



NAMIBIA UNIVERSITY  
OF SCIENCE AND TECHNOLOGY

Office of the Registrar

# Yearbook - Part 4

## Faculty of Computing and Informatics



2020



PAMIBIA  
UNIVERSITY  
OF SCIENCE  
AND TECHNOLOGY

YEARBOOK 2020

# PART 4

FACULTY OF  
COMPUTING  
AND INFORMATICS

(Note: The final interpretation of all regulations in this *Yearbook for the Faculty of Computing and Informatics* shall be vested in Council).

## NOTE

The ***Yearbook for the Faculty of Computing and Informatics*** is valid for 2020 only. Curricula and syllabi may be amended for 2021. It is obtainable free of charge from:

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Due to the rapidly changing external environment that many programmes operate in, and the University's desire to remain constantly relevant in its offerings, some programmes may be significantly amended after publication of this Yearbook. Please consult our website for the latest versions of our curricula, syllabi and academic regulations.

The fact that particulars of a specific programme, field of study, subject, or course have been included in this Yearbook does not necessarily mean that such a programme, field of study, subject, or course will be offered in the academic year 2020.

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Code 23

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## CENTRE OF EXCELLENCE IN INFORMATION TECHNOLOGY

Code 22

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**UNDERGRADUATE PROGRAMMES****QUALIFICATIONS OFFERED**

	<b>CODES</b>
Certificate in Advanced Web Technologies	07CAWT
Certificate in Big Data Technologies	07CBDT
Certificate in Ethical Hacking and Information Security	07CEHI
Bachelor of Computer Science (Systems Administration, Communication Networks or Software Development) (Phasing out from 2020)	07BACS
Bachelor of Computer Science (Systems Administration, Communication Networks or Software Development) (Revised- Phasing in 2020)	07BCMS
Bachelor of Computer Science in Cyber Security	07BCCS
Bachelor of Informatics (Phasing out from 2020)	07BAIF
Bachelor of Informatics (Revised- Phasing in 2020)	07BAIT
Bachelor of Computer Science (Systems Administration, Communication Networks or Software Development) (Revised- Phasing in 2020)	07BCMS

**Description**

Computer Science and Informatics refer to the skills and knowledge needed to design applications and operate computer systems. Computer Science and Informatics studies at the Namibia University of Science and Technology offer different areas of specialisations as well as different exit levels.

**Bachelor of Computer Science in Cyber Security:** for those who successfully completed all requirements for the three-year degree of the phasing in (2016) programme

**Bachelor of Computer Science (Systems Administration, Communication Networks or Software Development) or Bachelor of Informatics:** for those who successfully completed all requirements for the three-year degree of the phasing in (2020) programme.

**Certificate in Advanced Web Technologies, Certificate in Big Data Technologies and Certificate in Ethical Hacking and Information Security:** for those who successfully completed all requirements for the one semester certificate of the three CEIT programme.

**Special Faculty Assessment Regulations**

There are situations where assessment of an individual course provided by other Faculties will supersede assessment regulations. This is reflected in the course documentation.

**Course Evaluation for all courses offered by the Faculty utilising in-course assessment and a Theory Paper and a Practical Paper**

- An in-course mark is determined by continuous evaluation made up of tests and practicals during the semester.
- Students must have satisfactorily completed to the minimum standard (40% overall) all practicals and tests during the semester to be admitted to the final examination. E.g. a class mark of 40%.

**Final Examination consists of two papers: Theory and Practical**

- A sub-minimum of 40% must be obtained in each paper. The combined examination mark must be at least 50% overall.
- In-course mark and examination mark shall be used jointly to determine the final mark in the ratio of 50% (semester mark) to 50% (examination mark) or 60% (semester mark) to 40% (examination mark) or as specified in the course outline.

**Course Evaluation for all courses offered by the Faculty utilising in-course assessment and a Theory Paper**

- An in-course mark is determined by continuous evaluation made up of tests and assignments during the semester.
- Students must have satisfactorily completed to the minimum standard (40% overall) all assignments and tests during the semester to be admitted to the final examination.

**Final examination consists of one Theory Paper**

- A sub-minimum of 40% must be obtained in the examination.
- In-course mark and examination mark shall be used jointly to determine the final mark in the ratio of 50% semester mark to 50% examination mark.
- In-course mark and examination mark shall be used jointly to determine the final mark in the ratio of 50% (semester mark) to 50% (examination mark) or 60% (semester mark) to 40% (examination mark) or as specified in the course outline.

**Course Evaluation for all courses offered by the Faculty using Continuous Evaluation only**

- The semester mark is determined by continuous evaluation made up of a minimum of four assessments during the semester.
- The course mark is the final mark.
- Students must obtain a 50% mark to pass the course.
- Supplementary tests and extensions will be defined within the individual course outline.

**NB:** For all assessments, the Faculty plagiarism policy applies.



**CENTRE OF EXCELLENCE IN INFORMATION TECHNOLOGY (CERTIFICATE PROGRAMMES)**

**CERTIFICATE IN ADVANCED WEB TECHNOLOGIES**

**07CAWT**

**NQF Level: 7**

**NQF Credits: 60**

**NQF Qualification ID: Q 2016**

**Description**

The Certificate in Advanced Web Technologies provides students with an understanding of the emerging approaches in Web technologies. It seeks to equip students with the practical skills required to design and implement Web applications. The programme will further expose students to advanced concepts, tools and methods used to build Internet-based applications. The programme further aims to develop student’s ability to communicate these insights to stakeholders within their respective organisations.

Graduates of this programme will be able to find employment in both the public and private sectors, in roles that include, but are not limited to lead developers in Software Development teams or designers. They can also team-up with other graduates and participate in joint venture.

**Admission Requirements**

Applicants must have completed a Diploma programme at NQF level 6 in Computer Science, Information Systems, Information Technology or Informatics or an equivalent qualification from an accredited institution. Applicants with one year experience in the afore-mentioned fields will be given priority.

Applicants from other science and engineering disciplines or with prior learning experience may be admitted into this programme at the discretion of the Centre. Such applicants may be required to write a test or an interview to guide the selection.

**Articulation Arrangements**

Transfer of credits will be dealt with according to NUST regulations on Recognition of Prior Learning. This provides for course-by-course credits as well as credit transfer by volume under certain academic conditions. The maximum credit that can be granted is 50% of the total credits for the qualification.

The Certificate is a programme with a single exit route, referred to as the professional route and as such, articulation arrangements are only acceptable between programmes offered by the CEIT. The Certificate in Advanced Web Technologies will not lead to further academic study.

**Mode of Delivery**

The programme will be delivered on full-time (day and/or evening) in accordance with NUST rules. The e-learning platform, provided all requirements for such delivery mode are met, will be part and parcel of the delivery mode to enhance course content reachability and administration of assessments and student engagement.

**CURRICULUM**

**Year 1**

**Semester 1/2**

<b>Course Code</b>	<b>Course Title</b>	<b>Prerequisites</b>	<b>NQF Levels</b>	<b>NQF Credits</b>
CPC711S	Computer Programming Concepts	None	5	10
WPG711S	Web Programming 1	None	7	8
DCS711S	Database Concepts	None	7	8
WPG721S	Web Programming 2	None	7	12
JWT711S	JavaScript-based Web Technologies	None	7	10
PRJ711S	Project	None	7	12

**CERTIFICATE IN BIG DATA TECHNOLOGIES****07CBDT****NQF Level: 7****NQF Credits: 62****NQF Qualification ID: Q 2015****Description**

The Certificate in Big Data Technologies (CBDT) provides students with an understanding of the emerging technologies that facilitate the storage, processing, and analysis of big data. It seeks to equip students with the practical skills required to turn large volumes of data into actionable insights. The programme exposes students to the design and building of platforms and systems that can handle the gigantic amount of data available today. The programme further aims to develop students' ability to communicate these insights to stakeholders within their respective organisations.

Graduates of this programme will be able to find employment in both the public and private sectors, in roles that include, but are not limited to, software development, data analytics, Dev-ops (a new job description at the frontier of software development and infrastructure operations) and systems administration,

**Admission Requirements**

Applicants must have completed a Diploma programme at NQF level 6 in Computer Science, Information Systems, Information Technology or Informatics or an equivalent qualification from an accredited institution. Applicants with one-year experience in the afore-mentioned fields will be given priority.

Applicants from other science and engineering disciplines or with prior learning experience may be admitted into this programme at the discretion of the Centre. Such applicants may be required to write a test or an interview to guide the selection.

**Articulation Arrangements**

Transfer of credits will be dealt with according to NUST regulations on Recognition of Prior Learning. This provides for course-by-course credits as well as credit transfer by volume under certain academic conditions. The maximum credit that can be granted is 50% of the total credits for the qualification.

The Certificate is a programme with a single exit route, referred to as the professional route and as such, articulation arrangements are only acceptable between programmes offered by the Centre. The Certificate in Big Data Technologies will not lead to further academic study. E.g. Honours or Masters. The Certificate in Big Data Technologies will not lead to further academic study.

**Mode of Delivery**

The programme will be delivered on full-time (day and/or evening) in accordance with NUST rules. The e-learning platform, provided all requirements for such delivery mode are met, will be part and parcel of the delivery mode to enhance course content reachability and administration of assessments and student engagement.

**CURRICULUM****Year 1****Semester 1/2**

<b>Course Code</b>	<b>Course Title</b>	<b>Prerequisites</b>	<b>NQF Levels</b>	<b>NQF Credits</b>
FLP711S	Fundamentals of Linux Programming	None	7	10
JVP711S	Java Programming	None	7	10
DCD711S	Database Concepts & Data Collection	None	7	10
BDT711S	Big Data Technologies	None	7	20
PRJ711S	Project	None	7	12

**NQF Level: 7**

**NQF Credits: 63**

**NQF Qualification ID: Q 2019**

**Description**

The Certificate in Ethical Hacking and Information Security aims to provide students with deeper insight, intellectual and cognitive skills related to the Information Technology (IT) security domain as well as prepare students to keep abreast with the ever evolving demands of the IT industry. It seeks to equip students with the practical skills required to design and implement security measures in Computer Networks and Systems.

The programme will further expose students to advanced concepts, tools and methods used to protect Internet-based systems and applications. Students will be able to take-up a certification course in the field of Information Security and may become members of professional/association bodies such as Certified Information Systems Security (CISSP), Certified Intrusion Analyst (CIA) and System Security Certified Practitioner (SSCP). The programme further aims to develop students’ ability to communicate these insights to stakeholders within their respective organisations.

Graduates of this programme will be able to find employment in both the public and private sectors, in middle level positions that include, but are not limited to Penetration Testers, IT Security Engineers, and Security Analysis.

**Admission Requirements**

Applicants must have completed a Diploma programme at NQF level 6 in Computer Science, Information Systems, Information Technology or Informatics or an equivalent qualification from an accredited institution. Applicants with one-year experience in the afore-mentioned fields will be given priority.

Applicants from other science and engineering disciplines or with prior learning experience may be admitted into this programme at the discretion of the Centre. Such applicants may be required to write a test or an interview to guide the selection.

**Articulation Arrangements**

Transfer of credits will be dealt with according to NUST regulations on Recognition of Prior Learning. This provides for course-by-course credits as well as credit transfer by volume under certain academic conditions. The maximum credit that can be granted is 50% of the total credits for the qualification.

The Certificate is a programme with a single exit route, referred to as the professional route and as such, articulation arrangements are only acceptable between programmes offered by the Centre. The Certificate in Ethical Hacking and Information Security will not lead to further academic study. E.g. Honours or Masters.

**Mode of Delivery**

The programme will be delivered on full-time (day and/or evening) in accordance with NUST rules. The e-learning platform, provided all requirements for such delivery mode are met, will be part and parcel of the delivery mode to enhance course content reachability and administration of assessments and student engagement.

**CURRICULUM**

**Year 1**

**Semester 1/2**

<b>Course Code</b>	<b>Course Title</b>	<b>Prerequisites</b>	<b>NQF Levels</b>	<b>NQF Credits</b>
FLP711S	Fundamentals of Linux Programming	None	7	10
JVC711S	Java Programming with Crypto API	None	7	12
SPP711S	Secured Python Programming	None	7	7
IAS711S	Information and Application Security	None	7	10
ETH711S	Ethical Hacking	None	7	12
PRJ711S	Project	None	7	12

**BACHELOR OF COMPUTER SCIENCE (SYSTEMS ADMINISTRATION,  
COMMUNICATION NETWORKS OR SOFTWARE  
DEVELOPMENT) (Phasing out from 2020)**

07BACS

NQF Level: 7

NQF Credits: 365

NQF Qualification ID: Q0513

**Description**

The Bachelor of Computer Science aims at providing educational opportunities for students who are interested in and motivated to work as Computer Scientists, Software Developers, Systems Administrators or Communication Networks Specialists. This programme is purposefully designed to provide skilful, competent and motivated graduates for the increasing and numerous challenging tasks of Computing and Information Technology (CIT) in the country and the Khomas region at large. Students will have the opportunity to develop the required cognitive/intellectual skills, practical as well as key transferable skills, and apply these to address/solve CIT related problems/challenges in the context of an organisation, or the community. Overall, this degree specifically aims to:

- Provide students with a sound foundation in the fundamental concepts, theories, frameworks and problem-solving techniques of CIT;
- Develop the ability of students to analyse information from a wide range of sources;
- Equip students with the requisite skills to work effectively as individuals and as members of a team;
- Enable students to communicate effectively in the workplace.

