

NELSON MANDELA
UNIVERSITY



Faculty of Engineering, The Built Environment
& Information Technology

PROSPECTUS
2021

NELSON MANDELA UNIVERSITY

**FACULTY OF ENGINEERING,
THE BUILT ENVIRONMENT AND
TECHNOLOGY**

PROSPECTUS 2021

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NB:

Although the information contained in this Prospectus has been compiled as accurately as possible, the Council and the Senate of Nelson Mandela University accept no responsibility for any errors or omissions. This Prospectus is applicable only to the 2021 academic year. Information on syllabus and module outcomes is available on the Nelson Mandela University website.

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1 VISION AND MISSION

OUR VISION

Our vision is to be the preferred provider of professional and career-oriented education and research in the fields of engineering, the built environment and information technology.

OUR MISSION

We are a people-centred faculty offering internationally recognised academic programmes, delivering competent graduates and providing innovative solutions and services to industry and community.

2 STAFF

OFFICE OF THE DEAN

<i>Executive Dean</i>	Prof BJ van Wyk PrEng, PrTechEng, SMIEEE, PhD (Wits)
<i>Deputy Dean</i>	Prof D Pottas (Acting): BScHons(PU CHE), PhD(RAU), MCSSA
<i>Executive Secretary</i>	Ms C Dale
<i>Faculty Research Administrator</i>	Ms A Labuschagne NDip (PR), BTech (PR) (NMMU)
<i>Faculty Experiential Training Administrator</i>	Ms J Holmes
<i>Faculty Marketing Officer</i>	Mrs S Mekuto NDip (Marketing Management)

FACULTY ADMINISTRATION

<i>Senior Faculty Academic Administration Manager</i>	Vacant
Summerstrand North Campus	
<i>Faculty Academic Administration Manager</i>	Mr J Dorothy NDip (HRM) (PET)
<i>Faculty Academic Administration Consultant</i>	Mr J Ah Tow BCom (NMMU), BComHons (Bus Man) (NMMU)
	Ms H Boshoff BEd (FP) <i>cum laude</i> (NMMU), BBA (NMMU), MBA (Nelson Mandela University)
	Ms V Mbola NDip (Mgt) (NMMU), BTech (Mgt) (NMMU) BComHons (Bus Mgt) (Nelson Mandela University)

George Campus

<i>Co-ordinator: Academic Administration</i>	Vacant
--	--------

SCHOOL OF ENGINEERING*Director of School*

Mr A G Roberts NCT (PET), NHCT (PET), NDT (PET), NH Dip Tech (PET), NH Dip PSE (PET), MDip Tech Elec Eng (PET), Pr Tech Eng, SMSAIEE, MIEEE

Administrative Professional

Ms L Blom NDip (HRM) (NMMU), NH Cert Dip (PR and Comm) (Varsity College)

Department of Civil Engineering*Head of Department*

Mr J V van der Merwe ND (Civ Eng) (CT), NHD (Civ Eng) (Tech Pta), MDip Tech (Water Eng) (Tech Pta), Pr Tech Eng

Lecturers

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Mr S S Mazomba BSc Hons (Structures) (UP), NDip Civil Eng (DUT), BTech (Structures) (DUT)

Mr D Stuart BTech (Sur) (DUT), MBE (Sur) (DUT), AMSAICE

Mrs B van der Wat BEng (RAU), Pr Eng

Senior Laboratory Technician

Mr Z Njibana BTech Civil Eng (NMU)

Administrative Professional

Ms L T Pienaar NDip (HRM), BTech (HRM) (NMMU)

