MAT2611 : Linear algebra (Mathematics 2611)
MAT215V : Calculus in higher dimensions (Mathematics 215)
GGH204W : The interpretation of maps, aerial photographs and satellite images (Geography 203)
GGH201T : The African challenge: people and environment (Geography 201)
GGH202U : The geography of basic services provision (Geography 202)
ICT2621 : Structured systems analysis and design (Information Systems 2621)

**SECOND LEVEL**

This level comprises 11 modules.

- COS201V : Theoretical computer science 2
- COS211X : Programming: data structures
- COS214 : Programming: contemporary concepts
- COS2213 : Computer organisation
- COS2269 : Computer networks
- COS261C : Formal logic 2
- ICT2621 : Structured systems analysis and design
- ICT2622 : Object-oriented analysis
- INF2611 : Visual programming 2
- MNE2601 : Introduction to entrepreneurship and small-business management
- DSC2602 : Rational decision-making

**THIRD LEVEL**

This level comprises 11 modules.

- COS301Y : Theoretical computer science 3
- COS3114 : Advanced programming
- COS3216 : Operating systems and architecture
- COS340A : Computer graphics
- COS351D : Techniques of artificial intelligence
- COS361F : Formal logic 3
- INF303D : Principles of databases
- INF305F : Advanced systems development
- INF307H : Database design and implementation
- INF308J : Software project management
- INF320E : Human-computer interaction 2

**BSc (with specialisation in Information Technology and Computer Science)**

Purpose: the overall purpose of the programme is the education and training of responsible and competent Information Technology and Computer Science professionals/practitioners.

Prerequisite: See Chapter 3, Sc 1(e)

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**NB**

Students registering for the first time in 2010 should register for a BSc (Degree code: 98801) with major in Computer Science or Information Systems. See the recommended curricula below.

**BSc (major in Computer Science)**

Purpose:
- to provide the graduate with knowledge, skills and competence in software engineering, computational intelligence, scientific computing, information technology management, informatics, and decision modelling,
- to provide the international community with graduates who have the potential to become intellectual leaders through continuing learning.

The curriculum comprises 30 modules.

**FIRST LEVEL**

This level comprises 8 modules.

- COS111S : Theoretical computer science 1
- COS111U : Introduction to programming 1
- COS112V : Introduction to programming 2
- COS113W : Computer systems: Fundamental concepts
- INF1059 : Introduction to business information systems
- INF1208 : Human-computer interaction 1
- INF1511 : Visual programming 1
- MAT101N : Linear algebra

**SECOND LEVEL**

This level comprises 8 modules.

- COS211S : Introduction to programming 1
- COS211V : Introduction to programming 2
- COS213W : Computer systems: fundamental concepts
- FAC1502 : Accounting concepts, principles and procedures
- INF1059 : Introduction to business information systems
- INF1208 : Human-computer interaction 1
- INF1511 : Visual programming 1
- MNB101D : Business management 1A

**THIRD LEVEL**

This level comprises 12 modules.

- AUE202M : Introduction to the performing of the audit process
- COS2269 : Computer networks 1
- COS211X : Programming: data structures
- COS214 : Programming: contemporary concepts
- FAC1601 : Accounting reporting
- ICT2621 : Structured systems analysis and design
- ICT2622 : Object-oriented analysis
- INF2611 : Visual Programming 2
- MNG2016 : General management
- MNB102E : Business management 1B
- MNE2601 : Introduction to entrepreneurship and small-business management
- STA1510 : Introduction to statistics
THIRD LEVEL

This level comprises 10 modules.

- COS3114 : Advanced programming
- INF303D : Principles of Databases
- INF305F : Advanced Systems development
- INF307H : Database design and implementation
- INF308J : Software project management
- INF320E : Human Computer Interaction II
- MNE3701 : Entrepreneurship and small business management
- MNG301A : Strategic management 3A
- MNG302B : Strategic management 3B

Prior to 2010 students could register for one of the following streams:

- Software Engineering
- Computational Intelligence
- Scientific Computing
- Information Systems and Geography
- Information Technology Management
- Computational Statistics (Programming)
- Computational Statistics (Information Systems)
- Information and Decision Modelling
- Decision Modelling and Computing

TRANSITIONAL ARRANGEMENTS

From 2010 the codes of some of the modules in the eight streams below will change. The table below lists those modules together with their old codes. Students who have completed the module under the old code cannot register for the module under the new code.

<table>
<thead>
<tr>
<th>Old code in 2009 and before</th>
<th>New code from 2010 onwards</th>
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<tbody>
<tr>
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</table>

Software Engineering stream (02089 – ISE)

NB

The last year of new registrations for this stream was 2009. Students have until the end of 2012 to complete the qualification. From 2010 the codes of some of the modules in this stream will change. Refer to the table under Transitional arrangements above.

Purpose: this programme stream concerns the development of robust and reliable software. It will provide the BSc graduate with the knowledge, specific skills and applied and theoretical competence to occupy entry level positions involved in the development of computer based systems ranging from business applications to software control systems in power plants, aircraft, medical devices, etc.

The curriculum comprises 30 modules.

FIRST LEVEL

This level comprises 14 modules, the following 10 of which are compulsory:

- INF1059 : Introduction to Business Information Systems (Information Systems 1059)
- INF1208 : Human-computer interaction I (Information Systems 1208)
- COS101S : Theoretical computer science 1 (Computer Science 101)
- COS111U : Introduction to programming 1 (Computer Science 111)
- COS112V : Introduction to programming 2 (Computer Science 112)
- COS113W : Computer systems: fundamental concepts (Computer Science 113)
- INF1311 : Visual programming 1 (Information Systems 1511)
- CSS101H : Comprehension skills for science (Comprehension Skills for Science 101)
- STA1501 : Basic statistics (Statistics 1510)
- STA122N : Calculus A (Mathematics 1512)
- MAT103N : Linear algebra (Mathematics 103)
- STA1503 : End-user computing (practical) (Information systems 1501)

plus 4 suitable first-year modules.

If COS2338 is chosen on second level the following 3 modules must be included:

- MAT1511 : Precalculus 8 (Mathematics 1511)
- MAT1512 : Calculus A (Mathematics 1512)
- MAT103N : Linear algebra (Mathematics 103)

If COS340A is chosen on third level, MAT103N must be included.

SECOND LEVEL

This level comprises 8 modules, the following 4 of which are compulsory:

- ICT2621 : Structured systems analysis and design (Information Systems 2621)
- ICT2622 : Object-oriented analysis (Information Systems 2622)
- COS211X : Programming: data structures (Computer Science 211)
- COS2144 : Programming: contemporary concepts (Computer Science 2144)

and 4 of the following modules:

- COS2101V : Theoretical computer science 2 (Computer Science 201)
- COS2213 : Computer organisation (Computer Science 2213)
- COS2269 : Computer networks I (Computer Science 2269)
- COS2230 : Numerical methods I (Computer Science 2330)
- COS261C : Formal logic 2 (Computer Science 261)

THIRD LEVEL

This level comprises 8 modules, the following 2 of which are compulsory:

- INF303D : Principles of databases (Information Systems 303)
- INF305F : Advanced systems development (Information Systems 305)

plus at least 1 of the following modules:

- INF307H : Database design and implementation (Information Systems 307)