The programme intends to provide a diverse range of skills and competencies that are both discipline-specific and job-related. The curriculum is structured to facilitate specialisation in the areas of Systems Administration, Communication Networks and Software Development. The programme also intends to facilitate the development of highly generic cognitive and intellectual skills that will enable graduates to apply their knowledge and learnt competencies to the practices of CIT taking into consideration international generally accepted practices.

**Admission Requirements**

Candidates may be considered for admission to the Bachelor of Computer Science if they meet the University's General Admission Requirements (GI2.1 in Part 1 of the Yearbook). In addition, students must have a minimum D-symbol in NSSC Mathematics at Ordinary Level, or equivalent. The Faculty reserves the right to consider candidates who have a D-symbol in NSS Mathematics at Ordinary Level, or equivalent through other relevant criteria.

**Articulation Arrangements**

Transfer of credits will be dealt with according to the University's regulations on Recognition of Prior Learning. These provide for course-by-course credits as well as credit transfer by volume under certain academic conditions. The maximum credit that can be granted is 50 % of the credits for a qualification.

Upon successful completion of the Bachelor of Computer Science, students will ordinarily be able to pursue further studies in the same, or a related cognate area of learning, at NQF Level 8.

**CURRICULUM**

**Year 1**

**Semester 1**

Course Code	Course Title	Prerequisites	NQF Levels	NQF Credits
BSC410S	Basic Science	None	4	8
MIT112S	Mathematics for IT 1A	None	5	10
PRG510S	Programming 1	None	5	10
PLU411S	Principles of English Language Use	None	4	NCB
MNS511S	Management Information Systems	None	5	10
COA511S	Computer Organisation and Architecture	None	5	10

**Semester 2**

OOP521S	Object Oriented Programming	Programming 1	5	10
ICT521S	Information Competence	None	5	10
MIT122S	Mathematics for IT 1B	Mathematics for IT 1A	5	10
WDF521S	Web Development Fundamentals	None		
EPR511S	English in Practice	Principles of English Language Use/ Language in Practice, or Language in Practice A, or Module 2, or Exemption	5	NCB
OSN521S	Intro. to Operating Systems & Networks	Computer Organisation and Architecture	5	10

**Year 2**

**Semester 3**

EAP511S	English for Academic Purposes or Module 3, or Exemption	English in Practice, or Language in Practice B,5	14
ISS610S	IT Systems Security	Introduction to Operating Systems and Networks	6 12
DSA610S	Data Structures and Algorithms	None	6 12
DBF510S	Database Fundamentals	None	5 10
ICN511S	Introduction to Computer Networking	Introduction to Operating Systems and Networks	5 10
ASP610S	Applied Statistics & Probability for IT	Mathematics for IT 1B	9 14

**Semester 4**

**ONE of the following Strands depending on specialisation:**

**SYSTEMS ADMINISTRATION STRAND**

OPS621S	Operating Systems	Introduction to Operating Systems and Networks	6 12
WTN620S	Web Technologies	Introduction to Operating Systems and Networks	6 12
SAD622S	Systems Administration	Introduction to Operating Systems and Networks	6 12
DTS620S	Distributed Systems	Introduction to Computer Networking	6 12
SAU620S	Systems Audit	IT Systems Security	

**COMMUNICATION NETWORKS STRAND**

OPS621S	Operating Systems	Introduction to Operating Systems and Networks	6 12
CMN620S	Communication Networks	Introduction to Computer Networking	6 12
SAD622S	Systems Administration	Introduction to Operating Systems and Networks	6 12
NWS620S	Network Security	IT Systems Security; and Introduction to Computer Networking	6 12
WLT620S	Wireless Technologies	Introduction to Computer Networking	6 12

**SOFTWARE DEVELOPMENT STRAND**

OPS621S	Operating Systems	Introduction to Operating Systems and Networks	6 12
DSP620S	Distributed Systems Programming	Object Oriented Programming	6 12
PRG620S	Programming 2	Programming 1	6 12
SEH620S	Software Engineering 1 and HCI	Web Development Fundamentals	6 12
DPT621S	Database Programming and Techniques	Database Fundamentals	6 12

**Year 3**

**Semester 5**

SYD611S	Sustainability and Development	None	6 12
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**Plus ONE of the following Strands depending on specialisation, and based on choice made in Semester 4:**

**SYSTEMS ADMINISTRATION STRAND**

ICE712S	Innovation, Creativity & Entrepreneurship	None	7 12
IIS711S	Internet and Intranet		
	Systems Administration	Systems Administration	7 12
CFR712S	Computer Forensics	Systems Audit	7 12
SVT710S	Systems Virtualisation	Operating Systems	7 12

**COMMUNICATION NETWORKS STRAND**

ICE712S	Innovation, Creativity & Entrepreneurship	None	7 12
IWT711S	Internet and WAN Telecommunication	Communication Networks	7 12
NDP710S	Network Design and Performance	Communication Networks	7 12
SVT710S	Systems Virtualisation	Operating Systems	7 12

**SOFTWARE DEVELOPMENT STRAND**

ICE712S	Innovation, Creativity & Entrepreneurship	None	7	12
AIG710S	Artificial Intelligence and Computer	Applied Statistics & Graphics Probability for IT; and Data Structures and Algorithms	7	12
DWM710S	Data and Web Mining	Database Programming and Techniques	7	12
APG710S	Advanced Programming	Data Structures and Algorithms	7	12

**Year 3****Semester 6**

WIL710S	Work Integrated Learning (WIL)	All semester 4 courses; and a maximum of 2 outstanding semester 5 courses	7	48
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**Plus ONE of the following Strands depending on specialisation, and based on choice made in previous Semesters:**

**SYSTEMS ADMINISTRATION AND COMMUNICATION NETWORKS STRANDS**

PTM721S	Project Management	None	7	12
DBA721S	Database Administration	Database Fundamentals; and Systems Administration		

**SOFTWARE DEVELOPMENT STRAND**

PTM721S	Project Management	None	7	12
SEN721S	Software Engineering 2	Software Engineering 1 and HCI	7	12

**Description**

The Bachelor of Computer Science aims at providing educational opportunities for students who wish to be trained in computer science with a specialisation in Software Development, Systems Administration or Communication Networks. The programme will give students an opportunity to apply principles of computing and develop the cognitive and practical skills to address the growing demand in Software Development, Systems Administration and Communication Networks in the country, the region and worldwide. Additionally, the programme aims to equip students with the technical and soft skills required to build software that appeals to their users and addresses real problems. Through this programme, students will also be able to design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the programme's discipline.

Graduates of this programme will be able to find employment in public and private sectors in various roles of Software Development specialists, Systems Administrators, and Network specialists. Furthermore, they will have the ability to exercise their creativity and create start-ups and companies with innovative solutions.

**Admission Requirements**

Candidates may be considered for admission to the Bachelor of Computer Science if they meet the NUST General Admission Requirements (Part 1 of the Yearbook). In addition, applicants must have a minimum D-symbol in Grade 12/NSSC Mathematics at Ordinary Level, or equivalent. The Faculty reserves the right to consider candidates who have a D-symbol in NSS Mathematics at Ordinary Level, or equivalent through other relevant criteria.

**Articulation Arrangements**

Transfer of credits will be dealt with according to the NUST's regulations on Recognition of Prior Learning. These provide for course-by-course credits as well as credit transfer by volume under certain academic conditions. Maximum credit that can be granted is 50 % of the credits for a qualification. Upon successful completion of the Bachelor of Computer Science Degree, graduates will be able to pursue their further studies in the same, or a related cognate area of learning at NQF Level 8.

**Mode of Delivery:**

The programme will be delivered on full-time and/or part-time modes in accordance with NUST rules. The Faculty may consider online mode with the provision that there is a reliable mechanism to monitor student access on the E-learning platform.



**CURRICULUM****Year1****Semester 1**

<b>Course Code</b>	<b>Course Title</b>	<b>Prerequisites</b>	<b>NQF Levels</b>	<b>NQF Credits</b>
PLU411S	Principles of English Language Use	None	4	NCB
BSC410S	Basic Science	None	4	8
ICG511S	Introduction to Computing	None	5	8
MCI511S	Mathematics for Computing and Informatics 1A	None	5	10
BMC511S	Business Management Information Systems	None	5	10
DBF510S	Database Fundamentals	None	5	10
DST511S	Design Thinking	None	5	8

**Semester 2**

COA511S	Computer Organisation and Architecture	Mathematics for Computing and Informatics	5	12
PRG510S	Programming 1	Introduction to Computing	5	10
MCI521S	Mathematics for Computing and Informatics 1B	Mathematics for Computing and Informatics 1A	5	10
EPR511S	English in Practice	Principles of English Language Use	5	NCB
DSA521S	Data Structures and Algorithm 1	Introduction to Computing	5	10
DPG621S	Database Programming	Database Fundamentals	6	12
SAD622S	Systems Administration	None	6	12

**Year 2****Semester 3**

<b>Course Code</b>	<b>Course Title</b>	<b>Prerequisites</b>	<b>NQF Levels</b>	<b>NQF Credits</b>
EAP511S	English for Academic Purpose	English in Practice, or Language in Practice B, or Module 3, or Exemption	5	14
OPS611S	Operating Systems	Computer Organisation and Architecture	6	12
PRG620S	Programming 2	Programming 1	6	10
ISS611S	Information Systems Security Essentials	None	6	10
DTN611S	Data Networks	None	6	12
ASP611S	Applied Statistics and Probability for Computing and Informatics	Mathematics for Computing and Informatics 1B	6	12

**Semester 4**

EFG621S	Ethics for Computing	None	6	10
ICE712S	Innovation, Creativity and Entrepreneurship	None	7	15

Plus ONE of the following Strand Compulsory depending on specialisation:

**SOFTWARE DEVELOPMENT STRAND**

DSA612S	Distributed Systems and Applications	Programming 2, Data Structures and Algorithms 1	6	12
SDN621S	Software Design	Design Thinking	6	12
DTA621S	Data Analytics	Applied Statistics for Computing and Informatics	6	12
WAD621S	Web Application Development	Programming 2	6	12

**SYSTEMS ADMINISTRATION STRAND**

WLT620S	Wireless Technologies	Data Networks	6	12
CMN620S	Communication Networks	Data Networks	6	12
CNE621S	Core Networks Engineering	Data Networks	6	12
LSA721S	Linux Systems Administration	Operating Systems	7	12

**COMMUNICATION NETWORKS**

WLT620S	Wireless Technologies	Data Networks	6	12
CMN620S	Communication Networks	Data Networks	6	12
DTS620S	Distributed Systems and Applications	Programming 2, Data Structures and Algorithms	6	12
CNE621S	Core Networks Engineering	Data Networks	6	12

**Year 3**

**Semester 5**

Course Code	Course Title	Prerequisites	NQF Levels	NQF Credits
<b>SOFTWARE DEVELOPMENT STRAND</b>				
MAP711S	Mobile Application Development	Programming 2	7	12
CTE711S	Compiler Techniques	Programming 2	7	12
SVV711S	Software Verification and Validation	Software Design	7	12
ARI711S	Artificial Intelligence	Programming 2; and Applied Statistics for Computing and Informatics	7	12
<b>SYSTEMS ADMINISTRATION STRAND</b>				
AVS711S	Advanced Network Security	Communication Networks	7	12
SVT710S	Systems Virtualisation	Operating Systems	7	12
IAS711S	IT Infrastructure Administration and Services	Systems Administration	7	12
DBA721S	Database Administration	Database Fundamentals	7	12
HPC711S	High Performance Computing	Linux Systems Administration	7	12
DTM611S	Data Centre Infrastructure Management	Computer Organisation and Architecture	6	12
<b>COMMUNICATION NETWORKS STRAND</b>				
CNT711S	Cloud Networking	None	7	12
ADS711S	Advanced Network Security	Communication Networks	7	12
ITC711S	Internet Computing	Communication Networks	7	12
NDM711S	Network Design and Management	Communication Networks	7	12
DS711S	Data Structures and Algorithms 2	Data Structures and Algorithm 1	7	12
NPG611S	Network Programming	Data Networks	6	12

**Semester 6**

PTM721S	Project Management	None	7	12
SYD611S	Sustainability and Development	None	6	12

Plus ONE of the following depending on specialisation:

WCN721S	Work Integrated Learning (Communication Networks)	All Semester 4 courses; and a maximum of 2 outstanding Semester 5 courses	7	48
WSA721S	Work Integrated Learning (Systems Administration)	All Semester 4 courses; and a maximum of 2 outstanding Semester 5 courses	7	48
WSD721S	Work Integrated Learning (Software Development)	All Semester 4 courses; and a maximum of 2 outstanding Semester 5 courses	7	48

**Transition Arrangements:**

The Bachelor of Computer Science with specialisations in Software Development, Systems Administration and Communication Networks (old curricula) will be phased out systematically until 2024 with minimal disruption to existing students' learning progression.

The last intake of 1st year students for the Bachelor of Computer Science degree in Software Development, Systems Administration and Communication Networks (old curricula) was in January 2019. Students who registered in 2019 for the 1st year of the Bachelor of Computer Science in Software Development strand, Systems Administration strand and Communication Networks strand (old curricula), and failed more than 50 % of the courses at the end of 2019, will be required to change their registration to their respective strand in the new/revised Bachelor of Computer Science. They will, however be granted credits on a course-by-course basis in accordance with the information in Table 15.1 below.