Department of Electrical Engineering*Head of Department*

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Associate Professor

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	Prof A Steuwer MPhil (Physics), PhD (Materials Science) (Cambridge, UK)
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<i>Laboratory Technician</i>	Mr A Lalla NDip Mech Eng (NMMU), BTech Mech Eng (NMMU)
	Mr K Jenniker NDip Metallurgical Eng (PET)
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	Vacant
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	Mr E Sambu
<i>Administrative Professional</i>	Mrs M Brown Dip (Office Admin) (Russell Road College)
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<i>Professors</i>	Prof K Abou-El-Hossein, MSc Mnfg (Ukraine), PhD Mnfg (Ukraine), GCTT (Curtin), Pr Eng Ms S Gaffoor BEng (Mechatronics) (NMMU), MEng (Mechatronics) (NMMU) Prof I A Gorlach BSc Mech Eng (Wits), MSc Ind Eng (Wits), PhD Mech Eng (Potch), NH Dip Ed (TWR), PrEng, MSAIIE Prof T I van Niekerk NH Dip (CDP) (PET), BSc (Elec Eng) (UCT), MTech (IT) (PET), DTech (Elec Eng) (PET), PrEng, MSAIEE
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<i>Administrative Professional</i>	Ms Z Joubert BTech NDip (PRM) (NMMU), BTech (PRM) (NMMU), BA Hon (Corp Com) (Mandela Uni)

REGISTERED ENTITIES

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<i>Chair</i>	Prof A Keet BA, HDE, BEd, MEd (UWC), PhD (Edu Mang, Law and Policy) (UP)
<i>Honorary Professors</i>	Prof I L Rensburg BPharm (Rhodes), MA, PhD (Stanford), Global Executive Development Programme (UP), Doctor of Laws, Honoris Causa (University of the West Indies) Prof S A Tate BEd Hons (BICC), Dip (Institute of Traing & Development), MA, MPhil (University of York), PhD (Lancaster University) Prof M Zembylas TDip (Pedagogical Academy of Cyprus), BSc, MSc (University of Texas at Austin, PhD (Curriculum and Instruction) (University of Illinois at Urbana-Champaign)
<i>Visiting Professors</i>	Prof M Bajaj BA, MA (Stanford), EdD (Columbia University Teachers College) Prof E Gutiérrez Rodríguez MA, PhD (Sociology) (Johann Wolfgang-Goethe University Frankfurt/Main) Prof X M T Mangcu BA, MA (Wits), Special Program in Urban & Regional Studies (MIT), PhD (City & Regional Planning) (Cornell) Prof R Naidoo BA (Law) (UKZN), MA (University of London), PhD (Sociology of Higher Ed.) (Cambridge) Prof M P K Okyerefo BA (University of Ghana), MPhil, DPhil (University of Vienna, Austria), PGCE (Cambridge) Prof C Pinheiro BA , MA, PhD (Anthropology) (Rio Janeiro Federal University)

	Prof F L Tibbitts BA (Harvard-Radcliffe), MPP (Harvard Kennedy School), MEd (Harvard GSE), DPhil (Political Science) (Otto-von-Guericke-Universität Magdeburg)
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	Dr S B Orakzai PGDip, MPhil (University of Peshawar), PhD (Peace & Conflict Studies) (University of New England, Australia)
	Prof D J V R Postma HDip Ed (Wits), ThB, BA, BA Hons, MA (NWU), MEd (Wits), PhD (UP)
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<i>Professional Associate</i>	Mr L Buku BA, PGDip (Media Mang) (Rhodes), PGDip (EMSDI) (UP), MA (UFH)
<i>Research Fellow</i>	Dr M E Botha BA, BA Hons (UPE), MA, DLitt (Afr & Dutch Lit) (NMMU)
ISUZU Chair of Mechatronics	
<i>Chair</i>	Prof I A Gorlach BSc Mech Eng (Wits), MSc Ind Eng (Wits), PhD Mech Eng (Potch), NH Dip Ed (TWR), PrEng, MSAIIE
<i>Project Engineer</i>	Vacant
<i>Secretary</i>	Ms M Snyders NDip (Tourism) (PET)
MerSETA	
<i>Chair</i>	Mr K H du Preez NDip (Mech Eng) (PET), NH Dip (Mech Eng) (PET), MDip Tech (Mech Eng) (PET), Pr Tech Eng, MSAIMechE, MSAIRAC
<i>MerSETA Project Manager</i>	Ms M Naidoo BCom (Eco and BM) (UPE)

Women in Engineering Leadership Association (WELA)

<i>Project Manager</i>	Dr A S Lourens NDip (Prod Mgt) (PET), NH Dip (Prod Mgt) (PET), BTech (Bus Mgt) (PET), MBA (PET), DBA (NMMU), MSAIIE, ASEE
<i>Project Co-ordinator</i>	Ms N Truter NDip (PRM) (NMMU)

eNtsa – Innovation Through Engineering (a Technology Innovation Agency Technology Station)

