



Your Qualification



Bachelor of Computer and Information Sciences in Network Engineering The Independent Institute of Education (The IIE)

The IIE Bachelor of Computer and Information Sciences in Network Engineering will provide candidates with a thorough theoretical grounding and knowledge base in the key principles of network engineering and enterprise network management. These are the key disciplines that inform the professional practice of network engineering and design. Graduates will be equipped with the practical skills to integrate network design goals, network infrastructure and services requirements and technologies to produce enterprise network solutions. The design for this degree has been informed by a demand identified in industry for specialised network engineers and to graduate solution-focused, logical and creative thinkers geared for designing and managing networks for both South African and international markets. This degree will also develop graduates' abilities to design, implement, and manage innovative, integrated network solutions and will nurture an understanding of the role Network Engineering and design play in terms of information systems and applications, connectivity, high availability, redundancy and security in a networked environment. Graduates will be able to engage appropriately with non-technical management executives and stakeholders in planning and designing corporate networking solutions.

Network engineers are found across organisations and enterprises with the current move to online business, connected offices, cloud computing and global trends in the economy. Only when a network engineer understands the relevant technologies and how they fit together can they design, upgrade or implement effective corporate networking solutions. The success of



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organisations is dependent on information and communications technology meeting the needs of the business in ways that align with corporate strategy.

This degree will qualify people to work in various network engineering related roles in the private and public sectors. The aim is to produce competent network engineers who, by understanding emerging technologies and trends in the context of network engineering and design, will contribute to the success and growth of the enterprise. Graduates will gain a critical understanding of network engineering and information science theory and practice and will develop the ability to critically analyse and apply this knowledge to the benefit of the organisation and in support of its business objectives in an ethical and socially responsible manner.

What is this Degree's accreditation status?

The IIE Bachelor of Computer and Information Sciences in Network Engineering is accredited by the Council on Higher Education (CHE) and is registered by the South African Qualifications Authority (SAQA) on the National Qualifications Framework (NQF) as a minimum 360-credit qualification on level 7 (SAQA ID :97838).

Who is the Bachelor's degree aimed at?

The IIE Bachelor of Computer and Information Sciences in Network Engineering degree is aimed at students who are interested in working in various network engineering related roles in the private and public sectors. The aim is to produce competent network engineers who, by understanding emerging technologies and trends in the context of network engineering and design, will contribute to the success and growth of the enterprise. Graduates will gain a critical understanding of network engineering and information science theory and practice and will develop the ability to critically analyse and apply this knowledge to the benefit of the organisation and in support of its business objectives in an ethical and socially responsible manner.

What entry requirements will I need to study this Bachelor's degree?

To be registered as a candidate you must have satisfied the admission requirements as set out below:

Minimum Admission Requirements	English	Maths/HG	Math Lit/SG	Notes
NSC: Bachelor pass with	30%	40% or	60%	
NC(V): Bachelor pass with	50%	50% or	60%	
SC: Endorsement with	33.3%	40% or	50%	
SC(a): Bachelor pass with		40% or	50%	A minimum of 30% in LoLT in NSC/ SC(a) OR with a min. of 33.3% in SC
International: An USAf Exemption Certificate is required and meeting the relevant Maths and English requirements.				Please refer to the International Admissions spreadsheet for further admissions criteria.
A cognate Higher Certificate OR cognate 240 credit Diploma OR an Advanced Certificate OR 360 credit Diploma may satisfy the minimum admission requirements to degree studies.				If discipline not cognate at least 20% of credits must be academic literacy or numeracy related.
Senate Discretionary Admissions				
Mature Age Exemption	Candidates having attained the age of 23 before or during the first year of registration with a Senior Certificate with a minimum of 40% in at least four higher or standard grade subjects, at least three of which shall have been passed simultaneously and one of which shall be a recognised higher grade subject; OR Candidates must have attained the age of 45 before or during the first year of registration. An USAf exemption Certificate is required.			
Senate Discretionary Mature Age Admission for students with a Senior Certificate with endorsement	Candidates 23 years and older at point of registration, with an endorsed Senior Certificate can be accepted on a senate discretionary mature age admission if they do not meet the additional admission requirements. Their academic progress will be tracked and reported at Senate. An USAf Exemption Certificate is not required.			
Recognition of Prior Learning (RPL)	Where candidates do not satisfy the formal admission requirements for this qualification, The IIE may consider an admission application in terms of the Credit Accumulation and Transfer, Recognition of Prior Learning and Qualification Completion Policy (IIE010).			