The Bachelor of Computer Science in Software Development, Systems Administration and Communication Networks (new/revised curriculum), will take effect from January 2020 and will be completely phased in by 2022. Courses will only be offered based on the syllabi of new/revised courses in 2020 (1st year), 2021 (2nd year) and 2022 (3rd year). The new/revised curriculum will be offered from 2020. Students who fail any of the courses in the old curricula will be required to repeat failed courses based on the syllabi of new/revised corresponding courses.

Please refer to Table 1, below, for detailed information on the new/updated corresponding courses.

The deadline for the complete phasing out of the Bachelor of Computer Science in Software Development, Systems Administration and Communication Networks (old curricula) is 2024 after which students must automatically switch to the (revised curriculum).

Please refer to Table 1, below, for detailed information on the new/updated corresponding courses.

The deadline for the complete phasing out of the Bachelor of Computer Science in Software Development, Systems Administration and Communication Networks (old curricula) is 2024 after which students must automatically switch to the (revised curriculum).

**Table 1: 1st Year Courses to be credited**

<b>Bachelor of Computer Science (Systems Administration, Communication Networks and Software Development Strand) (Old Courses) (2014-2019)</b>		<b>Bachelor of Computer Science (Systems Administration, Communication Networks and Software Development Strand) (New/revised Equivalent Courses)</b>	
<b>Course Code</b>	<b>Course Name</b>	<b>Course Code</b>	<b>Course Name</b>
BSC410S	Basic Science	BSC410S	Basic Science
MIT112S	Mathematics for IT 1A	MCI511S	Mathematics for Computing and Informatics 1A
PRG510S	Programming 1	PRG510S	Programming 1
PLU411S	Principles of English Language Use	PLU411S	Principles of English Language Use
MNS511S	Management Information Systems	BMC511S	Business Management Information Systems
COA511S	Computer Organisation and Architecture	COA511S	Computer Organisation and Architecture
OOP521S	Object Oriented Programming	PRG620S	Programming 2
ICT521S	Information Competence		None
MIT122S	Mathematics for IT 1B	MCI521S	Mathematics for Computing and Informatics 1B
WDF521S	Web Development Fundamentals	WAD621S	Web Applications Development
EPR511S	English in Practice	EPR511S	English in Practice
OSN521S	Introduction to Operating Systems & Networks	OPS611S	Operating Systems
WIL710S	Work Integrated Learning (Computer Science)	WCN721S	Work Integrated Learning (Communication Networks)
		WSA721S	Work Integrated Learning (Systems Administration)
		WSD721S	Work Integrated Learning (Software Development)

**Table 2: Corresponding Courses to be done (if failed) - This is not a credit table!**  
**Students who fail the following old courses must register for the new/ revised courses in the Bachelor of Computer Science as listed in Table 2.**

<b>Bachelor of Computer Science (Systems Administration, Communication Networks and Software Development Strand) (Old Courses)</b>		<b>Bachelor of Computer Science (Systems Administration, Communication Networks and Software Development Strand) (Corresponding New/Revised Courses to be done, if failed)</b>	
<b>Course Code</b>	<b>Course Title</b>	<b>Course Code</b>	<b>Course Title</b>
MIT112S	Mathematics for IT 1A	MCI511S	Mathematics for Computing and Informatics 1A
PRG510S	Programming 1	PRG510S	Programming 1
MNS511S	Management Information Systems	BMC511S	Business Management Information Systems
COA511S	Computer Organisation and Architecture	COA511S	Computer Organisation and Architecture
OOP521S	Object-Oriented Programming	PRG620S	Programming 2
MIT122S	Mathematics for IT 1B	MCI521S	Mathematics for Computing and Informatics 1B
WDF521S	Web Development Fundamentals	WAD621S	Web Application Development
OSN521S	Introduction to Operating Systems & Networks	OPS611S	Operating Systems
ISS610S	IT Systems Security	ISS611S	Information Systems Security Essentials
DSA610S	Data Structures and Algorithms	DSA521S	Data Structures and Algorithms 1
DBF510S	Database Fundamentals	DBF510S	Database Fundamentals
ICN511S	Introduction to Computer Networks	DTN611S	Data Networks
ASP610S	Applied Statistics & Probability for IT	ASP611S	Applied Statistics and Probability for Computing and Informatics
OPS621S	Operating Systems	OPS621S	Operating Systems
WTN620S	Web Technologies	WAD621S	Web Application Development
SAD622S	Systems Administration	SAD622S	Systems Administration
DTS620S	Distributed Systems	DSA612S	Distributed Systems and Applications
SAU620S	Systems Audit		None
CMN620S	Communication Networks	CMN620S	Communication Networks
NWS620S	Network Security	ADS711S	Advanced Network Security
WLT620S	Wireless Technologies	WLT620S	Wireless Technologies
IWT711S	Internet and WAN Telecommunication		
DSP620S	Distributed Systems Programming	DSA612S	Distributed Systems and Applications
PRG620S	Programming 2	WAD621S	Web Application Development
SEH721S	Software Engineering 1 and HCI	SDN621S	Software Design
DPT621S	Database Programming and Techniques	DPG621S	Database Programming
IIS711S	Internet and Intranet Systems Administration	IAS711S	IT Infrastructure Administration and Services
CFR712S	Computer Forensics		None
SVT710S	Systems Virtualisation	SVT710S	Systems Virtualisation
NDP710S	Network Design and Performance	NDM711S	Network Design and Management
AIG710S	Artificial Intelligence and Computer Graphics	ARI711S	Artificial Intelligence
DWM710S	Data and Web Mining	DTA621S	Data Analytics
APG710S	Advanced Programming	MAP711S	Mobile Application Development
WIL710S	Work Integrated Learning	WCN721S/ WSA721S/ WSD721S	Work Integrated Learning for Computer Science
PTM721S	Project Management	PTM721S	Project Management
DBA720S	Database Administration	DBA720S	Database Administration
SEN721S	Software Engineering 2	SPS611S	Software Processes

**Table 2: only highlights new/revised core courses in Computer Science that should be done if courses in the old curricula are failed. Service courses from other Departments are excluded, but the rules of relevant Departments apply to this programme as well.**

The following old courses do not have corresponding courses in the Bachelor of Computer Science (new curriculum) and will be offered until the Bachelor of Computer Science (old curricula) phased out completely in 2024:

- Systems Audit (SAU620S)
- Computer Forensics (CFR712S)

## **BACHELOR OF COMPUTER SCIENCE IN CYBER SECURITY**

**07BCCS**

**NQF Level: 7**

**NQF Credits: 372**

**NQF Qualification ID: Q0656**

### **Description**

The Bachelor of Computer Science in Cyber Security aims at providing educational opportunities for students who are interested in and motivated to work as Cyber Security Professionals. Cyber Security is a computing discipline that deals with digital information assurance and its security. This programme is purposefully designed to provide skilled, competent and motivated graduates for the increasing and numerous challenging tasks of Computing and Information Assurance and Security (IAS) in the country and the region at large. Students will have the opportunity to develop the required cognitive/intellectual skills, practical as well as key transferable skills, and apply these to address/solve Information Assurance and Security related problems/challenges in the context of an organisation, a country or individual end-user.

### **Admission Requirements**

Candidates may be considered for admission to the Bachelor of Computer Science in Cyber Security if they meet the University's General Admission Requirements (GI2.1 in Part 1 of the NUST Yearbook). In addition, students must have a minimum D-symbol in Grade 12/NSSC Mathematics at Ordinary Level, or equivalent. The Faculty reserves the right to consider candidates who have a D-symbol in NSS Mathematics at Ordinary Level, or equivalent through other relevant criteria.

### **Articulation Arrangements**

Transfer of credits will be dealt with according to the University's regulations on Recognition of Prior Learning. These provide for course-by-course credits as well as credit transfer by volume under certain academic conditions. Maximum credit that can be granted is 50 % of the credits for a qualification.

Upon successful completion of the Bachelor of Computer Science in Cyber Security, students will ordinarily be able to pursue further studies in the same, or a related cognate area of learning, at NQF Level 8.

### **Mode of Delivery**

The programme will be delivered on the full-time and/or part-time modes in accordance with the University's rules. The e-learning mode will only be considered after the programme is deemed to have reached a certain level of maturity.

### **Requirements for Qualification Award**

The Bachelor of Computer Science in Cyber Security degree will be awarded to students credited with a minimum of 372 NQF credits, and who have met the detailed requirements as set out below. In addition, students should meet the administrative and financial requirements as spelt out in Part 1 of the NUST Yearbook.

### **Teaching and Learning Strategies**

Teaching and learning strategies are described in the syllabus outlines for the different courses. The requirements of the NQF underline the acquisition of cognitive skills and competencies exceeding the knowledge and understanding of subject-specific knowledge items and professional/technical competencies. Thus, the qualification focuses on the engagement of students in an interactive learning process in order to provide for the development of generic cognitive and intellectual skills, key transferable skills, and, as the case may be, subject-specific and/or professional/technical practical skills.

This learning process will be facilitated both in and outside the classroom, requiring specific tasks to be carried out by the student, including the following:

- Formal weekly face-to-face (interactive) contact and presentation using PowerPoint slides, smart boards, whiteboards and handouts;
- Formal weekly laboratory exercises and practice;
- Student portfolios;
- Formal tutorial and supervised self-study sessions;
- Self-learning through online links;
- Promotion of team learning through group projects;
- Individual and home assignments;
- Use of e-learning platform (including emails and blog/- forum);
- Discussion and student presentations (assignment results and other activities);

- Guest lecturers with open discussion, when appropriate;
- Webinar/ Online conferencing/ excursion;
- Computer/- Web-based simulation;
- Seminars.

### **Work Integrated Learning (WIL)**

This programme also includes a component of Work Integrated Learning (WIL), which integrates work experiences with learning in a way traditional education cannot do. It provides students with opportunities to:

- Execute tasks related to Cyber Security at the workplace;
- Network with professionals and build relationships that can help students in their future endeavours;
- Have access to companies for full-time positions after graduation once good rapport has been established between the students and the companies;
- Interact with people from diverse backgrounds and develop interpersonal skills that are not possible in a classroom environment.

The three courses that are done in the same semester as WIL, will be taught before the students go for WIL, and will be done through an accelerated teaching approach, and assessed using “Diversified Continuous Assessment” mode; some of the assessments will be carried out while the students are busy with their WIL.

### **Transition Arrangements**

This programme does not replace any existing programme(s). Transition arrangements are, therefore, not applicable.

**CURRICULUM**

<b>Course Code</b>	<b>Course Title</b>	<b>Prerequisites</b>	<b>NQF Level</b>	<b>NQF Credits</b>
<b>Year 1</b>				
<b>Semester 1</b>				
BSC410S	Basic Science	None	4	8
MIT112S	Mathematics for IT 1A	None	5	10
PRG510S	Programming 1	None	5	10
PLU411S	Principles of English Language Use	None	4	NCB
IIS511S	Introduction to Information Security	None	5	10
COA511S	Computer Organisation and Architecture	None	5	10
<b>Semester 2</b>				
OOP521S	Object Oriented Programming	Programming 1	5	10
ICT521S	Information Competence	None	5	10
MIT122S	Mathematics for IT 1B	Mathematics for IT 1A	5	10
WDF521S	Web Development Fundamentals	None	5	10
EPR 511S	English in Practice	Principles of English Language Use/ 5 Language in Practice, or Language in Practice A, or Module 2, or Exemption	NCB	
OSN521S	Introduction to Operating Systems and Networks	Computer Organisation and Architecture	5	10
<b>Year 2</b>				
<b>Semester 3</b>				
EAP511S	English for Academic Purposes	English in Practice, or Language in, Practice B or Module 3, or Exemption	5	14
ISS610S	IT Systems Security Networks	Introduction to Operating Systems and Networks	6	12
DSA610S	Data Structures and Algorithms	None	6	12
DBF510S	Database Fundamentals	None	5	10
ICN511S	Intro. to Computer Networking	Introduction to Operating Systems and Networks	5	10
ASP610S	Applied Statistics & Probability for IT	Mathematics for IT 1B	6	14
<b>Semester 4</b>				
WTN620S	Web Technologies	Intro. to Operating Systems and Networks	6	12
SAD622S	Systems Administration	Intro. to Operating Systems and Networks	6	12
CMN620S	Communication Networks	Intro. to Computer Networking	6	12
ITC621S	Introduction to Cryptography	None	6	12
WLT620S	Wireless Technologies	Introduction to Computer Networking	6	12
DSP620S	Distributed Systems Programming	Object Oriented Programming	6	12
<b>Year 3</b>				
<b>Semester 5</b>				
NWS620S	Network Security	IT Systems Security; and Introduction to Computer Networking	6	12
DFC711S	Digital Forensics 1 – Forensics Computing	Introduction to Cryptography	7	12
SYD611S	Sustainability and Development	None	6	12
IWT711S	Internet and WAN Telecommunication	Communication Networks	7	12
OPS621S	Operating Systems	Introduction to Operating Systems	6	12
<b>Semester 6</b>				
WCS721S	Work Integrated Learning (WIL)	All semester 4 courses; and a maximum of 2 outstanding Semester 5 courses	7	36
CIP721S	Critical Infrastructure Protection and Control Systems Security	Systems Administration	7	12
DFC721S	Digital Forensics 2 – Internet Forensics and Steganography	Digital Forensics 1 – Forensics Computing	7	10
IAR721S	Intrusion Analysis and Response	Network Security	7	12



**QUALIFICATIONS OFFERED**

**BACHELOR OF INFORMATICS (Phasing out from 2020)**

**07BAIF**

**NQF Level: 7**

**NQF Credits: 375**

**NQF Qualification ID: Q0512**

**Description**

The Bachelor of Informatics aims at providing educational opportunities for students who are interested in and motivated to work as Informatics Specialists in Business Computing, Information Systems or related practices. This programme is purposefully designed to provide skilful, competent and motivated graduates for the increasing and numerous challenging tasks of Business Computing and Informatics in the country and the region at large. Students will have the opportunity to develop the required cognitive/intellectual skills, practical as well as key transferable skills, and apply these in order to address/solve Computing and Informatics (CI) problems/challenges in the context of an organisation.