<i>Director</i>	Prof D G Hattingh NDip (Mech Eng) (PET), NH Dip (Mech Eng) (PET), MDip Tech (Mech Eng) (PET), PhD (Plymouth), Pr Tech Eng, MSAIMechE
<i>Acting Director: Uyilo E-mobility Programme</i>	Mr H Parmar MTech (Elec Eng) (NMMU), SAIEE
<i>Deputy Director: Operations</i>	Mrs L Lindsay BTech (Management) (NMMU)
<i>Deputy Director: Business Development & Client Relations</i>	Mr D J Erasmus MTech (Mech Eng)
<i>Deputy Director: Engineering</i>	Dr I N Wedderburn DTech (Mech Eng) (NMMU), MSAIMechE
<i>Deputy Director: Materials & Welding</i>	Mr L G von Wielligh MTech (Mech Eng)
<i>Engineering Manager: Technology Station Programme</i>	Mr J V de Klerk BEng (Mechatronics) (NMMU)
<i>Group Specialist</i>	Mr A Lakhani MEng Mechatronics (NMMU)
<i>Group Specialist: Advanced Design & Modelling</i>	Mr Stephen Grewar MEng Mech (NMMU) Pr Eng Tech
<i>Senior Engineer: Advanced Design & Modelling</i>	Mr H van der Merwe MEng (Mechatronics) (NMMU)
<i>Senior Engineer</i>	Mr K Donaldson BEng (Mechatronics) (NMMU)
<i>Project Engineer</i>	Mr V M Mnyande BEng (Mechatronics) (NMMU)
<i>Project Engineer</i>	Mr H Nel
<i>Senior Engineer: Business Development & Client Relations</i>	Mr A J Opperman MTech (Mech Eng) (NMMU)
<i>Consultant: Business Development & Client Relations</i>	Mr M R Motlou
<i>Project Engineers: Supplier Development</i>	Ms A B van Gend BTech (Mech Eng) (NMMU)
<i>Laboratory Technician</i>	Mr A Msimang BEng (Mechatronics)
<i>Materials Specialist</i>	Mr J Aller MEng (NMMU) Ms L Matthews MSc Materials Engineering (UCT)
<i>Senior Engineer</i>	Mr W Pentz MTech (Mech Eng) (NMMU)
<i>Software Developer</i>	Mr G Mkontwana PGD (ICT) (UWC)
<i>Training Manager</i>	Mrs N J Goliath BTech (PRM) (NMMU), CPRP (PRISA), BOWASA

<i>Course Coordinator: Training</i>	Mrs E van Heerden NDip (IT) (NMMU), PDBA (Mandela Uni: Business School)
<i>Coordinator: Marketing</i>	Ms K A Tommy BTech (PRM) (NMMU), PRP (PRISA)
<i>Receptionist</i>	Mrs M Makinan Dip (Office Admin) (Rhodes University)
<i>Admin Assistant</i>	Mr S Peter
<i>Programme Manager: uYilo</i>	Ms Edem Foli BSocSci (UCT), MBA (Mandela Uni: Business School)
<i>Admin Assistant: uYilo</i>	Ms C Reed
<i>Research Leader Battery Storage: uYilo</i>	Prof E Ferg DTech
<i>Group Specialist: Energy Storage Systems: uYilo</i>	Dr N Rust DTech
<i>Group Specialist: Materials: uYilo</i>	Dr X van Niekerk PhD Chemistry (NMMU)
<i>Quality Assurance Specialist: uYilo</i>	Mrs N De Andrade BTech (Analytical Chemistry) (NMMU)
<i>Project Engineer: EV & LTE: uYilo</i>	Mr N Gonda NDip (Elec Eng) (NMMU)
<i>Project Engineer: EV & LTE: uYilo</i>	Mr J Omolo MEng (Mechatronics) (NMMU)
<i>Laboratory Assistant: Energy Storage: uYilo</i>	Mr G Constance NDip (Chemistry) (NMMU)

Advanced Mechatronics Technology Centre (AMTC)

