

POSTGRADUATE DIPLOMA IN COMPUTER SCIENCE

Qualification code: PDRS21 - NQF Level 8 (120 credits)

SAQA ID: 111271, CHE NUMBER: H/H16/E186CAN

Campus where offered:

Soshanguve South Campus

REMARKS

a. *Admission requirement(s):*

An Advanced Diploma in Computer Science, **or** a Baccalaureus Technologiae: Information Technology in the field of Software Development or Technical Applications or Web and Application Development, **or** a Bachelors' Degree in Computer Science, **or** an equivalent qualification at NQF level 7 with 120 credits. Preference will be given to candidates who obtained an average of 60% in the previous qualification.

Holders of any other equivalent South African or international qualification may also be considered, see Chapter 1 of Students' Rules and Regulations.

b. *Selection criteria:*

Admission is based on a personal interview with a departmental selection panel. Candidates are evaluated based on the previous qualification obtained and/or work experience.

Acceptance is subject to available capacity according to the Student Enrolment Plan (SEP). 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.

c. *Recognition of Prior Learning (RPL), equivalence and status:*

See Chapter 30 of Students' Rules and Regulations.

d. *Intake for the qualification:*

January only.

e. *Presentation:*

Day classes offered on Saturdays over a period of two years.

f. *Duration:*

A minimum of one or two years (depending on the programme offering).

g. *Re-registration:*

A student may re-register for the module Research Project only with the permission of the Head of the Department. The purpose of the re-registration is to provide students with an opportunity to complete the project only, and not to redo it, should they fail the module.

h. *Exclusion and readmission:*

See Chapter 2 of Students' Rules and Regulations.

CURRICULUM

Modules are offered as determined by the Head of the Department.

ATTENDANCE 2021

CODE	MODULE	NQF-L	CREDIT	PREREQUISITE MODULE(S)
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FIRST SEMESTER

MSI118G	Modelling and Simulations	(8)	(15)	
RMR118G	Research Methodologies	(8)	(15)	



SECOND SEMESTER

DSC118G	Data Science and Big Data Analytics	(8)	(15)
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plus three of the following electives:

First semester

NTT118G	New Technological Trends (first-semester module)	(8)	(15)
OEN118G	Ontology Engineering (first-semester module)	(8)	(15)

Second semester

ACX118G	Algorithms and Complexity (second-semester module)	(8)	(15)
FRD118G	Formal Aspects of Computing (second-semester module)	(8)	(15)

ATTENDANCE 2022

CODE	MODULE	NQF-L	CREDIT	PREREQUISITE MODULE(S)
RRS108G	Research Project	(8)	(30)	Research Methodologies
RRS118R	Research Project (re-registration semester module, see Paragraph g)	(8)	(0)	

plus three of the following electives if not already completed in the first year:

First semester

NTT118G	New Technological Trends (first-semester module)	(8)	(15)
OEN118G	Ontology Engineering (first-semester module)	(8)	(15)

Second semester

ACX118G	Algorithms and Complexity (second-semester module)	(8)	(15)
FRD118G	Formal Aspects of Computing (second-semester module)	(8)	(15)

TOTAL CREDITS FOR THE QUALIFICATION: **120**

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:

A

ALGORITHMS AND COMPLEXITY (ACX118G)

1 X 4-HOUR COMPUTER-BASED

(Module custodian: Department of Computer Science)

The purpose of this module is to prepare students to acquire the central concepts and skills required to design and implement algorithms and conduct their computational complexity analysis for performance efficiency of implementation. (Total tuition time: not available)



D

DATA SCIENCE AND BIG DATA ANALYTICS (DSC118G) **1 X 4-HOUR COMPUTER-BASED**
(Module custodian: Department of Computer Science)

The focus of this module is to train students in the intersection of subjects ranging from statistics, information and computer science, system design and social sciences. (Total tuition time: not available)

F

FORMAL ASPECTS OF COMPUTING (FRD118G) **1 X 4-HOUR COMPUTER-BASED**
(Module custodian: Department of Computer Science)

This module prepares the student to use formal methods as a tool in the development of a set of modelling notations that allow software architects to precisely specify the structure, behaviour and properties of the critical aspects of a system. (Total tuition time: not available)

M

MODELLING AND SIMULATION (MSI118G) **1 X 4-HOUR COMPUTER-BASED**
(Module custodian: Department of Computer Science)

This module will improve the student's understanding of how models and simulations of real or theoretical systems work, how they are designed and implemented subject to inherent constraints and based on the assumptions of reality involved, what limitations they have, and what can be done to improve them. (Total tuition time: not available)

N

NEW TECHNOLOGICAL TRENDS (NTT118G) **1 X 4-HOUR COMPUTER-BASED**
(Module custodian: Department of Computer Science)

The purpose of this module is to expose students to the trends in the evolution and continuing developments in the field of Computing and its associated academic disciplines, including Computer Science, Information Systems, Information Technology and Multimedia Computing. (Total tuition time: not available)

O

ONTOLOGY ENGINEERING (OEN118G) **1 X 4-HOUR COMPUTER-BASED**
(Module custodian: Department of Computer Science)

The focus of this module is to lay the foundation for the design and implementation ontology solutions on different platforms, including the web and mobile devices. (Total tuition time: not available)

R

RESEARCH METHODOLOGIES (RMR118G) **CONTINUOUS ASSESSMENT**
(Module custodian: Department of Computer Science)

The focus of this module is to introduce students to research methods, planning, management, ethics, legal and professional issues and also write scientific research articles and theses/dissertations. (Total tuition time: not available)

RESEARCH PROJECT (RRS108G, RRS118R) **PROJECT ASSESSMENT**
(Module custodian: Department of Computer Science)

The focus of this module is to enable students to apply and implement the research principles acquired in the Research Methodologies module on a proposed research topic. (Total tuition time: not available)