Overall, this programme aims at:

- Providing students with a sound foundation in the fundamental concepts, theories and frameworks of Business Computing and Informatics;
- Developing the ability of students to analyse information from a wide range of sources;
- Equipping students with the requisite skills to work effectively as individuals and as members of a team;
- Enabling students to communicate effectively in the workplace.

The programme intends to provide a diverse range of skills and competencies that are both discipline-specific and job-related. The programme also intends to facilitate the development of highly generic cognitive and intellectual skills that would enable graduates to apply their knowledge and learnt competencies to the practices of Business Computing and Informatics, taking into consideration international generally accepted practices.

**Admission Requirements**

Candidates may be considered for admission to Requirements (GI2.1 in Part 1 of the Yearbook). Ordinary Level, or equivalent. the Bachelor of Informatics if they meet the University’s General Admission In addition, students must have a minimum D-symbol in NSSC Mathematics at ordinary level, or equivalent through other relevant criteria.

**Articulation Arrangements**

Transfer of credits will be dealt with according to the University’s regulations on Recognition of Prior Learning. These provide for course-by-course credits as well as credit transfer by volume under certain academic conditions. Maximum credit that can be granted is 50 % of the credit for a qualification.

Upon successful completion of the Bachelor of Informatics, students will ordinarily be able to pursue further studies in Informatics, or a related cognate area of learning, at NQF Level 8.

**CURRICULUM****Year 1****Semester 1**

<b>Course Code</b>	<b>Course Title</b>	<b>Prerequisites</b>	<b>NQF Level</b>	<b>NQF Credits</b>
BSC410S	Basic Science	None	4	8
MIT112S	Mathematics for IT 1A	None	5	10
PRG510S	Programming 1	None	5	10
PLU411S	Principles of English Language Use	None	4	NCB
MNS511S	Management Information Systems	None	5	10
COA511S	Computer Organisation and Architecture	None	5	10

**Semester 2**

OOP521S	Object Oriented Programming	Programming 1	5	10
ICT521S	Information Competence	None	5	10
MIT122S	Mathematics for IT 1B	Mathematics for IT 1A	5	10
WDF521S	Web Development Fundamentals	None	5	10
EPR511S	English in Practice	Principles of English Language Use/ Language in Practice, or Language in Practice A, or Module 2, or Exemption	5	NCB
OSN521S	Introduction to Operating Systems and Networks	Computer Organisation and Architecture	5	10

**Year 2****Semester 3**

EAP511S	English for Academic Purposes	English in Practice, or Language in Practice B, or Module 3, or Exemption	5	14
ISS610S	IT Systems Security	Intro. to Operating Systems and Networks	6	12
DSA610S	Data Structures and Algorithms	None	6	12
DBF510S	Database Fundamentals	None	5	10
ICN511S	Introduction to Computer Networking and Networks	Intro. to Operating Systems	5	10
ASP610S	Applied Statistics & Probability for IT	Mathematics for IT 1B	6	14

**Semester 4**

SEH620S	Software Engineering 1 and HCI	Web Dev. Fundamentals	6	12
DPT621S	Database Programming and Techniques	Database Fundamentals	6	12
HIT620S	Health Information Systems & Technology	None	6	12
BAP620S	Business Analysis & Process Management	Management Information Systems	6	12
BAI620S	Business Accounting for Informatics	None	6	12
EWD621S	Enterprise Web Application Development	Object Oriented Programming	7	12

**Year 3****Semester 5**

IME511S	Introduction to Marketing and its Environment	None	5	10
MMA710S	Multimedia Applications	None	7	12
CSH710S	Computer Systems for Healthcare Services	Business Analysis & Process Mgmt.	7	12
SYD611S	Sustainability and Development	None	6	12
ICE712S	Innovation, Creativity & Entrepreneurship	None	7	15

**Semester 6**

WIL710S	Work Integrated Learning (WIL)	All courses up to semester 4 and a maximum of 2 outstanding semester 5 courses.	7	48
ERP720S	Enterprise Resource Planning Systems	Management Information Systems	7	12
PTM721S	Project Management	None	7	12

### Transition Arrangements

The Bachelor of Information Technology in Business Computing (old curriculum) will be phased out systematically until 2018 with minimal disruption to existing students' learning progression. The last intake of 1st year students for the Bachelor of Information Technology in Business Computing (old curriculum) was in January 2013.

Students who were registered in 2013 for the 1st year of the Bachelor of Information Technology in Business Computing (old curriculum), and who failed more than 50 % of the courses at the end of 2013, will be required to change their registration to the Bachelor of Informatics (new curriculum) and will be granted credits on a course-by-course basis in accordance with the information in Table 1 below.

The Bachelor of Informatics (new curriculum), took effect from January 2014 and will be completely phased in by 2016. Courses will only be offered based on the syllabi of new/revised courses in 2014 (1st year), 2015 (2nd year) and 2016 (3rd year). Students who fail any of the courses on the Bachelor of Information Technology in Business Computing (old curriculum) will be required to repeat such failed courses based on the syllabi of new/revised corresponding courses. Please refer to Table 3, page 22, for detailed information on the new/revised corresponding courses to be done if courses in the old curriculum are failed.

The deadline for complete phasing out of the Bachelor of Information Technology in Business Computing (old curriculum) was 2018 after which students must automatically switch to the Bachelor of Informatics (new curriculum).

## DEPARTMENT OF INFORMATICS

Code 23

### BACHELOR OF INFORMATICS (REVISED - Phasing in 2020)

07BAIT

#### Description

The Bachelor of Informatics aims at providing educational opportunities for students who are interested and motivated to work as Informatics Specialists or in related practices. This programme is purposefully designed to provide skilful, competent and motivated graduates for the increasing and numerous challenging tasks of Informatics in the country and the region at large. Students will have the opportunity to develop the required cognitive/intellectual skills, practical as well as key transferable skills, and apply these to address/solve Computing and Informatics (CI) problems/challenges in the context of an organisation. Graduates of this programme will be able to find employment in the public and private sectors as Informatics specialists (e.g. Analyst Programmer, Information Architect, Web and Data Analyst) working in a broad range of mid-level positions in organisations.

#### Admission Requirements

Candidates may be considered for admission to the Bachelor of Informatics if they meet the NUST General Admission Requirements (Part 1 of the Yearbook). In addition, applicants must have a minimum D-symbol in Grade 12/NSSC Mathematics at Ordinary Level, or equivalent. The Faculty reserves the right to consider candidates who have a D-symbol in NSS Mathematics at Ordinary Level, or equivalent through other relevant criteria.

#### Articulation Arrangements

Transfer of credits will be dealt with according to the NUST's regulations on Recognition of Prior Learning. These provide for course-by-course credits as well as credit transfer by volume under certain academic conditions. Maximum credit that can be granted is 50% of the credit for a qualification. Upon successful completion of the Bachelor of Informatics, students will ordinarily be able to pursue further studies in Informatics, or a related cognate area of learning, at NQF Level 8.

#### Mode of Delivery

The programme will be delivered on both full-time and part-time modes in accordance with NUST rules.

## CURRICULUM

### Year1

#### Semester 1

Course Code	Course Title	Prerequisites	NQF Levels	NQF Credits
PLU411S	Principles of English Language Use	None	4	NCB
BSC410S	Basic Science	None	4	8
ICG511S	Introduction to Computing	None	5	8
MCI511S	Mathematics for Computing and Informatics 1A	None	5	10
BMC511S	Business Management Information Systems	None	5	10
DBF510S	Database Fundamentals	None	5	10
DST511S	Design Thinking	None	5	8

#### Semester 2

COA511S	Computer Organisation and Architecture	Mathematics for Computing		
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PRG510S	Programming 1	and Informatics	5	12
MCI521S	Mathematics for Computing and Informatics 1B	Introduction to Computing	5	10
EPR511S	English in Practice	Mathematics for Computing and Informatics 1A	5	10
DSA521S	Data Structures and Algorithm 1	Principles of English Language Use	5	NCB
DPG621S	Database Programming	Introduction to Computing	5	10
		Database Fundamentals	6	12

**Year 2****Semester 3**

Course Code	Course Title	Prerequisites	NQF Levels	NQF Credits
EAP511S	English for Academic Purpose	English in Practice, or Language in Practice B, or Module 3, or Exemption	5	14
OPS611S	Operating Systems	Computer Organisation and Architecture	6	12
PRG620S	Programming 2	Programming 1	6	10
ISS611S	Information Systems Security Essentials	None	6	10
DTN611S	Data Networks	None	6	12
ASP611S	Applied Statistics and Probability for Computing and Informatics	Mathematics for Computing and Informatics 1B	6	12

**Semester 4**

EFC621S	Ethics for Computing	None	6	10
SAD621S	Systems Analysis and Design	None	6	12
PAI621S	Principles and Applications of Informatics	None	6	12
DTA621S	Data Analytics	Applied Statistics for Computing and Informatics	6	12
WAD621S	Web Application Development	None	6	12
ICE712S	Innovation, Creativity and Entrepreneurship	None	7	15

**Year 3****Semester 5**

Course Code	Course Title	Prerequisites	NQF Levels	NQF Credits
ERP720S	Enterprise Resource Planning Systems	None	7	12
MMA710S	Multimedia Application	None	7	12
ISG711S	Information Systems Strategy and Governance	Systems Analysis and Design	7	12
BIA711S	Business Intelligence and Analytics	Data Analytics	7	12
WPM711S	Web Programming	Web Application Development	7	12
AAI711s	Advanced Applications of Informatics	None	7	12

**Semester 6**

SYD611S	Sustainability and Development	None	6	12
PTM721S	Project Management	None	7	12
WOL720S	Work Integrated Learning for Informatics	All Semester 4 courses; and a maximum of 2 outstanding Semester 5 courses	7	48

**Transition Arrangements**

The Bachelor of Informatics (old curriculum) will be phased-out systematically until 2024 with minimal disruption to existing students' learning progression. The last intake of 1st year students for the Bachelor of Informatics (old curriculum) was in January 2019. Students who are registered in 2019 for the 1st year of the Bachelor of Informatics (old curriculum) and who fail more than 50% of the courses at the end of 2019, will be required to change their registration to the Bachelor of Informatics (revised curriculum) and will be granted credits on a course-by-course basis in accordance with the information in Table 3 below.

The Bachelor of Informatics (revised curriculum), will take effect from January 2020 and will be completely phased-in by 2022. Courses will only be offered based on the syllabi of new/revised courses in 2020 (1st year), 2021 (2nd year) and 2022 (3rd year). Students who fail any of the courses on the Bachelor of Informatics (old curriculum) will be required to repeat such failed courses based on the syllabi of new/revised corresponding courses. Please refer to Table 3, below, for detailed information on the new/revised corresponding courses to be done if courses in the old curriculum are failed.

The deadline for complete phasing out of the Bachelor of Informatics (old curriculum) is 2024, after which students must automatically switch to the Bachelor of Informatics (revised curriculum).

**Table 3: Corresponding courses to be done (if failed). This is not a credit table.**

Bachelor of Informatics (Old Courses)		Bachelor of Informatics (Revised Curriculum)	
Course Code	Course Name	Course Code	Course Title
MIT112S	Mathematics for IT 1 A		Mathematics for Computing and Informatics 1A
PRG510S	Programming 1	PRG510S	Programming 1
MNS511S	Management Information Systems		Business Management Information Systems
COA511S	Computer Organisation and Architecture	COA511S	Computer Organisation and Architecture
OOP521S	Object Oriented Programming	PRG620S	Programming 2
MIT122S	Mathematics for IT 1B	MCI521S	Mathematics for Computing and Informatics 1B
WDF521S	Web Development Fundamentals	WAD621S	Web Application Development
OSN521S	Introduction to Operating Systems and Networks	OPS611S	Operating Systems
ISS610S	IT Systems Security	ISS611S	Information Systems Security Essentials
DSA610S	Data Structures and Algorithms	DSA521S	Data Structure and Algorithms 1
DBF510S	Database Fundamentals	DBF510S	Database Fundamentals
ICN511S	Introduction to Computer Networking	DTN611S	Data Networks
ASP610S	Applied Statistics and Probability for IT	ASP611S	Applied Statistics and Probability for Computing and Informatics
SEH620S	Software Engineering and HCI	SAD621S	Systems Analysis and Design
DPT621S	Database Programming and Techniques	DPG621S	Database Programming
HIT620S	Health Information Systems and Technology		None
BAP620S	Business Analysis and Process Management		None
BAI620S	Business Accounting for Informatics		None
EWD621S	Enterprise Web Application Development	WPM711S	Web programming
IME511S	Introduction to Marketing and its Environment		None
MMA710S	Multimedia Applications	MMA710S	Multimedia Applications
CSH710S	Computer Systems for Healthcare Services		None
ERP720S	Enterprise Resource Planning Systems	ERP720S	Enterprise Resource Planning Systems
PTM721S	Project Management	PTM721S	Project Management
WIL710S	Work Integrated Learning	WIL710S	Work Integrated Learning

NB: Exemption may not be granted for part of a course. Hence, in cases where more than one course in the old curriculum is replaced by one course in the revised curriculum, students who have failed any of the corresponding courses in the old curriculum will have to do the entire new course in the revised curriculum.