<i>Director</i>	Mr K H du Preez NDip (Mech Eng) (PET), NH Dip (Mech Eng) (PET), MDip Tech (Mech Eng) (PET), Pr Tech Eng, MSAIMechE, MSAIRAC
<i>VWSA-DAAD International Chair in Automotive Engineering (Acting)</i>	Prof U Becker Dr. Ing. Automotive (Univ Rostock, Germany)
<i>VWSA-DAAD Project Co-ordinator</i>	Ms L Stowman BTech (PRM) (NMMU)
<i>MerSETA Project Manager</i>	Ms M Naidoo BCom (Econ and BM) (UPE)
<i>AMTC SLP Programmes and Operations Manager</i>	Ms E Marx NDip (NMMU), BTech (PRM) (NMMU)
<i>Marine Engineering Project Co-ordinator</i>	Ms P Hobongwana NDip (HRM) (NMMU)
<i>Marine Engineering Project Manager</i>	Mr H Theunissen NDip (Mech Eng) (PET), BTech (Mech Eng) (PET), MTech (Mech Eng) (PET), Pr Tech Eng
<i>Marine Engineering Project Developer and Lecturer</i>	Mr S Giannotti Ch. Eng. Class 1 Chief Engineer CoC STCW 111/2
<i>Marine Lecturer Automation And Electrical</i>	Mr J Fernandes BTech (Elec Eng) (NMMU), M Eng (Mechatronics), Candidate PR Tech Eng
<i>Marine Engineering Lecturer Naval Architecture</i>	Mr B Douse (AMRINA), MSc Naval Architecture (Univ of South Hampton), BTech (Mech Eng) (NMMU)
<i>Administrative Assistant</i>	Ms J Daya

STEM in Action

<i>Programme Manager</i>	Ms I van Gend BSc, HDE (UNISA)
<i>Operations Manager</i>	Ms T Roberts BSc, PGCE
<i>Lecturers</i>	Ms V Campbell BSc, PGCE (RU) Mr M Sonnekus MSc (Botany) (NMMU)
<i>Project Co-ordinator</i>	Mr J P Stoffberg BTech (PRM) (NMMU)
<i>Interns</i>	Mr C Mukasvanga MSc (Chemistry) (NMMU) Mr T Mjungulu

Wind Energy Research Group (WERG)

<i>Manager</i>	Prof R L Phillips NDip (Mech Eng) (PET), NH Dip (Mech Eng) (PET), MDip Tech (Mech Eng) (PET), DTech (Mech Eng) (NMMU), Reg Eng Tech, MSAIMechE
<i>MerSETA Chair Industry Project Co-ordinator</i>	Dr S Poole PhD (Mech Eng) (NMMU)
<i>Administrative Assistant</i>	Ms J Daya

SCHOOL OF THE BUILT ENVIRONMENT AND CIVIL ENGINEERING?

<i>Director of School</i>	Prof G Crafford BSc (QS) (UPE), MSc (QS) (UPE), PhD (CE) (NMMU), MBA (US), ICIQB, MAQS, M.Inst.D
<i>Secretary</i>	Ms N Sam NDip (Office Mgt and Tech) (PET)
<i>Postgraduate Programmes Co-ordinator</i>	Mrs A Labuschagne PR BTech

Department of Building and Human Settlement Development

<i>Head of Department</i>	Mr W Draai NDip (Bldg Surv) (PET), NH Dip (Bldg Surv) (PET), MDP (UNISA), MSc (BE) (NMMU) MASAQS
<i>Associate Professor</i>	Prof S L Mbanga B Admin (UNISA), PGCert in Housing Policy Management (Wits), MPA <i>Cum Laude</i> (NMMU), PhD (Admin) (NMMU) SAAPAM, GISSA, SAPI, AAPS, SAMEA
<i>Principal Lecturer</i>	Mr D Vosloo BBuild Arts (UPE), BSc (QS) (UPE), MSc (BE) (UPE), PrQS, PMAQS
<i>Senior Lecturer</i>	Mr J P Bekker NDip (Bldg Surv) (PET), NH Dip (Bldg Surv) (PET), MSc (BE) (UPE), Pr CPM
<i>Lecturers</i>	Ms E Ayesu-Koranteng ND (Bldg), BTech (CM), B Tech (QS), IOSH, MAQS, IoSM Mr W Draai NDip (Bldg Surv) (PET), NH Dip (Bldg Surv) (PET), MDP (UNISA), MSc (BE) (NMMU) Mr J Terblanche NDip (Bldg Surv) (PET), NH Dip (Bldg Surv) (PET), Pr CM
<i>Contract Lecturers</i>	Mr L Roodt BTech (CMA), MTech (CMA) (NMMU) Ms M N De Villiers CEA (Estate Agency Affairs)

