants who achieve the minimum APS of **23** will be considered. Applicants with a score of **21** (with Mathematics) or **24** (with Mathematical Literacy) will be added to a waiting list. Life Orientation is excluded for APS calculation.

- **FOR APPLICANTS WITH A NATIONAL N CERTIFICATE AS PUBLISHED IN NATED 191: (NQF LEVEL 4):**

Admission requirement(s):
A National Senior Certificate and a National N Certificate as published in Nated 191: N3 (NQF Level 4) issued by both the Department of Higher Education and Training (DHET) and the Council for Quality Assurance in General and Further Education and Training (Umalusi), with at least 50% (APS of 4) for Mathematics N3.

b. *Recognition of Prior Learning (RPL), equivalence and status:*
See Chapter 30 of Students' Rules and Regulations.

c. *Intake for the qualification:*
January only.

d. *Presentation:*
Day classes. Classes and assessments take place during the week and on Saturdays. Online classes are also offered in some instances, but assessments are on campus.

e. *Minimum duration:*
Four years.

f. *Exclusion and readmission:*
See Chapter 2 of Students' Rules and Regulations.

g. *Work-Integrated Learning:*
See Chapter 5 of Students' Rules and Regulations.

h. *Personal equipment:*
Access to a laptop or desktop computer is essential to participate in multimodal learning experiences as well as to complete assignments and projects. NSFAS students receive an allowance to acquire a laptop, and using this allowance for this purpose is critical for academic success. Students are encouraged to consult the faculty website where the minimum requirements for specific programmes are published.

CURRICULUM

FIRST YEAR

CODE	MODULE	NQF-L	CREDIT	PREREQUISITE MODULE(S)
CGAF05D	Computing Fundamentals A	(5)	(15)	
COHF05D	Computational Mathematics	(5)	(15)	
COEF05X	Communication for Academic Purpose	(5)	(10)	
INFF25D	Information Literacy (block module)	(5)	(3)	
LFSF25X	Life Skills (block module)	(5)	(2)	
PPAF05D	Principles of Programming A	(5)	(15)	
TOTAL CREDITS FOR THE FIRST YEAR:			**60**	

SECOND YEAR

CODE	MODULE	NQF-L	CREDIT	PREREQUISITE MODULE(S)
FIRST SEMESTER				
CGBF15D	Computing Fundamentals B	(5)	(15)	Computing Fundamentals A
PPBF15D	Principles of Programming B	(5)	(15)	Principles of Programming A
TOTAL CREDITS FOR THE SEMESTER:			30	
SECOND SEMESTER				
BCMF15D	Business Cost Management	(5)	(15)	Computational Mathematics
BFSF15D	Business Fundamentals	(5)	(15)	Computational Mathematics
TOTAL CREDITS FOR THE SEMESTER:			30	
TOTAL CREDITS FOR THE SECOND YEAR:			**60**	

THIRD YEAR

CODE	MODULE	NQF-L	CREDIT	PREREQUISITE MODULE(S)
FIRST SEMESTER				
BUA216D	Business Analysis A	(6)	(15)	Computational Mathematics
DBA216D	Database Management Systems A	(6)	(15)	Computing Fundamentals B Principles of Programming B
SIS216D	Introduction to Strategic Information Systems	(6)	(15)	Business Fundamentals Computing Fundamentals B
SYA216D	System Analysis A	(6)	(15)	Computational Mathematics
TOTAL CREDITS FOR THE SEMESTER:			60	

SECOND SEMESTER

BUB216D	Business Analysis B	(6)	(15)	Business Analysis A
DBB216D	Database Management Systems B	(6)	(15)	Database Management Systems A
ITP216D	IT Project Management A	(6)	(15)	Computational Mathematics
SYB216D	System Analysis B	(6)	(15)	System Analysis A

TOTAL CREDITS FOR THE SEMESTER: 60

TOTAL CREDITS FOR THE THIRD YEAR: **120**

FOURTH YEAR

CODE	MODULE	NQF-L	CREDIT	PREREQUISITE MODULE(S)
FIRST SEMESTER				
IEA316D	Introduction to Enterprise Architecture	(6)	(15)	Introduction to Strategic Information Systems
ISD316D	Information System Deployment	(6)	(15)	Business Analysis B Database Management Systems B IT Project Management A System Analysis B
ITP316D	IT Project Management B	(6)	(15)	IT Project Management A
PCT316D	Process Testing	(6)	(15)	Database Management Systems B

TOTAL CREDITS FOR THE SEMESTER: 60

SECOND SEMESTER
On completion of first-semester modules.