**Please note:**

Table 3 above only highlights new/revised core courses in Bachelor of Informatics that should be done if courses on the old curriculum are failed. Service courses from other Departments are excluded, but the rules of relevant Departments apply to this programme as well.

The following old courses do not have corresponding courses in the Bachelor of Informatics (new curriculum), and will be offered until the Bachelor of Informatics (old curricula) will be phased out completely in 2024:

- BAP620S: Business Analysis & Process Management
- BAI620S: Business Accounting for Informatics
- HIT620S: Health Information Systems and Technology
- CSH6710S: Computer Systems for Healthcare Services

**POSTGRADUATE PROGRAMMES****QUALIFICATIONS OFFERED**

	<b>CODES</b>
Bachelor of Informatics Honours (Web Informatics) (Phasing out from 2020)	08BIFH
Bachelor of Informatics Honours (Web Informatics) (Revised – Phasing in 2020)	08BIHW
Bachelor of Informatics Honours (Business Informatics) (Phasing out from 2020)	08BIHB
Bachelor of Informatics Honours (Business Informatics) (Revised – Phasing in 2020)	08BIFB
Bachelor of Computer Science Honours (Communication Networks) (Phasing out 2020)	08BCHC
Bachelor of Computer Science Honours (Communication Networks) (Revised – Phasing in 2020)	08BCCH
Bachelor of Computer Science Honours (Software Development) (Phasing out from 2020)	08BCSH
Bachelor of Computer Science Honours (Software Development) (Revised – Phasing in 2020)	08BCHS
Bachelor of Computer Science Honours (Mobile Development) (Phasing out from 2020)	08BCHM
Bachelor of Computer Science Honours (Information Security)	08BHIS
Bachelor of Computer Science Honours (Digital Forensics)	08BHDF
Post Graduate Certificate in Informatics (Information Systems Audit)	08PGCI
Post Graduate Certificate in ICT Policy and Regulations	08PCIT
Master of Informatics	09MINF
Master of Computer Science	09MCSC
Doctor of Philosophy (PhD) in Informatics	10PDIN
Doctor of Philosophy (PhD) in Computer Science	10PDCS

**DEPARTMENT OF COMPUTER SCIENCE****Code 22****BACHELOR OF COMPUTER SCIENCE HONOURS (COMMUNICATION NETWORKS)****(Phasing out from 2020)**

	<b>08BCHC</b>
BACHELOR OF COMPUTER SCIENCE HONOURS (COMMUNICATION NETWORKS) (Revised)	08BCCH
BACHELOR OF COMPUTER SCIENCE HONOURS (SOFTWARE DEVELOPMENT) (Phasing out from 2020)	08BCSH
BACHELOR OF COMPUTER SCIENCE HONOURS (SOFTWARE DEVELOPMENT) (Revised)	08BCHS
BACHELOR OF COMPUTER SCIENCE HONOURS (MOBILE DEVELOPMENT) (Phasing out from 2020)	08BCHM
BACHELOR OF COMPUTER SCIENCE HONOURS (INFORMATION SECURITY)	08BHIS
BACHELOR OF COMPUTER SCIENCE HONOURS (DIGITAL FORENSICS)	08BHDF

**Description**

The Bachelor of Computer Science Honours is a postgraduate specialisation degree that aims at consolidating and deepening the knowledge and skills of students in the main cognate area of learning, as well as developing their capacity to conduct supervised research of an applied nature. The programme is purposefully designed to expose students to advanced concepts, theories, tools, and methods of Computer Science. In this context, specific emphasis is placed on internationally accepted general standards and practices, as well as key attributes that would enable graduates to assume supervisory/middle management and applied research positions in the Computing industry, academia, and in the public sector in general.

The curriculum is structured to facilitate specialisation in the areas of Communication Networks and Software Development.

**Admission Requirements**

Applicants may be considered for admission to this programme if they have a Bachelor's degree in Computer Science, or a Bachelor of Information Technology from the Namibia University of Science and Technology, or an equivalent qualification at NQF Level 7 from a recognised institution, worth at least 360 credits. Additional admission criteria may apply as set at the discretion of the Department.

Applicants are required to submit the following documents with their applications:

- A professional resume, highlighting practical and professional Computing and IT experience, if applicable;
- A written proposal/motivation for undertaking further studies;
- A transcript of the undergraduate study.

**Articulation Requirements**

Transfer of credits will be dealt with according to the University's regulations on Recognition of Prior Learning. These provide for course-by-course credits as well as credit transfer by volume under certain academic conditions. The maximum credit that can be granted is 50% of the credits for a qualification.

Upon successful completion of the Bachelor of Computer Science Honours, students will ordinarily be able to pursue further studies in the same, or a related cognate area of learning, at NQF Level 9.

**CURRICULUM**

**Year 1**

**Semester 1**

Course Code	Course Title	Prerequisites
RIT812S	Research Methodology	None

**PLUS one of the following Strands depending on Specialisation:**

**COMMUNICATION NETWORKS STRAND: (Register ALL courses from the strand selected)**

BBN810S	Broadband Networks	None
ECN811S	Emerging and Open Issues in Communication Networks	None
MNA810S	Mobile Networks and Architectures	None

**SOFTWARE DEVELOPMENT STRAND: (Register All the courses from the strand elected)**

ASD810S	Advanced Software Development	None
ESD811S	Emerging and Open Issues in Software Development	None
FMM810S	Formal Methods	None

**MOBILE DEVELOPMENT STRAND: (Register All the courses from the strand elected)**

MAD811S	Mobile Applications Development	None
EMD811S	Emerging and Open Issues in Mobile Development	None
MNA810S	Mobile Networks and Architectures	None

**INFORMATION SECURITY STRAND: (Register All the courses from the strand elected)**

PTS811S	Practical Network Security	None
APC811S	Applied Cryptography	None
ISM811SI	Information Security Management and Assurance	None

**DIGITAL FORENSICS STRAND: (Register All the courses from the strand elected)**

PTS811S	Practical Network Security	None
DFM811S	Digital Forensics Management	None
APC811S	Applied Cryptography	None

**Semester 2**

MTH820S	Mini-Thesis	Research Methodology
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**PLUS one of the following Strand Elective courses for Specialisation in Communication Networks (Choose only one course from the selected strand)**

WDS820S	Wireless Data Networks and System	None
SON820S	Simulation of Networks	None

**PLUS one of the following Strand Elective courses for Specialisation in Software Development (Choose only one course from the selected strand)**

MAD811S	Mobile Applications Development	None
PLC820S	Programming Languages and Compilers	None

**PLUS one of the following Strand Elective courses for Specialisation in Mobile Development (Choose only one course from the selected strand)**

IDE820S	Interaction Design & Evaluation	None
MPD820S	Mobile Platforms and Development Environments	None

**PLUS one of the following Strand Elective courses for Specialisation in Information Security (Choose only one course from the selected strand)**

CIT821S	Critical Infrastructure Protection	None
DSD821S	Database Security and Data Protection	None

**PLUS one of the following Strand Elective Courses for Specialisation in Digital Forensics (Choose only one course from the selected strand)**

CMF821S	Computer and Multimedia Forensics	None
MBF821S	Mobile Forensics	None



**BACHELOR OF COMPUTER SCIENCE HONOURS (COMMUNICATION NETWORKS) Revised****08BCCH****BACHELOR OF COMPUTER SCIENCE HONOURS (SOFTWARE DEVELOPMENT) Revised****08BCHS****Description**

The Bachelor of Computer Science Honours is a postgraduate specialisation degree that aims at consolidating and deepening the knowledge and skills of students in the main cognate area of learning, as well as developing their capacity to conduct supervised research of an applied nature in disciplines related to software engineering. The programme is purposefully designed to expose students to advanced concepts, theories, tools, and methods of Computer Science and their applications. In this context, specific emphasis is placed on internationally accepted general standards and practices, as well as key attributes that would enable graduates to assume supervisory/middle management and applied research positions in the Computing industry, academia, and in the public sector in general. The curriculum is structured to facilitate specialisation in the areas of Software Development and Communication Networks.

**Admission Requirements**

Applicants may be considered for admission to this programme if they have a Bachelor's degree in Computer Science, preferably in Software Development and Communication Networks or an equivalent qualification at NQF Level 7 from a recognised institution, worth at least 360 credits. Additional admission criteria may apply as set at the discretion of the Department.

Applicants are required to submit the following documents with their applications:

- A professional resume, highlighting practical and professional Computing experience, if applicable;
- A written proposal/motivation for undertaking further studies

**Articulation Arrangements**

Transfer of credits will be dealt with according to the NUST's regulations on Recognition of Prior Learning. These provide for course-by-course credits as well as credit transfer by volume under certain academic conditions. Maximum credit that can be granted is 50% of the credits for a qualification.

Upon successful completion of the Bachelor of Computer Science Honours, students will ordinarily be able to pursue further studies in the same, or a related cognate area of learning, at NQF Level 9.

**Mode of Delivery**

The programme will be delivered on full-time and/or part-time modes in accordance with NUST rules. With the provision that there is a reliable mechanism to monitor a student access on the E-learning platform (or its extension), the online mode will also be considered.

**Requirements for Qualification Award**

The Bachelor of Computer Science Honours degree will be awarded to students credited with a minimum of 120 NQF credits at NQF Level 8, and who have met the detailed requirements as set out below. In addition, students should meet the administrative and financial requirements as spelt out in Part 1 of the NUST Yearbook.

Students are able to specialise in either the Communication Networks or Software Development and must complete two core compulsory courses, that is, Research Methodology (worth 15 credits) and Mini-Thesis (worth 45 credits); three strand compulsory courses (worth 45 credits); one strand elective course worth 15 credits.

**CURRICULUM****Year 1****Semester 1**

Course Code	Course Title	Prerequisites
RIT812S	Research Methodology	None

**PLUS one of the following Strands Compulsory depending on Specialisation:****COMMUNICATION NETWORKS STRAND: (Register ALL courses from the strand selected)**

BBN810S	Broadband Networks	None
ECN811S	Emerging and Open Issues in Communication Networks	None
MNA810S	Mobile Networks and Architectures	None

**SOFTWARE DEVELOPMENT STRAND: (Register All the courses from the strand elected)**

ASD810S	Advanced Software Development	None
ESD811S	Emerging and Open Issues in Software Development	None
SSS811S	Secure Systems	None

**Semester 2**

Course Code	Course Title	Prerequisites
MTH820S	Mini-Thesis	Research Methodology

**PLUS one of the following Strand Elective courses depending on the Specialisation**

**COMMUNICATION NETWORKS STRAND**

MMC821S	Multimedia Communications	None
SDN821S	Software Defined Networking	None
NVS821S	Network Vulnerabilities and Security	None
DCM821S	Datacentre Management	None

**SOFTWARE DEVELOPMENT STRAND**

IDN821S	Interaction Design	None
MPD820S	Mobile Platforms and Developments	None
FMM820S	Formal Methods	None
PRS821S	Programming for Security	None

**PLUS one of the following Strand Elective courses for Specialisation in Communication Networks (Choose only one course from the selected strand)**

WDS820S	Wireless Data Networks and System	None
SON820S	Simulation of Networks	None

**PLUS one of the following Strand Elective courses for Specialisation in Software Development (Choose only one course from the selected strand)**

MAD811S	Mobile Applications Development	None
PLC820S	Programming Languages and Compilers	None

**MASTER OF COMPUTER SCIENCE**

**09MCSC**

**(With specialisation in Communication Networks, Software Development, Mobile Development, Information Security, Forensic Computing)**

**NQF Level: 9**

**NQF Credits: 240**

**NQF Qualification ID: Q0504**

**Description**

The Master of Computer Science programme is of interdisciplinary nature and aims at students interested in, and adequately qualified and motivated, for graduate education to become scientific researchers in various fields of study related to Computer Science. In this regard, the Computing Sciences Accreditation Board (CSAB) defines Computer Science as focusing on the ‘theory of computation, algorithms and data structures, programming methodology and languages, and computer elements and architecture’. In addition to these four areas, the CSAB also identifies fields such as software engineering, artificial intelligence, computer networking and communication, database systems, parallel computation, distributed computation, computer-human interaction, computer graphics, operating systems, and numerical and symbolic computation as being important areas of computer science.

The programme will enable students to deepen their knowledge of a particular computer science speciality for application, research and/or management purposes. Possible fields of specialisation include Communication Networks, Software Development, Mobile Development, Information Security and Forensic Computing. The precise focus of the research will be determined through dialogue between the candidate and supervising staff, and will fall within the scope of the approved research clusters of the Faculty of Computing and Informatics.