Board), N Cert (Real Estate) (UNISA),
Professional Principal Estate Agent

Mr S Mazomba Nat Dip (Civil) (DUT), BTech
Civil (DUT), BSc (Hons) Applied Science –
Structures (UP) MSAICE

Dr A Hefer NDip (Forestry) (PET), NDip Bldg
(NMMU), BTech CM (NMMU), MSc (BE)
(NMMU), PhD (CM) NMU

Dr F L Geminiani N Dip (Constr Supervision)
(PET), HED Technical (UNISA), NHD (Constr
Supervision) (PET), MDip Tech (CM) (PET),
DTech (CM) (NMMU), Pr CPM, AMISM,
SACPCMP

Secretary

Ms N Sam NDip (Office Mgt and Tech) (PET)

Department of Construction Management

Head of Department

Mr C Allen BBdgA (UPE), MSc (BE) (NMMU),
ICIOB

Professor

Prof W M W Shakantu BSc (Building)
(Copperbelt), MSc (CM) (Reading), PhD (CM)
(Glasgow Caledonian), Pr.CM (SACPCMP),
MCIQB (UK), AEIZ (Zambia), MSIZ (Zambia)

Prof J Smallwood BSc (BM) (UPE), MSc (CM)
(UPE), PhD (CM) (UPE), Pr CM, Pr CHSA,
FCIOB, MACHASM, MACPM, MESSA, MICOH,
MIOASH, MIOSM, MSAIOSH, PPSAIB

Lecturers

Dr B Botha NDip (Bldg) *cum laude* (PET),
BTech (QS) *cum laude* (PET), BTech (CM) *cum
laude* (PET), MSc BE (UPE), PhD (CM)
(NMMU), Pr CPM, MACPM, MESSA, ICIOB

Ms K Crafford BEng (Civil Eng), Dipl.-Ing.
(Universität Dortmund), ICIOB

Secretary

Mrs M Botes

Department of Quantity Surveying

Head of Department

Mr R C Cumberlege BSc (QS) (UPE), MSc (CE)
(NMMU), PrQS, PMAQS, MRICS

Professor

Prof G J Crafford BSc (QS) (UPE), MSc (QS)
(UPE), PhD (CE) (NMMU), MBA (US), ICIOB,
MAQS, M.Inst.D

Senior Lecturers

Ms S Dent BSc (QS) (UPE), MSc (CE), MAQS

Associate Lecturer

Mr M Jonas BSc Hon (QS) (NMU)

Research Associates

Prof H Cruywagen PhD (CE) (UP)

Dr N Harinarain PhD (CM) (UKZN)

Dr A Hefer PhD (CM) (Mandela Uni)

Dr G Monyane PhD (CE) (NMMU)

Dr T Moyo PhD (CE) (NMU)

Prof R Ndiokubwayo PhD (CE) (NMMU)

<i>Laboratory Technician</i>	Mr J P van der Mescht NDip: Building (NMMU), BTech (QS) (NMMU), BTech (CM) (NMMU)
<i>Secretary</i>	Ms L Engelbrecht

REGISTERED ENTITIES

Built Environment Research Centre (hosting the CIDB Centre of Excellence) (BERC)

<i>Director</i>	Prof W M W Shakantu BSc (Building) (Copperbelt), MSc (CM) (Reading), PhD (CM) (Glasgow Caledonian), Pr.CM (SACPCMP), MCIQB (UK), AEIZ (Zambia), MSIZ (Zambia)
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Chair for Education in Human Settlement Development and Management (CEHSDM)

<i>Associate Professor</i>	Prof S L Mbanga B Admin (UNISA), PGCert in Housing Policy Management (Wits), MPA <i>Cum Laude</i> (NMMU), PhD (Admin) (NMMU) SAAPAM, GISSA, SAPI, AAPS, SAMEA
<i>Administrative Assistant</i>	Mr B Mafuya NDip (Economics) (NMMU)
<i>Senior Lecturer</i>	Ms N Wessels BSc TRP (Wits), M Env Mgt (Stellenbosch)
<i>Short Learning Programmes</i>	Mr B Mafuya NDip (Economics) (NMMU)