USAf approved cognate foundation programme	Candidates who have completed an USAf approved cognate foundation programme from a registered and accredited provider may be admitted. The additional Maths/Math Lit criteria falls away. An USAf Exemption Certificate is required - the Office of the Registrar will facilitate, on behalf of the student, an application for degree admission to USAf, once the student has provided proof of payment to USAf.
Transfer students	Candidates who have successfully completed at least 120 credits on the first year of a cognate degree may be admitted. The additional Maths/Math Lit criteria falls away. However, if a student completed less than 120 credits, the admission criteria on the NSC or equivalent apply.
OQSF qualifications	Candidates with an OQSF Level 5 cognate qualification may be admitted, provided the OQSF qualification has at least 120 credits at NQF Level 5. An USAf Exemption Certificate is required - the Office of the Registrar will facilitate, on behalf of the student, an application for degree admission to USAf, once the student has provided proof of payment to USAf.
General Education Development (GED) - An USA qualification developed by the American Council on Education (ACE)	Candidates with a GED qualification may be admitted if they have an USAf Foreign Conditional Exemption Certificate as well as NBT: AQL results and have obtained a score of at least 51 for Academic Literacy (AL) and a score of at least 40 for Quantitative Literacy (QL).

Please note, requirements for entry to this qualification are correct at the time of printing, however, these may change. At the time of registration, please check that the entry requirements have not changed.

What is The Teaching and Learning Strategy of The IIE's Varsity College, and how will it help prepare me for the 21st century working world?

Our teaching and learning approach is based on active learning which enables us to focus on the skills you need to succeed in the New World. This way, the student is at the centre of learning. Academic life, we believe, should be as relevant and participative as possible – a dynamic, two-way exchange. This enables students to:

- Engage with subject material
- Build understanding
- Develop critical thinking and problem-solving skills for the 21st Century workforce.

This collaborative approach teaches you how to think, and to ask questions; the right questions. We call it New World Thinking.

Our active learning approach is structured as a blend between online and face-2-face lectures. This allows us to take learning beyond the confines of the lecture room. independent, self-directed learners. Our Learning Management System called VCLearn enables this blend and affords you a range of approaches to teaching and learning, and resources that are designed to promote self-organised learning and thought leadership.

How is this Bachelor's degree structured at The IIE's Varsity College?

The IIE Bachelor of Information and Computer Sciences in Network Engineering degree is a three-year degree. The modules are delivered on a full-time basis with lectures being scheduled during the day from Monday to Friday.

Please note that in line with academic practice, The IIE's curriculum is reviewed annually thus changes may occur in module structure and sequence in order to ensure that the qualification remains relevant. The exit level outcomes of the programme do not change. Registered students receive an updated programme curriculum on an annual basis.

What will I study in this Degree?

CURRICULUM – FOR STUDENTS STARTING IN 2021

<u>1st Semester</u>	<u>Credit Value</u>	<u>NQF Level</u>	<u>2nd Semester</u>	<u>Credit Value</u>	<u>NQF Level</u>
<u>Year 1</u>					
Mathematical Principles for Computer Science (MAPC5112)	15	5	IT Professional Practice (ITPP5112)	15	5
Network Engineering 1A (NWE5111)	15	5	Network Engineering 1B (NWE5122)	15	5
Programming 1A (PROG5121)	15	5	Programming 1B (PROG6112)	15	6
Programming Logic and Design (Introduction) (PRLD5121)	15	5	Principles of Security (PRSE6212)	15	6
<u>Year 2</u>					
Introduction to Network Programming (INNP5112)	15	5	Emerging Network Technologies (EMNT6322)	15	6
Introduction to Open Source Systems (INOS6221)	15	6	Network Administration B (NTAD6212)	15	6
Network Administration (NTAD6211)	15	6	Network Engineering 2B (NWE6212)	15	6
Network Engineering 2A (NWE6211)	15	6	Wireless and Mobile Communication (WIMC7212)	15	7
<u>Year 3</u>					
Introduction to Research (INRS7321)	15	7	Enterprise Architecture (ENAR7311)	15	7
IT Project Management (IPMA6212)	15	6	Enterprise Resource Planning (ERPL7312)	15	7
IT Risk Management (ITRM7311)	15	7	Network Engineering 3B (NWE7312)	15	7
Network Engineering 3A (NWE7311)	15	7	Work Integrated Learning 3 (XBCNE7319)	15	7

Prerequisites/ co-requisites:

There are no pre-requisites.