Students will develop a thorough understanding of relevant methodological approaches, and develop competence in the application of qualitative, design, mixed-mode and quantitative research methods through participation in research projects under supervision of experienced staff members. The development of research competence has prime priority in the context of this programme. Students are required to design, undertake and report on research where computer science is the research focus and apply techniques and/or deal with a specific application problem connected with the field of interest.

**Admission Requirements**

Applicants who hold qualifications from recognised institutions at NQF level 8, or equivalent, in disciplines related to computer science may be considered for admission to this programme. Applicants need to provide evidence of having conducted supervised research and may be required to make-up specific deficiencies in coursework at the discretion of the Faculty Postgraduate Committee. In addition, applicants may be required to attend a pre-selection interview and/or test at the discretion of the Department.

Applicants from other institutions must submit detailed information on all courses in their previous qualifications, as well as contact details of three referees. The latter also applies to applicants who have been working in the field subsequent to obtaining their

previous qualifications. The Faculty Postgraduate Committee may approve exceptions, and all admissions are at the discretion of the Faculty Postgraduate Committee.

Registration prior to the approval of a research proposal is provisional and will be made official only when the Higher Degrees Committee approves the proposal. These procedures will be fully explained to each prospective student during his or her personal interview.

### **Assessment Strategies**

Students are required to submit a research proposal six months after registration for approval by the Higher Degrees Committee. It is compulsory that students attend regular research methodology seminars until successful defence and approval of the research proposal. Students are required to present a work-in-progress report every six months during research seminars for monitoring and assessment purposes. Students who fail the initial assessment of the research proposal will receive an extension of six months for re-approval.

In compliance with the general requirements of Senate, students are required to submit a thesis for evaluation, which should comply with international academic standards. The thesis requires students to work independently and to investigate their own individual research topic. Students are required to cultivate a professional work ethic to deliver the combination of research, analysis, communication and presentation demanded by their thesis. The thesis will be assessed in accordance with the rules for studies at postgraduate level.

Students will present and defend their thesis before an appropriately constituted committee in accordance with the rules for postgraduate studies at the University. The thesis will be returned to students for correction before final binding and archiving. Final marks will only be released after correction of the thesis.

### **Articulation Arrangements**

The Master in Computer Science is a terminal qualification; hence articulation arrangements are not applicable.

### **Mode of Delivery**

By Research Only.

### **Teaching and Learning**

By Research Only

### **Requirements for Qualification Award**

240 NQF Credits

### **Quality Assurance Arrangements**

The final assessment of the thesis will be done by qualified academics and practitioners with Doctoral Degrees. The examiners must be knowledgeable and respected individuals in the field with experience in assessment of postgraduate scientific reports or theses and will be appointed by the Higher Degrees Committee upon the recommendation of the Faculty Postgraduate Committee

## **DOCTOR OF PHILOSOPHY IN COMPUTER SCIENCE 10PDCS (with specialisation in Communication Networks, Software Development, Mobile Development, Information Security, Forensic Computing)**

**NQF Level: 10**

**NQF Credits: 360**

**NQF Qualification ID: Q0505**

### **Description**

The PhD in Computer Science was conceptualized against the backdrop of the above imperatives in order to train scientific researchers in various fields of study related to Computer Science (e.g. Communication Networks, Software Development, Mobile Development, Information Security and Forensic Computing). Students will develop a thorough understanding of relevant methodological approaches, and develop competence in the application of qualitative, design, mixed-mode and quantitative research methodologies through participation in research projects under supervision of experienced staff members. The precise focus of the research will be determined through dialogue between the candidate and supervising staff, and will fall within the scope of the approved research clusters of the Faculty of Computing and Informatics.

The development of research competence has prime priority in the context of this PhD programme. Students are required to investigate, design, and conduct independent research, where Computer Science is the research focus, apply advanced methods and techniques and/or deal with a sophisticated application problem connected with the topic of interest. The research output, in the form of a thesis, must contribute meaningfully and substantially to the existing body of knowledge in the field/area of specialisation through comprehension, application, analysis, synthesis and evaluation of existing knowledge.

### **Admission Requirements**

Applicants, who hold qualifications from recognised institutions at NQF Level 9, or equivalent, in computer science or related cognate areas, may be considered for admission to this programme. Applicants need to provide evidence of having conducted supervised research at this level. In addition, applicants may be required to attend a pre-selection interview at the discretion of the department. The Higher Degrees Committee will approve the final selection and admission of candidates.

Registration prior to the approval of a research proposal is provisional and will be made official only when the Higher Degrees Committee approves the proposal. These procedures will be fully explained to each prospective student during his or her personal interview.

### **Articulation Arrangements**

The PhD in Computer Science is a terminal qualification; hence articulation arrangements are not applicable.

### **Assessment Strategies**

Students are required to submit a research proposal six months after registration for approval by the Higher Degrees Committee. It is compulsory that students attend regular research methodology seminars until successful defense and approval of the research proposal. Students are required to present a work-in-progress report every six months during research seminars for monitoring and assessment purposes. Students who fail the initial assessment of the research proposal will receive an extension of six months for re-approval.

In compliance with the general requirements of Senate, students are required to submit a thesis for evaluation, which should comply with international academic standards. The thesis requires students to work independently and to investigate their own individual research topic. Students are required to cultivate a professional work ethic to deliver the combination of research, analysis, communication and presentation demanded by their thesis. The thesis will be assessed in accordance with the rules for studies at postgraduate level.

Students will present and defend their thesis before an appropriately constituted committee in accordance with the rules for postgraduate studies at the University. The thesis will be returned to students for correction before final binding and archiving. Final marks will only be released after correction of the thesis.

Any other special arrangements on assessments will be done in accordance with the University's rules and procedures for postgraduate studies.

### **Mode of Delivery**

By Research Only

### **Requirements for Qualification Award**

360 NQF Credits

### **Teaching and Learning**

By Research Only

### **Transition Arrangements**

This is a new programme and transition arrangements are, therefore, not applicable.

### **Quality Assurance Arrangements**

Qualified academics and practitioners with Doctoral Degrees will do the final assessment of the thesis. The examiners must be knowledgeable and respected individuals in the field with experience in assessment of postgraduate scientific reports or theses and will be appointed by the Higher Degrees Committee upon the recommendation of the Faculty Postgraduate Committee.

### **Transition Arrangements**

This is a new programme and transition arrangements are, therefore, not applicable.

Postgraduate Certificate in Information and Communication Technology Policy and Regulation (Revised) (Phased in 2019)	08PCIT
Postgraduate Certificate in Informatics (Information Systems Audit)	08PGCI
Bachelor of Informatics Honours (Web Informatics) (Phasing out from 2020)	08BIFH
Bachelor of Informatics Honours (Business Informatics) (Phasing out from 2020)	08BIHB
Bachelor of Informatics Honours (Web Informatics) (Revised- Phasing in 2020)	08BIHW
Bachelor of Informatics Honours (Business Informatics) (Revised – Phasing in 2020)	08BIFB
Master of Informatics	09MINF
Doctor of Philosophy In Informatics 1	OPDIN

**POSTGRADUATE CERTIFICATE IN INFORMATION AND COMMUNICATION TECHNOLOGY POLICY and REGULATION (Revised - Phased in 2019)**

**08PCIT****NQF Level: 8****NQF Credits: 60****NQF Qualification ID: Q1104****Description**

The Postgraduate Certificate in Information and Communications Technology Policy and Regulation Level 8 (PGC-ICTPR) aims to equip students with skills, techniques and understanding required for successful careers in technology management, ICT regulation and policy enactment in the public and private sectors of the economy.

- The revised Postgraduate Certificate in Information and Communication Technology Policy and Regulation (Level 8) specifically aim at:
- Providing students with a strong foundation in ICT Policy and Regulation enactment;
- Developing students' abilities to analyse the relevant theories applicable to ICT policy and regulatory environment for the digital communications and ICT sector;
- Providing students with a critical understanding about the role of ICTs for social, economic and political development;
- Providing analytic skills that allow students to understand and critically engage with the complex and often conflicting policy debates about ICTs.

This programme is designed for middle- to senior-level managers and practitioners working in the broad electronic communications and ICT sector. Key sectors targeted include the telecommunications and electronic communications operators; the ICT industry; the broadcasting and digital audio-visual content services sector; regulatory agencies; government policy departments, including communications, trade and industry, science and technology; science councils; university teaching and research departments; consumer advocates, and development sector entities.

**Admission requirements**

Applicants must have a Bachelor degree in information and communications technology (ICT) or an equivalent qualification at NQF level 7 worth at least 360 credits from a recognised institution. Applicants with a pre-NQF qualification of three years Bachelor degrees in other domain areas such as, media studies, public policy, law, medicine, engineering, economics, regulation, may also apply into the programme. Applicants should also have at least two (2) years relevant work experience in Information and Communication Technology or policy and regulation. Additional admission criteria may apply as set at the discretion of the Department.

**Mode of Delivery**

This qualification will be offered via the part-time flexible block-release sessions in accordance with NUST rules and regulations.

**Assessment strategies**

Continuous Assessment with Feedback (CAF) will be used for all the courses. CAF will focus on the use of progressive, sufficient assessment events and evidence as a feedback tool to promote and improve learning and teaching approaches and attaining the competencies required to demonstrate exit level outcomes rather than an accumulation of final pass marks through a series of assessment events. Learning shall be facilitated both in and outside the classroom, by assigning specific tasks to be carried out by the student. In accordance with NUST policy on diversified Continuous Assessment, each course will have a minimum of six assessments. Flexible and valid instruments shall be used. These include among others:

- Observation of performance;
- Written individual and group assignment;
- Presentations;
- Case studies;
- Report writing;
- Practical projects.

To be awarded a Postgraduate Certificate in ICT Policy and Regulation (Level 8) the student must undertake an ICT Policy and Regulation Project. In terms of the Project, the student shall be required to work under the guidance of an ICT academic, as well as

a supervisor preferably within the ICT Policy and Regulation industry. The success of such an arrangement would require a clearly defined programme stipulating specific targets. It is the responsibility of the student to manage the collaboration between the supervisor (staff within the academic department) and the industry-expert (quite often the student's Supervisor or Senior Manager) throughout the ICT Policy and Regulation project development process.

The project should involve at least 150 hours of student effort and should represent a substantive exercise in specialisation. The deliverable shall include: project proposal, final report, and an oral presentation (please refer to the course syllabus for details). Students must achieve a minimum of at least 50% in each course to pass.

### CURRICULUM

#### Year 1

##### Semester 1

Course Code	Course Title	Prerequisite	NQF Level	NQF Credits
TMA811S	ICT Technologies and Market Analysis	None	8	15
POE811S	ICT Policy, Operating Environment, Law and Regulation	None	8	15

##### Semester 2

TDG821S	ICT Trends, Developments and Governance	None	8	15
PRP821S	ICT Policy and Regulation Project	Students must have passed at least two courses.	8	15

#### Transition Arrangements

The revised Post-Graduate Certificate in ICT Policy and Regulation has incorporated transition arrangements for courses in the old curriculum which will not be offered anymore. The last intake of students for the Post-Graduate Certificate in ICT Policy and Regulation (old curriculum) was in January 2015. Students who are registered on the Post-Graduate Certificate in ICT Policy & Regulation (old curriculum) will be allowed to transition to the Post-Graduate Certificate in ICT Policy and Regulation (revised curriculum). Students who are registered in 2013 or earlier for the Post-Graduate Certificate in ICT Policy and Regulation (old curriculum) will be required to change their registration to the Post-Graduate Certificate in ICT Policy & Regulation (revised curriculum and will be granted credits on a course-by-course basis in accordance with the information in Table 4 below.

**Table 4 Courses to be credited**

Old Curriculum		Revised Curriculum	
Course Code	Course Name	Course Code	Course Name
TMA814M	Module 1: Market Analysis & Research Methodology	TBC	ICT Technologies and Market Analysis
CGP813M	Module 2: Costing and Pricing	TBC	ICT Policy, Law & Regulation
IID812M	Module 3: International ICT Trends, Organizations & Developments	TBC	ICT Trends, Developments & Governance
TRT811M	Module 4: Telecommunication Regulation	TBC	ICT Policy, Law & Regulation
TSL815M	Module 5: Telecommunications Law	TBC	ICT Policy, Law & Regulation
TBT816M	Module 6: Telecommunication & Broadcasting Technology	TBC	ICT Technologies and Market Analysis
RPB817M	Thesis	TBC	ICT Policy and Regulation Project

**Table 5 Corresponding Courses to be done (if failed) - this is not a credit table!**

Post-Graduate Certificate in ICT Policy and Regulation (old curriculum)		Post-Graduate Certificate in ICT Policy and Regulation (Corresponding New/Revised Courses to be done, if failed)	
Course Code	Course Name	Course Code	Course Name
TMA814M	Market Analysis & Research Methodology	TBC	ICT Technologies and Market Analysis
CGP813M	Costing and Pricing	TBC	ICT Policy, Law & Regulation
IID812M	International ICT Trends, Organizations & Developments	TBC	ICT Trends, Developments & Governance
TRT811M	Telecommunication Regulation	TBC	ICT Policy, Law & Regulation
TSL815M	Telecommunications Law	TBC	ICT Policy, Law & Regulation
TBT816M	Telecommunication & Broadcasting Technology	TBC	ICT Technologies and Market Analysis

Table 5 above only highlights new/revised courses that should be done if courses on the old curriculum are failed.