SCHOOL OF INFORMATION TECHNOLOGY

<i>Director of School</i>	Dr A Petratos NDip (Comp Dat Proc) (PET), NH Dip (Computer Systems) (PET), MDip Tech (IT) (PET), PhD IT (NMMU)
<i>Secretaries</i>	Ms F Foutie NDip (PR) (NMMU), BTech (PRM) (NMMU) Ms V S Ntungela BA (Tourism) (UWC)
<i>Senior Laboratory Technician</i>	Mr D P Müller NDip (IT) (PET), BTech (IT) (NMMU)
<i>Laboratory Technicians</i>	Ms T Cedras NDip (IT) (NMMU), BTech (IT) (NMMU) Ms L Vincent NDip (IT) (PET) Vacant

Department of Applied Technologies

<i>Head of Department</i>	Ms A du Preez BCom (Ed) (UPE)
<i>Professor</i>	Prof D van Greunen HDE (UPE), FDE (UPE), BAHons (UPE), MA (UPE), PhD (UNISA), PMIITPSA, MICSIT
<i>Senior Lecturer</i>	Mr M Thomson NDip Electr Data Proc (PET), NH Dip Computer Systems (PET), MTech IT (PET) Vacant
<i>Lecturer</i>	Vacant

<i>Associate Lecturers</i>	Mr A Ndzondzo NDip (IT) (NMMU), BTech (IT) (NMMU) Ms S Salie NDip (IT) (PET), BTech (IT) (PET) Mr X Zepe NDip (IT) (NMMU), BTech (IT) (NMMU)
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Department of Network Engineering

<i>Head of Department</i>	Prof K Thomson NDip (IT) (PET), BTech (IT) (PET), MTech (IT) (PET), DTech (IT) (NMMU), CCNA, CCNA Security
<i>Lecturers</i>	Mr G Kudyachete B Eng. (Electronics) Hons. (N.U.S.T., Zim), MSc.Tel. (University of Pittsburgh, USA), MBA (NMMU) Mr L Tekeni NDip (IT), BTech (IT), MIT (NMMU) Mr S Vincent NDip (IT) (PET), BTech (IT) (TSA)
<i>Associate Lecturer</i>	Mr T Speckman NDip (IT), BTech (IT) (NMMU)

Department of Software Engineering

<i>Head of Department</i>	Mr R G Harmse BCom (UPE), BTech (IT) (PET), BA Hons (Psychology) cum laude (NMMU), MTech (IT) (PET)
<i>Associate Professors</i>	Prof N Mostert-Phipps NDip IT (PET), BTech IT (PET), MTech IT (NMMU), PGCHE (NMMU), PhD IT (NMMU) Prof B Haskins NDip IT (TFS), BTech (CUT, FS), MTech IT (CUT, FS), PhD (IT) (NMMU)
<i>Senior Lecturers</i>	Ms C H Schröder NH Dip (Comp Systems) (PET), BSc (UPE), MTech (IT) (PET) Dr M Makalima NDip (IT) (NMMU), BTech (IT) (NMMU), MTech (IT) (NMMU), PhD (IT) (NMMU)
<i>Lecturers</i>	Ms Y Moutzouris NDip (IT) (PET), BTech (IT) (PET), MTech (IT) (PET) Mr D L Steenberg BCom IT (Potch), BCom (Hons) (Potch), MTech BIS (NMMU) Mr VS Mdunyelwa NDip (IT), BTech (IT) (NMMU)

Department of IT Management and Governance

<i>Head of Department</i>	Prof L Fitcher HED (UNISA), BSc (UPE), BTech (IT) (PET), MTech (IT) (NMMU), PhD (IT) (NMMU)
<i>Emeritus Distinguished Professor</i>	Prof R von Solms HDE (UPE), NH Dip (Electr Data Proc) (PET), BSc (UPE), BSc (Hons) (UNISA), MSc (RAU), PhD (RAU), PMIITPSA, CISM
<i>Professor</i>	Prof R A Botha BSc (UPE), BScHons (UPE), MSc (RAU), PhD (RAU), PGCHE (NMMU), MIITPSA

