

## CAMPUSES

CENTURION  
(PRETORIA)DURBANVILLE  
(CAPE TOWN)

## DESCRIPTION

A lack of IT and software-related skills has been cited as one of the biggest challenges facing South Africa as the country attempts to heed President Cyril Ramaphosa's prioritised request to embrace the Fourth Industrial Revolution (4IR) to kick-start the economy.

Information Technology is an integrative discipline. By combining the IT pillars of databases, human-computer interaction, networking, programming, and web systems, this programme will provide graduates with a solid background that enables them to solve all types of computing and informational problems, regardless of their origin. In particular, graduates will be equipped to play a leading role during the planning, implementation, configuration, and maintenance of an organisation's computing infrastructure.

This degree aims to address the shortage of IT-related skills in Southern Africa by providing a three-year degree qualification for IT specialists that will enable them to function effectively in the workplace. The degree is aimed at those within the information technology (IT) field who want to develop specialist skills to advance their position, as well as those from other fields who wish to prepare for a new career in IT. The Bachelor of Information Technology degree will thus contribute to the number of IT specialists working in Southern Africa who can effectively communicate and apply their understanding of the theory, principles, purpose, role, methods, and techniques of developing and maintaining an organisation's computing infrastructure.

Students will be able to develop the core foundational skills in information technology through the theoretical and practical application of computing, software development, networking, databases, hardware and web systems. This will be achieved by integrating core elements from fundamentals to more advanced concepts within the specified NQF framework.

Simulations have been incorporated into the curriculum to familiarise the students with real-world environments across NQF levels 5 to 7 so that they can critically analyse problems within familiar and unfamiliar contexts that are more applicable to the industry. Assessments are diverse and incorporate a competency-based testing method to ensure that core IT skills have been achieved.

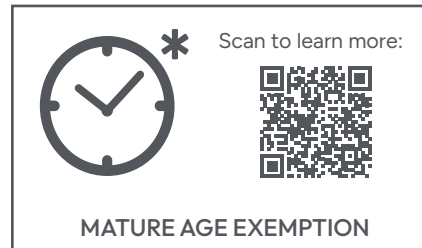
The curriculum is developed with a teaching methodology centred around producing a mature learner who can take responsibility for the design and implementation of computing infrastructure incorporating the latest industry developments. This is achieved by advancing on core fundamentals in Year 1 (NQF 5) into application within focus subjects such as virtual systems and services, cloud computing, applied networks, human-centric design, web systems, and NQF level 6. Due to the complex IT architecture brought on by cloud computing, cybersecurity has become more important with the current and future industrial revolutions; thus, the curriculum incorporates core fundamentals and applications in cybersecurity so that the student can plan architectures that have dynamic, real-time defences to complement firewalls and virus scanners. Importantly, specific modules combine group and individual assignments so that the student develops project management, team management, peer and self-advocacy skills within the IT profession.

The curriculum incorporates an exit-level project (NQF 7), which is central in assessing the cumulative competencies of the student to ensure that they can integrate successfully within the evolving IT industry. Within this project, students will demonstrate their professional capabilities in (1) making informed decisions about the selection and deployment of IT platforms incorporating strategic technology trends, (2) communicating technical information to a wide range of audiences within the IP profession and outside, (3) management of goals, tasks, deadlines, risk and outcomes and (4) design and implement systems that involve the integration of software and networked devices.

## ADMISSION REQUIREMENTS

- a Senior Certificate (SC) with degree endorsement and a minimum symbol of E in Mathematics HG, or D in Mathematics SG; **OR**
- a National Senior Certificate (NSC) with a minimum of 50% in four 20-credit subjects, and a minimum of 40% in English Home Language or First Additional Language, and a minimum of 50% in Mathematics or 70% in Mathematical Literacy; **OR**
- a National Senior Certificate – Vocational Level 4 (NC(V)) with a minimum of 60% in three fundamental subjects, including English and Mathematics; and a minimum 70% in four vocational subjects; **OR**
- a Higher Certificate (NQF 5), Advanced Certificate (NQF 6) or Diploma (NQF 6) in the field of:
  - Software engineering; or
  - Computing; or
  - A related field.

