

MAGISTER TECHNOLOGIAE: INFORMATION NETWORKS (Structured)

Qualification code: MTINS0 - NQF Level 8

Campus where offered: Soshanguve South Campus

Please note that a moratorium was placed on new intakes as from 2016 until further notice.

REMARKS

a. *Admission requirement(s):*

Any four-year Baccalaureus Technologiae degree in information technology or an equivalent qualification from a South African university. A candidate should preferably have passed Principles of Research IV or a Research Methodology subject before registration, and if not, definitely have to pass that subject before their dissertations are accepted.

Holders of any other equivalent South African or international qualification may also be considered, but will have to apply about six months in advance for the recognition of such qualifications. Candidates will be required to submit an equivalent of their qualifications by the South African Qualifications Authority (SAQA). The Faculty reserves the right to assess these qualifications and the applicant's suitability.

In addition, it is also compulsory for all English second-language speakers to take an English proficiency test. If a candidate's results for that test are unsatisfactory, he or she will have to take an advanced short programme in English. Candidates have to pay for the programme themselves. A scientific writing programme, which forms part of the research report, will also be presented at the University.

b. *Selection criteria:*

Selection is based on a personal interview with a departmental selection panel and the approval of a study field with an acceptable research proposal idea, following the guidelines of the Postgraduate Policy and Procedures. These procedures will be fully explained to the prospective student during the personal interview.

c. *Duration:*

A minimum of one year and a maximum of three years.

d. *Presentation:*

Evening or block-mode classes and research. If fewer than 15 students are enrolled for a specific subject, the Department may decide not to offer the subject.

e. *Exclusion and readmission:*

See Chapter 2 of Students' Rules and Regulations.

f. *Rules on postgraduate studies:*

See Chapter 8 of the Students' Rules and Regulations for more information.

g. *Subject credits:*

Subject credits are shown in brackets after each subject.

CURRICULUM

FIRST OR SECOND SEMESTER

CODE	SUBJECT	CREDIT
IFN501T	Research Report: Information Networks V (0,500) (year subject)	



IFN501R	Research Report: Information Networks V (0,000) (re-registration)	
RMD511C	Research in Information Networks V	(0,100)

plus four of the following subjects. All subjects are offered as determined by the Head of the Department:

COB501T	Communication Networks V	(0,100)
DEG501T	Data Engineering V	(0,100)
HCA501T	Human Computer Interaction V	(0,100)
ITU501T	Information Security V	(0,100)
ITW501T	IT Law V	(0,100)
NEU501T	Neural Networks V	(0,100)
SFE501T	Software Engineering V	(0,100)
SOL501T	Systems Engineering Solutions V	(0,100)

TOTAL CREDITS FOR THE QUALIFICATION: **1,000**

SUBJECT 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 subject. On 23 August 2017, the syllabus content was defined as follows:

C

COMMUNICATION NETWORKS V (COB501T) **CONTINUOUS ASSESSMENT**
(Subject custodian: Department of Computer Science)
 A study of advanced communication networks. (Total tuition time: not available)

D

DATA ENGINEERING V (DEG501T) **CONTINUOUS ASSESSMENT**
(Subject custodian: Department of Computer Science)
 Aim: To introduce the students to the tools and techniques of data mining, data warehousing and knowledge engineering. Objectives: On completion of this subject, the students should be able to apply the various tools and techniques of data mining, data warehousing and knowledge engineering. Introduction to Cloud concepts. Key Topics: Data sampling, modelling, processing, decision tree induction, model evaluations, classification tools, clustering tools, association tools, genetic algorithm and customer-relationship management. (Total tuition time: ± 40 hours)

H

HUMAN COMPUTER INTERACTION V (HCA501T) **CONTINUOUS ASSESSMENT**
(Subject custodian: Department of Computer Science)
 Advanced knowledge of Human Computer Interaction design and development. Contents include usability goals, usability design and principles, the process of interaction design, prototypes, usability engineering life-cycle model, data gathering, understanding users, activity, designing for collaboration and communication, affective aspects, persuasive technologies, identifying needs and establishing requirements, design, prototyping and construction, introducing evaluation, usability testing and field studies. (Total tuition time: ± 40 hours)

I

INFORMATION SECURITY V (ITU501T) **CONTINUOUS ASSESSMENT**
(Subject custodian: Department of Computer Science)
 Advanced network security is covered in this subject. (Total tuition time: ± 40 hours)



IT LAW V (ITW501T)**CONTINUOUS ASSESSMENT****(Subject custodian: Department of Informatics)**

Interpretation and implementation of Bills and Acts relevant to the IT industry, e.g. Electronic Communication and Transaction Act and Access to Information and Privacy Acts. (Total tuition time: not available)

N**NEURAL NETWORKS V (NEU501T)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Computer Systems Engineering)**

Genetic algorithms and the application of neural networks in different environments. (Total tuition time: not available)

R**RESEARCH IN INFORMATION NETWORKS V (RMD511C)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Computer Science)**

AIM/PURPOSE: To introduce the basics of paradigms, methodologies, and techniques of scientific research. OBJECTIVES: To provide a holistic overview of the research processes, be able to write a good research proposal and to implement it into a form of a dissertation. (Total tuition time: ± 40 hours)

RESEARCH REPORT: INFORMATION NETWORKS V (IFN501T/R)**MINI-DISSERTATION ASSESSMENT****(Subject custodian: Department of Computer Science)**

Syllabus content not available. Please contact the Head of the Department.

S**SOFTWARE ENGINEERING V (SFE501T)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Computer Science)**

Development of high-level business processes by using UML, cost and risk management and team organisation. (Total tuition time: ± 40 hours)

SYSTEMS ENGINEERING SOLUTIONS V (SOL501T)**CONTINUOUS ASSESSMENT****(Subject custodian: Department of Computer Science)**

AIM/PURPOSE: To introduce students to the various aspects of SOA. OBJECTIVES: On completion of this subject, the students should acquire the knowledge and skills required to manage an SOA project. Have an understanding of the security concerns, activity management, composition, transaction management, and Service modelling. (Total tuition time: ± 40 hours)