**POSTGRADUATE CERTIFICATE IN INFORMATICS (INFORMATION SYSTEMS AUDIT)****08PGCI****NQF Level: 8****NQF Credits: 60****NQF Qualification ID: Q0583****Description**

The Postgraduate Certificate in Informatics (Information Systems Audit) programme is primarily designed to provide students with deeper insight, intellectual and cognitive skills related to their professional field and area of employment and help them to advance their career of choice. This programme will further expose students to advanced concepts, theories, tools, and methods of Information Systems Audit. The overarching aim of this programme is to prepare students for a career in the Information Technology (IT) audit field and for certification as an information systems auditor or information security specialist. Students will be able to take up a certification course in this field and may become members of professional/association bodies such as the Information Systems Audit and Control Association (ISACA). The Postgraduate Certificate in Informatics (Information Systems Audit) will not lead to further academic study, but graduates would gain credit for relevant courses should they opt to register for the Bachelor of Informatics Honours.

**Admission Requirements**

Applicants must have a three-year Diploma or a Bachelor degree or an equivalent qualification on NQF Level 7 with an Information Systems emphasis from an accredited institution. Applicants should also have at least two years relevant work experience. Additional admission criteria may apply as set at the discretion of the Department.

**Articulation Arrangements**

Transfer of credits will be dealt with in accordance with the University's regulations on Recognition of Prior Learning. These provide for course-by-course credits as well as credit transfer by volume under certain academic conditions. The maximum credit that can be granted is 50% of the credits for a qualification.

Students who commenced a Bachelor of Informatics Honours, but discontinued their studies, may utilise academic courses passed for credit recognition in the Postgraduate Certificate in Informatics (Information Systems Audit).

Conversely, students who passed academic courses as part of this programme may utilise these for credit, if wishing ultimately, to undertake the Bachelor of Informatics Honours.

In addition, students who passed certain courses in the old Bachelor of Technology in Business Computing programme may be granted credit for such courses as follows:

**Table 6**

<b>B. Tech.: Business Computing (Old)</b>		<b>PGC: Informatics (Information Systems Audit) [New/Revised Equivalent Courses]</b>	
<b>Old Courses</b>		<b>New Courses</b>	
<b>Code</b>	<b>Course Name</b>	<b>Code</b>	<b>Course Name</b>
AIS410S	Accounting Information Systems	AIS822S	Accounting Information Systems
ISA410S	Information Systems Audit	ISA822S	Information Systems Audit

**CURRICULUM****Year 1**

<b>Course Code</b>	<b>Course Title</b>	<b>Prerequisite</b>	<b>NQF Level</b>	<b>NQF Credits</b>
AIS822S	Accounting Information Systems	None	8	15
ISA822S	Information Systems Audit	None	8	15
PGP811S	Industry Project	Students must have passed at least one course	8	15
ISM811S	Information Security Management and Assurance	None	8	15

**Transition Arrangements**

The Postgraduate Certificate in Business Computing (Information Systems Audit) (old curriculum) will be phased out systematically until 2015 with minimal disruption to existing students' learning progression. The last intake of students for the Postgraduate Certificate in Business Computing (Information Systems Audit) (old curriculum) was in January 2014.

Students who are registered on the Postgraduate Certificate in Business Computing (Information Systems Audit) (old curriculum) will be allowed to transition to the Postgraduate Certificate in Informatics (Information Systems Audit) (new curriculum).



Students who are registered in 2014 for the Postgraduate Certificate in Business Computing (Information Systems Audit (old curriculum)), and who fail more than 50% of the courses at the end of 2014, will be required to change their registration to the Postgraduate Certificate in Informatics (Information Systems Audit) (new curriculum) and will be granted credits on a course-by-course basis in accordance with the information in Table 1 below.

The Postgraduate Certificate in Informatics (Information Systems Audit) (new curriculum), has taken effect from January 2015. Courses will only be offered based on the syllabi of new/revised courses in 2015. Students who fail any of the courses on the old curricula will be required to repeat such failed courses based on the syllabi of the new/revised corresponding courses. Please refer to Table 2 below, for detailed information on the new/revised corresponding courses to be done if courses on the Postgraduate Certificate in Business Computing (Information Systems Audit) (old curriculum) are failed.

The deadline for complete phasing out of the Postgraduate Certificate in Business Computing (Information Systems Audit) (old curriculum) is 2016 after which students must automatically switch to the Postgraduate Certificate in Informatics (Information Systems Audit) (new curriculum).

**Table 7: Courses to be credited**

<b>Postgraduate Certificate in Business Computing (Information Systems Audit) (Old Courses)</b>		<b>Postgraduate Certificate in Informatics (Information Systems Audit) (New/Revised Equivalent Courses)</b>	
<b>Course Code</b>	<b>Course Name</b>	<b>Course Code</b>	<b>Course Name</b>
AIS811S	Accounting Information Systems	AIS822S	Accounting Information Systems
ISA811S	Information Systems Audit and Control	ISA822S	Information Systems Audit
PIP810S	Industry Project	PGP811S	Industry Project
PIC810S	Industry Certification	ISM811S	Information Security Management and Assurance

**Table 8: Corresponding Courses to be done (if failed) - this is not a credit table!**

<b>Postgraduate Certificate in Business Computing (Information Systems Audit) (Old Courses)</b>		<b>Postgraduate Certificate in Informatics (Information Systems Audit) (Corresponding New/Revised Courses to be done, if failed)</b>	
<b>Course Code</b>	<b>Course Name</b>	<b>Course Code</b>	<b>Course Name</b>
AIS811S	Accounting Information Systems	AIS822S	Accounting Information Systems
ISA811S	Information Systems Audit and Control	ISA822S	Information Systems Audit
PIP810S	Industry Project	PGP811S	Industry Project
PIC810S	Industry Certification	ISM811S	Information Security Management and Assurance

**Please Note**

Table 2 above only highlights new/revised core courses in Informatics that should be done if courses on the old curriculum are failed.

**Qualification Outcomes**

Upon completing the Postgraduate Certificate in Business Computing (Information Systems Audit), students will be able to:

- Investigate the information system(s) risks or aspects thereof at organisations, with special reference to the business implications;
- Assess and implement appropriate internal controls and other security measures in an Information System;
- Plan and implement efficient information systems architecture, technology and business processes to support business objectives in the most cost-effective way;
- Recommend and motivate systems acquisition to senior management and staff in organisations and act as information systems auditors in the implementation of new systems;
- Evaluate and integrate information systems and business requirements in order to maximise the performance of an organisation;
- Analyse the efficiency and performance of the system(s), and propose improvements where appropriate and possible;
- Apply appropriate IT governance and control frameworks, and best practices in an organisation;
- Communicate solutions and recommendations to management by means of professional presentations and reports.

**BACHELOR OF INFORMATICS HONOURS (WEB INFORMATICS) (Phasing out from 2020)****08BIFH****BACHELOR OF INFORMATICS HONOURS (BUSINESS INFORMATICS) (Phasing out from 2020)****08BIHB****NQF Level: 8****NQF Credits: 120****NQF Qualification ID: Q0508****Description**

The Bachelor of Informatics Honours is a postgraduate specialisation degree that aims at consolidating and deepening the knowledge and skills of students in the main cognate area of learning, as well as developing their capacity to conduct supervised research of an applied nature. The programme is purposefully designed to expose students to advanced concepts, theories, tools, and methods of Informatics. In this context, specific emphasis is placed on internationally accepted general standards and practices, as well as key attributes that would enable graduates to assume supervisory/middle management and applied research positions in the Computing industry, academia, and in the public sector in general.

**Admission Requirements**

Applicants may be considered for admission to this programme if they have a Bachelor's degree in Informatics, or a Bachelor of Information Technology in Business Computing from the Namibia University of Science and Technology, or an equivalent qualification at NQF Level 7 from a recognised Institution, worth at least 360 credits. Additional admission criteria may apply as set at the discretion of the Department.

Applicants are required to submit the following documents with their applications:

- A professional resume, highlighting practical and professional Computing and IT experience, if applicable;
- A written proposal/motivation for undertaking further studies;
- A transcript of the undergraduate study.

**Articulation Arrangements**

Transfer of credits will be dealt with according to the University's regulations on Recognition of Prior Learning. These provide for course-by-course credits as well as credit transfer by volume under certain academic conditions. The maximum credit that can be granted is 50% of the credits for a qualification.

Upon successful completion of the Bachelor of Informatics Honours, students will ordinarily be able to pursue further studies in the same, or a related cognate area of learning, at NQF Level 9.

**CURRICULUM****Year 1****Semester 1**

Course Code	Course Title	Prerequisite
RIT812S	Research Methodology	None
EAT810S	Enterprise Architecture	None

**PLUS one of the following Strands depending on Specialisation:  
(Register ALL courses from the strand selected)**

**WEB INFORMATICS STRAND**

GDM810S	Graphics Design and Digital Media	None
BWM810S	Business Web and Marketing	None

**BUSINESS INFORMATICS STRAND**

BIN811S	Business Intelligence	None
ILM812S	IT in Logistics Management	None

**Semester 2**

MTH820S	Mini-thesis	Research Methodology
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**PLUS one of the following Strand Elective courses for Specialisation in Web Informatics  
(Choose only one course from the selected strand)**

AMM820S	Advanced Multimedia	None
MAI821S	Mobile Applications in Informatics	None

**PLUS one of the following Strand Elective courses for Specialisation in Business Informatics  
(Choose only one course from the selected strand)**

ISA822S	Information Systems Audit	None
AIS822S	Accounting Information Systems	None

### Transition Arrangements

The Bachelor of Information Technology Honours in Business Computing (old curriculum) was phased out systematically since 2016 with minimal disruption to existing students' learning progression. The last intake of students for the Bachelor of Information Technology Honours in Business Computing (old curriculum) was in January 2013.

Students who are registered on the Bachelor of Information Technology Honours in Business Computing (old curriculum) will be allowed to transition to the Bachelor of Informatics Honours (new curriculum) but may lose credits.

Students who were registered in 2013 for the Bachelor of Information Technology Honours in Business Computing (old curriculum), and who failed more than 50% of the courses at the end of 2013, will be required to change their registration to the Bachelor of Informatics Honours (new curriculum) and will be granted credits on a course-by-course basis in accordance with the information in Table 1 below.

The Bachelor of Informatics Honours (new curriculum), took effect from January 2014. Courses will only be offered based on the syllabi of new/revised courses in 2014. Students who fail any of the courses on the old curricula will be required to repeat such failed courses based on the syllabi of the new/revised corresponding courses. Please refer to Table 2, below, for detailed information on the new/revised corresponding courses to be done if courses on the Bachelor of Information Technology Honours in Business Computing (old curriculum) are failed.

The deadline for complete phasing out of the Bachelor of Information Technology Honours in Business Computing (old curriculum) was 2016 after which students must automatically switch to the Bachelor of Informatics Honours (new curriculum).

**Table 9: Courses to be credited**

Bachelor of Information Technology Honours in Business Computing (Old Courses)		Bachelor of Informatics Honours (New/Revised Equivalent Courses)	
Course Code	Course Name	Course Code	Course Name
AMS811S	Advanced Management Information Systems		None
DNS810S	Data and Network Security		None
RIT811S	Research Methodology (IT)	RIT812S	Research Methodology
TOC811S	Theory of Computation		None
HRP810S	Honours Research Project	MTH820S	Mini-thesis
SM811S	Soft Skills for IT Management		None
PMS811S	Practical Management Information Systems		None
SAM810S	Simulation and Modelling		Simulation of Networks
BIN810S	Business Intelligence	BIN811S	Business Intelligence
ILM811S	IT in Logistics Management	ILM812S	IT in Logistics Management
AIA811S	Artificial Intelligence Applications		None
APM810S	Advanced Process Management		None
AIS811S	Accounting Information Systems	AIS822S	Accounting Information Systems
MAD810S	Mobile Application Development	MAI821S	Mobile Applications in Informatics
ISA811S	Information Systems audit & Control	ISA822S	Information Systems Audit

**Table 10: Corresponding Courses to be done (if failed) - this is not a credit table!**

Bachelor of Information Technology Honours in Business Computing (Old Courses)		Bachelor of Informatics Honours (Corresponding New/Revised Courses to be done, if failed)	
Course Code	Course Name	Course Code	Course Name
RIT811S	Research Methodology (IT)	RIT812S	Research Methodology
HRP810S	Honours Research Project	MTH820S	Mini-thesis
SAM810S	Simulation and Modelling	SON820S	Simulation of Networks
BIN810S	Business Intelligence	BIN811S	Business Intelligence
ILM811S	IT in Logistics Management	ILM812S	IT in Logistics Management
AIS811S	Accounting Information Systems	AIS822S	Accounting Information Systems
MAD810S	Mobile Application Development	MAI821S	Mobile Applications in Informatics
ISA811S	Information Systems audit & Control	ISA822S	Information Systems Audit

**BACHELOR OF INFORMATICS HONOURS (WEB INFORMATICS (REVISED))**  
**BACHELOR OF INFORMATICS HONOURS BUSINESS INFORMATICS (REVISED)****081HW**  
**08BIFB****Description**

The Bachelor of Informatics Honours is a postgraduate specialisation degree that aims at providing educational opportunities for students who are interested in and motivated to work as Web and Business Informatics Specialists or related practices. This programme is purposefully designed to develop students' ability to conduct supervised research by applying advanced concepts, theories, tools, and methods of Informatics. In this context, specific emphasis is placed on internationally accepted general standards and practices, as well as key attributes that would enable graduates to assume supervisory/middle management and applied research positions in the Computing industry, academia, and in the public sector in general.