Applicants who meet all the stated admission criteria except the Mathematics requirement, and applicants who have completed a Higher Certificate, Advanced Diploma or Diploma without sufficient exposure to Mathematics, will be required to enrol for a STADIO Numeracy and Business Mathematics bridging programme to enable them to qualify for admission.



## MINIMUM SYSTEM REQUIREMENTS

- Wi-Fi: Reliable broadband Internet access (Wi-Fi is available on all our campuses, but you may also prefer access from home).
- Web browser: Edge/Chrome/Safari/Opera/Firefox.
- Computer/Laptop: A current Windows or Apple Mac computer/laptop can run the Office 365 software. Office 365 includes Word, Excel, PowerPoint and Outlook.
- PDF Viewer: The free Adobe Acrobat software.
- Scanning documents: Ability to scan and upload documents (typically from your cell phone or smartphone)
- Email/cell phone for notification and communication.
- Communication: A cell phone or smartphone for receiving notifications and communication.

## ARTICULATION POSSIBILITIES

- Bachelor of Commerce Honours in Information Technology Management – University of Johannesburg (SAQAID: 73509)
- Bachelor of Arts Honours in Informatics – University of Pretoria (SAQA ID: 16108)
- Bachelor of Science Honours in Computing – Unisa (SAQA ID: 101048)

## CAREER OPPORTUNITIES

IT CONSULTANT	IT NETWORK SPECIALIST
IT SYSTEMS ARCHITECT	IT PROJECT MANAGER
IT SYSTEMS MANAGER	INFORMATION SECURITY OFFICER
UI/UX DEVELOPER	CLOUD SOLUTIONS ENGINEER

# CURRICULUM OUTLINE

YEAR	1st YEAR	2nd YEAR	3rd YEAR
Compulsory Module			Information Technology Development Project ITDP371 (20 credits)
SEMESTER 1	1st YEAR	2nd YEAR	3rd YEAR
Compulsory Modules (All)	Fundamentals of Information Technology FIT152 (10 credits)	Web Systems and Technology WST262 (20 credits)  <i>** Object-oriented Programming (OOP152)</i>	Introduction to Research RES372 (15 credits)
	Technology and Society TAS152 (10 credits)	IS Project Management ISPM262 (20 credits)  <i>** Software Engineering (SEN152)</i>	Network Analysis and Design HCBI372 (20 credits)  <i>* Cybersecurity (CYS372)</i> <i>** Networking 1 (NET152), Networking 2 (NET262) &amp; Applied Networks (ANET262)</i>
	Computational Thinking and Introduction to Programming CTIP152 (20 credits)	Information Management INM262 (10 credits)	Human-centric Design and Business Intelligence RES372 (20 credits)
	Introduction to Databases IDB152 (10 credits)	Networking 2 NET262 (20 credits)  <i>** Networking 1 (NET152)</i>	
	Software Engineering SEN152 (10 credits)  <i>* Fundamentals of Information Technology (FIT152)</i>		
SEMESTER 2	1st YEAR	2nd YEAR	3rd YEAR
Compulsory Modules (All)	Object-oriented Programming OOP152 (15 credits)  <i>* Computational Thinking and Introduction to Programming (CTIP152)</i>	Virtual Systems and Services VSS262 (20 credits)  <i>* Networking 2 (NET262)</i>	Cybersecurity CYS372 (20 credits)  <i>** Networking 1 (NET152) &amp; Networking 2 (NET262)</i>
	Mathematics and Statistics for IT MSIT152 (10 credits)	Cloud Computing CCP262 (20 credits)  <i>* Networking 2 (NET262) &amp; Applied Networks (ANET262)</i> <i>** Networking 1 (NET152)</i>	IT Governance, Risk and Compliance GRC372 (20 credits)
	Networking 1 NET152 (10 credits)	Applied Networks ANET262 (20 credits)  <i>** Networking 1 (NET152)</i>	
	Computer Hardware and Operating Systems CHOS152 (10 credits)		
	Introduction to Business Management MAN152 (20 credits)		
<b>CREDITS PER YEAR</b>	<b>125</b>	<b>130</b>	<b>115</b>

\* Corequisite modules must be taken concurrently with another partner module.

\*\* Prerequisite modules must be successfully completed before enrolling in a higher-level or more advanced module.