WII316D	Work-Integrated Learning	(6)	(60)

TOTAL CREDITS FOR THE SEMESTER: 60

TOTAL CREDITS FOR THE FOURTH YEAR: **120**

TOTAL CREDITS FOR THE QUALIFICATION: **360**

MODULE INFORMATION (OVERVIEW OF SYLLABUS)

The syllabus content is subject to change to accommodate industry changes. Please note that a more detailed syllabus is available at the Department or in the study guide that is applicable to a particular module. At time of publication, the syllabus content was defined as follows:

B

BUSINESS ANALYSIS A (BUA216D) **1 X 3-HOUR PAPER**

(Module custodian: Department of Informatics)

This module introduces the student to the concepts and principles of business analysis, communication skills, interaction skills, ethics and behaviour within an organisation, Organisational Culture and lastly individual perception, attitudes and personality. (Total notional time: 150 hours)

BUSINESS ANALYSIS B (BUB216D) **1 X 3-HOUR PAPER**

(Module custodian: Department of Informatics)

This module prepares the students with the basic understanding of business analysis concepts thus enabling them to possess a clear understanding of the business analysis environment, knowing the projects and how to increase their value. This entails building the Business Analysis foundation, time management, how to build relationships with the clients and within the organisation. (Total notional time: 150 hours)

BUSINESS COST MANAGEMENT (BCMF15D) **1 X 3-HOUR PAPER**

(Module custodian: Department of Informatics)

This module prepares the student to apply the concepts and applications of any accounting system (cost management) to the organisation structure or to a project. The student will be able to apply his/her knowledge of basic cost management concepts such as budgets and expenses to any organisation's structure. (Total notional time: 150 hours)

BUSINESS FUNDAMENTALS (BFSF15D) **1 X 3-HOUR PAPER**

(Module custodian: Department of Informatics)

This module prepares the student to apply the concepts and principles of business, management and Organisational behaviour to the organisation or to a project. The student will be able to apply his/her knowledge of basic business and management theory and Organisational behaviour concepts to either an organisation's structure. (Total notional time: 150 hours)

C

COMPUTING FUNDAMENTALS A (CGAF05D) **1 X 3-HOUR PAPER**

(Module custodian: End User Computing Unit)

The focus of this module is to lay the foundation for the design and implementation of computer programming solutions on different platforms, including the web and mobile devices by enabling students to gain basic computer professional skills in the area of computer structure, operating systems, security and computer professional practice. The student will be able to apply his/her knowledge in the above-mentioned areas to produce solutions which are meant to solve problems arising in the software industry. (Total notional time: 150 hours)

COMPUTING FUNDAMENTALS B (CGBF15B) **1 X 3-HOUR PAPER**

(Module custodian: End User Computing Unit)

This module provides the foundation for the design and implementation of computer programming solutions on different platforms. The focus of this module is to lay the foundation for the design and implementation of computer programming solutions on different platforms, including the web and mobile devices. The student will be able to apply his/her knowledge of concepts and principles relating to information systems, databases, systems analysis, system's requirements, and IT project management. (Total notional time: 150 hours)

COMMUNICATION FOR ACADEMIC PURPOSE (COEF05X) **1 X 3-HOUR PAPER**

(Module custodian: ICT First Years' and Foundation Unit)

This module applies a variety of listening and note taking skills for academic and professional purposes, different reading strategies appropriate to the purpose for reading in both an academic and professional environment, composes a selection of written texts related to a specific field of study. Plan, draft, revise and edit written work for clarity, coherence, style and appropriateness. (Total notional time: 100 hours)

COMPUTATIONAL MATHEMATICS (COHF05D) **1 X 3-HOUR PAPER**

(Module custodian: Department of Computer Science)

The focus of this module is to teach students mathematical reasoning which will be necessary to solve complex programming problems in later courses. The theoretical knowledge obtained from this module is expected to develop students to solve real world computer systems challenges by applying logic from a mathematical perspective relating to computer applications. (Total notional time: 150 hours)

D

DATABASE MANAGEMENT SYSTEMS A (DBA216D) **1 X 3-HOUR PAPER**

(Module custodian: Department of Informatics)

In this module, students will gain an understanding of the process of handling database management so that they can use this knowledge to create a new object-orientated database. Students will also learn the various tools and techniques that can be used for Database Management. (Total notional time: 150 hours)

DATABASE MANAGEMENT SYSTEMS B (DBB216D) **1 X 3-HOUR PAPER**

(Module custodian: Department of Informatics)

In this module, students will gain an ability to create and manipulate object-orientated databases. Candidates completing this module will be able to apply database management techniques, what is involved in the databases management process, be able to use databases utilising various techniques, attention will be given to the various techniques of manipulating databases. Students will also learn how to use MySQL as a tool within the project to reach a successful solution of the problem and the various manipulations of data. (Total notional time: 150 hours)

I

INFORMATION LITERACY (INFF25D) **CONTINUOUS ASSESSMENT**

(Module custodian: Directorate of Library and Information Services)

Introduction of information literacy. Development of a search strategy and application of a search string to search engines and academic databases. Evaluation of information sources. Ethical and legal use of information. Organisation and management of information. (Total notional time: 30 hours)