Co-requisites apply to several of the modules in this programme and must be met in order to progress through the qualification. See table below.

Co-requisites

Module	Co-requisite
PROG6112	PROG5121 and PRLD5121
INNP5112	PRLD5121
NWEG6211	NWEG5112
NWEG6212	NWEG6211
NWEG7311	NWEG6212
NWEG7312	NWEG7311

What about timetables?

The IIE's full-time programmes are aimed at students wishing to dedicate themselves to full-time studies for the duration of their qualification. This means that students are expected to engage in additional learning activities and assessments outside of the scheduled lecture-time.

Students must understand that timetables remain subject to change throughout the year. Unfortunately, we cannot guarantee that timetable structures will remain the same during each year of your studies with us. In addition, where students are repeating modules, these modules may be offered in the evenings or on weekends. Students are required to attend lectures in order to remain up to date with the academic programme. Students who would like to pursue limited part-time employment opportunities outside of the academic programme must prioritise their studies and avoid committing to work schedules until after they have received their timetables and academic calendar from the institution.

Work Integrated Learning (WIL)

The aim of this practical module is to provide students with an opportunity to demonstrate their understanding in a simulated environment. Students will be required to complete a simulation-based project based on concepts learned in core subjects. This WIL aims to integrate theoretical knowledge and technical skills in network engineering in order to design and implement effective and scalable networks that are able to adapt to technological changes.

Students must complete the Work Integrated Learning component to achieve the graduation requirements of this programme.

What must I pass in order to graduate with this Bachelor's degree?

In order to be awarded this qualification, you must have achieved a minimum final year mark of fifty percent (50%) for each module of the programme; and have met all the Work Integrated Learning requirements, where applicable.

How long do I have to complete this qualification?

Students have a maximum of 6 years to complete this qualification.

With what qualification will I graduate?

You will graduate with The IIE Bachelor of Computer and Information Sciences in Network Engineering degree.

Career opportunities: what career areas can I pursue once I have completed The IIE Bachelor's degree?

This degree will open up an attractive range of career options; this degree is a perfect steppingstone to a diverse and exciting range of career opportunities.

This programme will enable students to critically apply a well-rounded strategic knowledge base to professional entry-level practice across a broad range of enterprise types and industries. Career opportunities for graduates of this degree include:

- Network Engineering
- Network Administration
- Database Administration
- Network Support
- Network Architecture and Design
- Enterprise Architecture
- Enterprise Management

Would it be possible to study further and obtain a postgraduate qualification once I have completed The IIE Bachelor of Computer and Information Sciences in Network Engineering degree?

The IIE Bachelor of Computer and Information Sciences in Network Engineering degree is accredited by the Council on Higher Education (CHE) and is registered with the South African Qualifications Authority (SAQA) on the National Qualifications Framework (NQF) at level 7 - the same level as other equivalent undergraduate degrees at both private and public South African institutes of higher education. The opportunity to apply for a postgraduate certificate/diploma or Honours degree at any South African university or higher education institution exists subject to meeting their specific programme entrance criteria.

It is important to remember that your academic results remain a key factor when applying for further studies.

Call your nearest IIE's Varsity College campus to discuss your career options with one of our Student Advisors.

BCNE 2021 V1 25 AUGUST 2020

Disclaimer: Please note that this fact sheet is accurate at the time of publication. The Independent Institute of Education (The IIE) reserves the right to alter any of the content prior to commencement of registration due to changes in regulation, policy, market requirements or any other valid reason.



British Accreditation Council

The IIE is not only accredited in South Africa but its dedication to providing quality education also led to it being accredited by the British Accreditation Council (BAC) in 2014. The British Accreditation Council is an independent authority in the United Kingdom that accredits private providers globally, including Greece, Switzerland, Singapore, India, Mauritius and the United Arab Emirates. In 2017 The IIE had its accreditation status confirmed by the BAC as an Independent Higher Education Institution confirming our confidence in the international comparability of our standards.

“South African students need to know, when they select a private higher education institution, that the standards offered are equivalent to those of a public University. Our students get this from our extensive local accreditation and registration. The students also benefit from knowing that we meet international standards too. The IIE is accredited as an Independent Higher Education Institution by the British Accreditation Council. Locally and internationally we have demonstrated the quality of what we offer,” said Dr Coughlan, Director, The Independent Institute of Education.

The IIE's Varsity College students can be confident that their IIE learning experience meets international best practice standards.”