<i>Associate Professor</i>	Prof M Gerber NDip (IT) (PET), BTech (IT) (PET), MTech (IT) (PET), PhD (NMMU), CISM
<i>Lecturer</i>	Mr P Ntlatywa NDip (IT) (WSU), BTech (IT) (WSU), MTech (IT) (NMMU)

REGISTERED ENTITIES

Centre for Community Technologies (CCT)

<i>Director</i>	Prof D van Greunen HDE (UPE), FDE (UPE), BAHons (UPE), MA (UPE), PhD (UNISA), PMIITPSA, MICSIT
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Centre for Research in Information and Cyber Security (CRICS)

<i>Director</i>	Prof R A Botha BSc (UPE), BScHons (UPE), MSc (RAU), PhD (RAU), PGCHE (NMMU), MIITPSA
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Southern Africa Cisco Academy Support Centre

<i>Manager/Lecturer</i>	Mr G Kudyachete B Eng. (Electronics) Hons. (N.U.S.T., Zim), MSc.Tel. (University of Pittsburgh, USA), MBA (NMMU)
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3 GENERAL INFORMATION AND REGULATIONS

Every student of this faculty is bound by the rules contained in this document and in addition by the Nelson Mandela University's regulations as contained in the General Prospectus and all relevant policies. It is the responsibility of every student to acquaint him/herself with the contents of the relevant rules and policies.

3.1 GENERAL ADMISSION REQUIREMENTS (UNDERGRADUATE)

The admissions requirements for undergraduate programmes offered by Nelson Mandela University consist of:

- the statutory minimum requirements based on the National Senior Certificate (NSC), or equivalent school-leaving certificate;
- the Applicant Score (AS), a composite score based on school subject achievement; and
- specific school subject and other requirements (e.g., departmental selection, portfolios, interviews)

These requirements are relevant for the following local and international qualifications: NSC, Senior Certificate, Cambridge qualifications, International Baccalaureate, Namibian and Kenyan Senior Secondary Certificates, and the NC(V) 4.

NSC MINIMUM STATUTORY ENTRY REQUIREMENT

Qualification Minimum Statutory Entry Requirement:

Currently the statutory requirement for admission to a higher certificate, diploma or degree programme is a National Senior Certificate with the appropriate endorsement as well as the minimum language of teaching and learning requirement of the Higher Education Institution.

Qualification	Minimum Statutory entry requirement
Higher Certificate	Pass the NSC, with a minimum of 30% in the language of learning and teaching of the higher education institution, together with any other university requirements.
Diploma	Pass the NSC with a minimum of 30% in the language of learning and teaching of the higher education institution, coupled with an achievement rating of 3 (40–49%) or better in four recognised NSC 20-credit subjects, together with any other university requirements
Bachelor's Degree	Pass the NSC with a minimum of 30% in the language of learning and teaching of the higher education institution, coupled with an achievement rating of 4 (50–59%) or better in four NSC 20-credit subjects together with any other university requirements.

NC(V)4 applicants must meet the minimum requirements for higher certificate, diploma or degree entry as well as the AS and subject admission requirements.

Applicants with **alternate**, **international** or **foreign** qualifications must satisfy the requirements laid down by the Matriculation Board to qualify for a certificate of exemption for a particular alternate, international or foreign school-leaving qualification. These requirements are contained in Government Gazette No. 31674, 5 December 2008 and can be found on the HESA website <http://www.hesa-enrol.ac.za/mb/forpres.htm>. Applications for such certificates must be made to the Matriculation board directly: <https://mb.usaf.ac.za/>

THE APPLICANT SCORE (AS)

For **NSC applicants** with **seven** Grade 12 subjects, the AS is calculated by adding the percentages for the six 20-credit subjects (**Note** that the Life Orientation percentage is not included as it is a 10-credit subject). This gives a score out of 600.

For those applicants taking **eight or more** subjects the AS is calculated as follows:

- add the percentages obtained for the three compulsory / fundamental subjects (the two languages and Mathematics or Mathematical Literacy),
- plus the percentage(s) for any subject(s) required by the programme,
- together with the percentage(s) for the next best / highest subject(s), to a maximum of six subjects.