Graduates of this programme will be able to find employment or entrepreneurship in the public and private sectors as Informatics specialists (e.g. Research Assistants, Web and Data Analyst etc.). The programme is revised in consultation with stakeholders in the Computing and Informatics both in Namibia and abroad and has been endorsed by members of the Programme Advisory Committee (PAC). This programme is fully aligned with the requirements of the National Qualifications Framework (NQF) and the NUST Curriculum Framework.

**Criteria for Admission**

Applicants may be considered for admission to this programme if they have a Bachelor's degree in Informatics from the Namibia University of Science and Technology (NUST), or an equivalent qualification at NQF Level 7 from a recognised institution, worth at least 360 credits. Additional admission criteria may apply as set at the discretion of the Department.

Applicants are required to submit the following documents with their applications:

- A professional resume, highlighting practical and professional Computing and IT experience, if applicable.

**Articulation Arrangements**

Transfer of credits will be dealt with according to the NUST' rules and regulations on Recognition of Prior Learning. These provide for course-by-course credits as well as credit transfer by volume under certain academic conditions. Maximum credit that can be granted is 50% of the credits for a qualification.

Upon successful completion of the Bachelor of Informatics Honours, students will ordinarily be able to pursue further studies in the same, or a related cognate area of learning, at NQF Level 9.

**Mode of Delivery**

The programme will be delivered on the full-time and part-time modes of study in accordance with NUST rules. The E-learning mode will only be considered after the programme has reached a certain level of maturity.

**Requirements for Qualification Award**

The Bachelor of Informatics Honours degree will be awarded to students credited with a minimum of 120 NQF credits at NQF Level 8, and who have met the detailed requirements as set out below. In addition, students should meet the administrative and financial requirements as spelt out in Part 1 of the NUST Yearbook. Students can specialise in Web Informatics or Business and must complete one-core compulsory (CC) courses (worth 15 credits); four strand compulsory courses (SC) (worth 45 credits); one strand elective (SE) course (worth 15 credits); and a mini-thesis (worth 45 credits).

## CURRICULUM

### Year 1

#### Semester 1

Course Code	Course Title	Prerequisite
RIT812S	Research Methodology	None

**PLUS one of the following Strands Compulsory depending on Specialisation:**

#### **WEB INFORMATICS STRAND**

WED811S	Web Application Development and Testing	None
DMG811S	Digital Marketing	None
AMG811S	Advanced MultiMedia and Graphics Design	None

#### **BUSINESS INFORMATICS STRAND**

IKM811S	Information and Knowledge Management Systems	None
ISA822S	Information Systems Audit	None
EAT810S	Enterprise Architecture	None

#### Semester 2

MTH820S	Mini-Thesis	RIT812S
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**PLUS one of the following Strand Elective courses for Specialisation in Web Informatics:**

MDE821S	Mobile Platforms and Development Environments	None
DSA821S	Data Science and Analytics	None
TEE821S	Technology Entrepreneurship	None

**PLUS one of the following Strand Elective courses for Specialisation in Business Informatics:**

DSA821S	Data Science and Analytics	None
NFP821S	Finance for Non-Financial Professionals	None
TEE821S	Technology Entrepreneurship	None

#### Transition Arrangements

The Bachelor of Informatics Honours (old curriculum) will be phased out systematically until 2021 with minimal disruption to existing students' learning progression. The last intake of students for the Bachelor of Informatics Honours (old curriculum) was in January 2019.

Students who are registered on the Bachelor of Informatics Honours (old curriculum) will be allowed to transition to the Bachelor of Informatics Honours (revised curriculum) but may lose credits. Students who are registered in 2019 for Bachelor of Informatics Honours (old curriculum), and who fail more than 50% of the courses at the end of 2019, will be required to change their registration to the Bachelor of Informatics Honours (revised curriculum) and will be granted credits on a course-by-course basis in accordance with the information in Table 0.1.

The Bachelor of Informatics Honours (revised curriculum), will take effect from January 2020. Students who fail any of the courses on the old curricula will be required to repeat such failed courses based on the syllabi of the new/revised corresponding courses.

The deadline for complete phasing out of the Bachelor of Informatics Honours (old curriculum) is 2021, after which, students must automatically switch to the Bachelor of Informatics Honours (revised curriculum).

**Table 11: Courses to be credited:**

Bachelor of Informatics Honours (Old Courses)		Bachelor of Informatics Honours (New/Revised Equivalent Courses)	
Course Code	Course Name	Course Code	Course Name
RIT812S	Research Methodology	RIT812S	Research Methodology
EAT810S	Enterprise Architecture	EAT810S	Enterprise Architecture
MTH820S	Mini-thesis	MTH820S	Mini-thesis
<b>WEB INFORMATICS STRAND</b>			
GDM810S	Graphics Design and Digital Media	AMG811S	Advance Multimedia and Graphics Design
AMM820S	Advanced Multimedia		
BWM810S	Business Web and Marketing	DMG811S	Digital Marketing
MAI821S	Mobile Applications in Informatics	MDE821S	Mobile Platforms and Development Environments
<b>BUSINESS INFORMATICS STRAND</b>			
BIN810S	Business Intelligence	DSA821S	Data Science and Analytics
ILM811S	IT in Logistics Management	None	None
ISA822S	Information Systems Audit	ISA822S	Information Systems Audit

**Table 12: Corresponding Courses to be done (if failed) – this is not a credit table**

Bachelor of Informatics Honours (Old Courses)		Bachelor of Informatics Honours (Corresponding New/Revised Courses to be done, if failed)	
Course Code	Course Name	Course Code	Course Name
RIT812S	Research Methodology	RIT812S	Research Methodology
EAT810S	Enterprise Architecture	EAT810S	Enterprise Architecture
MTH820S	Mini-thesis	MTH820S	Mini-thesis
GDM810S	Graphics Design and Digital Media	AMG811S	Advanced Multimedia and Graphics Design
AMM820S	Advanced Multimedia		
BWM810S	Business Web and Marketing	DMG811S	Digital Marketing
BIN810S	Business Intelligence	DSA821S	Data Science and Analytics
ILM811S	IT in Logistics Management	None	None
MAI821S	Mobile Applications in Informatics	MDE821S	Mobile Platforms and Development Environments
ISA822S	Information Systems Audit	ISA822S	Information Systems Audit
AIS822S	Accounting Information Systems	None	None

**NB: Exemption may not be granted for part of a course. Hence, in cases where more than one course in the old curriculum is replaced by one course in the revised curriculum, students who have failed any of the corresponding courses in the old curriculum will have to do the entire new course in the revised curriculum.**

**Please note:**

The following old courses do not have new/revised corresponding courses in the Bachelor of Informatics Honours (new curriculum), and will be offered until the Bachelor of Information Technology Honours in Business Computing (old curriculum) is phased out completely in 2021:

- IT in Logistics Management (ILM812S)
- Accounting Information Systems (AIS822S)

**NQF Level: 9**

**NQF Credits: 240**

**NQF Registration ID: Q0506**

**Description**

The Master of Informatics programme is of interdisciplinary nature and is aimed at students interested in, and adequately qualified and motivated, for graduate education to become scientific researchers in various fields of study related to Informatics. In this context, Informatics is defined as the study of the structure and behaviour of natural and artificial systems that generate, process, store, and communicate information. Informatics also includes the study of the cognitive, social, legal, and economic impact of such information systems.

The programme will enable students to deepen their knowledge of a particular Informatics discipline for application, research and/or management purposes. Possible fields of specialisation include Web Informatics and Business Informatics. The precise focus of the research will be determined through dialogue between the candidate and supervising staff, and will fall within the scope of the approved research clusters of the Faculty of Computing and Informatics.

Students will develop a thorough understanding of relevant methodological approaches, and develop competence in the application of qualitative and quantitative research methods through participation in research projects under supervision of experienced staff members. The development of research competence has prime priority in the context of this programme. Students are required to design, undertake and report on research where Informatics is the research focus and apply techniques and/or deal with a specific application problem connected with the field of interest.

**Admission Requirements**

Applicants who hold qualifications from recognised institutions at NQF level 8, or equivalent, in disciplines related to computer science may be considered for admission to this programme. Applicants need to provide evidence of having conducted supervised research and may be required to make-up specific deficiencies in coursework at the discretion of the Faculty Postgraduate Committee. In addition, applicants may be required to attend a pre-selection interview and/or test at the discretion of the Department.

Applicants from other institutions must submit detailed information on all courses in their previous qualifications, as well as contact details of three referees. The latter also applies to applicants who have been working in the field subsequent to obtaining their previous qualifications. The Faculty Postgraduate Committee may approve exceptions, and all admissions are at the discretion of the Faculty Postgraduate Committee.

Registration prior to the approval of a research proposal is provisional and will be made official only when the Higher Degrees Committee approves the proposal. These procedures will be fully explained to each prospective student during his or her personal interview.

**Assessment Strategies**

Students are required to submit a research proposal six months after registration for approval by the Higher Degrees Committee. It is compulsory that students attend regular research methodology seminars until successful defence and approval of the research proposal. Students are required to present a work-in-progress every six months during research seminars for monitoring and assessment purposes. Students who fail the initial assessment of the research proposal will receive an extension of six months for re-approval.

In compliance with the general requirements of Senate, students are required to submit a thesis for evaluation, which should comply with international academic standards. The thesis requires students to work independently and to investigate their own individual research topic. Students are required to cultivate a professional work ethic to deliver the combination of research, analysis, communication and presentation demanded by their thesis. The thesis will be assessed in accordance with the rules for studies at postgraduate level.

Students will present and defend their thesis before an appropriately constituted committee in accordance with the rules for postgraduate studies at the University. The thesis will be returned to students for correction before final binding and archiving. Final marks will only be released after correction of the thesis.

**Transition Arrangements**

The structured/taught Master of Information Technology (MIT) programme was phased out systematically in 2016 with no disruption to existing students' learning progression. The last intake for the MIT (09MIFT) was in 2013. The Master of Informatics will take effect from January 2014.

**NQF Level: 10****NQF Credits: 360****NQF Registration ID: Q0507****Description**

The PhD in Informatics was conceptualised against the backdrop of the above imperatives in order to train scientific researchers in various fields of study related to Informatics (e.g. Business Informatics and Web Informatics). Students will develop a thorough understanding of relevant methodological approaches, and develop competence in the application of qualitative, design, mixed-mode and quantitative research methodologies through participation in research projects under the supervision of experienced staff members. The precise focus of the research will be determined through dialogue between the candidate and supervising staff and will fall within the scope of the approved research clusters of the Faculty of Computing and Informatics.

The development of research competence has prime priority in the context of this PhD programme. Students are required to investigate, design, and conduct independent research, where Informatics is the research focus, apply advanced methods and techniques and/or deal with a sophisticated application problem connected with the topic of interest. The research output, in the form of a thesis, must contribute meaningfully and substantially to the existing body of knowledge in the field/area of specialisation through comprehension, application, analysis, synthesis and evaluation of existing knowledge.

**Admission Requirements**

Applicants who hold qualifications from recognised institutions at NQF level 9, or equivalent, in Informatics or related cognate areas, may be considered for admission to this programme. Applicants need to provide evidence of having conducted supervised research at this level. In addition, applicants may be required to attend a pre-selection interview at the discretion of the department. The Higher Degrees Committee will approve the final selection and admission of candidates.

Registration prior to the approval of a research proposal is provisional and will be made official only when the Higher Degrees Committee approves the proposal. These procedures will be fully explained to each prospective student during his or her personal interview.

**Articulation Arrangements**

The PhD in Informatics is a terminal qualification hence articulation arrangements are not applicable.

**Assessment Strategies**

Students are required to submit a research proposal six months after registration for approval by the Higher Degrees Committee. It is compulsory that students attend regular research methodology seminars until successful defence and approval of the research proposal. Students are required to present a work-in-progress report every six months during research seminars for monitoring and assessment purposes. Students who fail the initial assessment of the research proposal will receive an extension of six months for re-approval.

In compliance with the general requirements of Senate, students are required to submit a thesis for evaluation, which should comply with international academic standards. The thesis requires students to work independently and to investigate their own individual research topic. Students are required to cultivate a professional work ethic to deliver the combination of research, analysis, communication and presentation demanded by their thesis. The thesis will be assessed in accordance with the rules for studies at postgraduate level.

Students will present and defend their thesis before an appropriately constituted committee in accordance with the rules for postgraduate studies at the University of Science and Technology. The thesis will be returned to students for correction before final binding and archiving. Final marks will only be released after correction of the thesis.

Any other special arrangements on assessments will be done in accordance with the University's rules and procedures for postgraduate, namely PhD studies.

**Quality Assurance Arrangements**

Qualified academics and practitioners with Doctoral Degrees will do the final assessment of the thesis. The examiners must be knowledgeable and respected individuals in the field with experience in assessment of postgraduate scientific reports or theses and will be appointed by Senate upon the recommendation of the Higher Degrees Committee.

**Transition Arrangements**

This is a new programme and transition arrangements are, therefore, not applicable.





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