INFORMATION SYSTEM DEPLOYMENT (ISD316D) **PROJECT ASSESSMENT**

(Module custodian: Department of Informatics)

The student will be able to apply his/her knowledge of basic cost management, business theory, project management and Organisational performance with business analysis, system analysis and database management to deploy an Information System. Upon completion of the module, the student will be able to research, identify, analyse, and design; propose expansion, test, maintain and deploy an Organisational IT system. (Total notional time: 150 hours)

INTRODUCTION TO ENTERPRISE ARCHITECTURE (IEA316D) **1 X 3-HOUR PAPER**

(Module custodian: Department of Informatics)

This module prepares the student to apply their individual knowledge and skill to identify the enterprise architecture of an organisation. The focus is to introduce students to Enterprise Architecture - contexts (Zachman), methodologies, frameworks (TOGAF) and handling of policies and procedures for an organisation). (Total notional time: 150 hours)

INTRODUCTION TO STRATEGIC INFORMATION SYSTEMS (SIS216D) **1 X 3-HOUR PAPER**

(Module custodian: Department of Informatics)

This module prepares the student to apply the concepts and principles to determine the actual output or results of an organisation measured against the intended outputs (goals and objectives), therefore the strategic information systems. (Total notional time: 150 hours)

IT PROJECT MANAGEMENT A (ITP216D) **1 X 3-HOUR PAPER**

(Module custodian: Department of Informatics)

This module prepares the student to apply their individual knowledge and skill to administer the management of a project related to the organisation and the Information System environment. The focus of this module is to expose the graduate to the fundamentals of project management. (Total notional time: 150 hours)

IT PROJECT MANAGEMENT B (ITP316D) **1 X 3-HOUR PAPER**

(Module custodian: Department of Informatics)

This module prepares the student to apply advanced individual knowledge and skill to administer the management of agile project related to the organisation and the Information System environment. The focus of this module is to expose the student to the strategies on management of time through all the project phases. (Total notional time: 150 hours)

L

LIFE SKILLS (LFSF25X) **CONTINUOUS ASSESSMENT**

(Module custodian: Directorate of Student Development and Support)

Personal, socio-emotional and academic skills development for students in higher education. This module includes: 1. Intra- and interpersonal skills (e.g. emotional intelligence, relationships, and conflict management); 2. General study skills (e.g. time management, goal setting, learning styles); 3. Health and wellness (e.g. HIV/AIDS, GBV issues, substance abuse); 4. Student life and adjustment (e.g. identity development, adjusting to a higher education environment); and 5. Financial management. (Total notional time: 20 hours)

P

PRINCIPLES OF PROGRAMMING A (PPAF05D) **1 X 4-HOUR COMPUTER-BASED**

(Module custodian: Department of Computer Science)

The focus of this module is to introduce students to the basic object-oriented programming (OOP) concepts in VB.NET such as the importance of OOP in the software industry, identification of objects from problem statements, relationship between objects and classes, usage of predefined classes in programs, arithmetic operators, data types and their conversion. (Total notional time: 150 hours)

PRINCIPLES OF PROGRAMMING B (PPBF15D) **1 X 4-HOUR COMPUTER-BASED**

(Module custodian: Department of Computer Science)

This module introduces students to intermediate object-oriented programming concepts in VB.NET such as selection control structures, iteration control structures; and manipulation of strings, characters and primitive arrays. (Total notional time: 150 hours)

PROCESS TESTING (PCT316D) **1 X 3-HOUR PAPER**

(Module custodian: Department of Informatics)

In this module, students will gain the fundamentals of process testing skills so that they can effectively use this knowledge to bridge the gap between business modelling and system deployment. Students that have completed this module will be able to conduct fundamental testing on Information systems, also within the Information Technology environment. (Total notional time: 150 hours)

S

SYSTEM ANALYSIS A (SYA216D) **1 X 3-HOUR PAPER**

(Module custodian: Department of Informatics)

This module prepares the student to apply the concepts and principles of a predictive system structured approach to system analysis and design. Upon completion of the module, the student will be able to identify and explain a structured approach concept and principles, and be able to design a system based on the System Development Life Cycle (SDLC). (Total notional time: 150 hours)

SYSTEM ANALYSIS B (SYB216D) **1 X 3-HOUR PAPER**

(Module custodian: Department of Informatics)

Upon completion of the module, the student will be able to identify and explain an object-orientated approach concept and principles, know the difference between object-orientated and structured approaches and be able to design a system based on a best practice modelling technique (such as UML). (Total notional time: 150 hours)

W

WORK-INTEGRATED LEARNING (WII316D) **WORK-INTEGRATED LEARNING**

(Module custodian: Department of Informatics)

This module prepares the student to integrate the application of the concepts and principles learned through the theoretical learning of all the modules in the qualification. The student will be able to apply his/her knowledge of theory aquired in the qualification. Upon completion of the module, the student will be able to analyse and behave professionally in the working environment. (Total notional time: 600 hours)