For those applicants from Quintile 1 to 3 schools who attain 50% or higher for Life Orientation, 7 points are added to their score out of 600 to arrive at their final AS.

The table below provides an example of how to calculate the AS for:

- **Applicant 1** has 7 NSC Grade 12 subjects and is applying for a programme with Life Science and Physical Science as required subjects; and
- **Applicant 2** who is applying for the same programme, but who took 8 subjects in Grade 12.
- **Applicant 3** who is applying for the same programme, but who is from a Quintile 1 school.

NSC Subject	Applicant 1		Applicant 2		Applicant 3 from Quintile 1 school	
	% obtained	% used to calculate the AS	% obtained	% used to calculate the AS	% obtained	% used to calculate the AS
isiXhosa Home Language	78	78	78	78	78	78
English 1st Additional	60	60	60	60	60	60
Mathematics	65	65	65	65	65	65
Life Science	62	62	62	62	62	62
Physical Science	50	50	50	50	50	50
History	-	-	60	60	60	-
Geography	55	55	55	-	55	55
Life Orientation	88	-	88	-	88 LO>50%	7
APPLICANT SCORE (AS)		<u>370</u>		<u>375</u>		<u>377</u>

For **South African and International applicants with International, NC(V) 4 or Foreign School-Leaving certificates**, use the table below to calculate an equivalent Applicant Score (AS) for admission, based on percentages obtained in such certificates.

Applicants will have to comply with the minimum Applicant Score (AS) set for the Undergraduate qualification they wish to apply for, as well as meet any other additional subject requirements directly.

The Applicant Score (AS) uses the symbols/achievement rating/percentages obtained in an applicant's school-leaving examinations in order to convert them to an equivalent achievement standard on the National Senior Certificate (NSC). The AS is calculated using six subjects, which must include the language(s), and subject requirements for admission, but excluding Life Orientation.

International/Foreign/NC(V) 4 Equivalency Conversion Table

Subject % to use when calculating the Applicant Score	Senior Cert HG	Senior Cert SG	HIGCSE NSSC HL	IGCSE NSSC OL	O-LEVEL	AS	A-LEVEL	IB HL	IB SL	KCSE	NC(V)4 Fundamental	NC(V)4 Vocational
115							A*, A	7			Use the actual percentages obtained on the statement of results / certificate of the applicant	
105							B	6				
95	A		1			A	C	5	7	A+, A		
85	B		2			B	D	4	6	A-		
75	C	A	3	A	A	C	E	3	5	B+		5 (90-100%)
65	D	B		B	B	D		2	4	B, B-		5 (80-89%)
55	E	C	4	C	C	E		1	3	C+		4 (70-79%)
45	F	D		D	D				2	D		3 (50-69%)
35	FF	E		E	E				1	E		2 (40-49%)
25	G, GG, H	F, FF, G, GG, H		F, G						F, G		1 (0-39%)

Key:

NSC	National Senior Certificate	O-Level	Ordinary level
Senior Cert HG	Senior Certificate Higher Grade	AS	Advanced Subsidiary
Senior Cert SG	Senior Certificate Standard Grade	A-Level	Advanced level
HIGCSE	Higher International Graduate Certificate of Secondary Education	IB HL	International Baccalaureate Schools (Higher Levels)
IGCSE	International Graduate Certificate of Secondary Education	IB SL	International Baccalaureate Schools (Standard Levels)
NSSC HL	Namibian Senior Secondary Certificate Higher Levels	KCSE	Kenyan Certificate of Secondary Education
NSSC OL	Namibian Senior Secondary Certificate Ordinary Levels	NC(V)4	National Certificate Vocational Level 4

SCHOOL SUBJECT AND OTHER REQUIREMENTS

The Undergraduate Programmes General Information & Admissions Requirements Guide, University website or Faculty Prospectus provides information on the required subjects and what the minimum AS required for admission is for each undergraduate programme offered by Nelson Mandela University

Candidates who satisfy the minimum requirements and who apply online before the official early closing date (August 3) are given preference.

Applications will be considered until the 30th of September.

Applicants who apply in January will have to apply through Central Application Service Hub (CASH).

Final acceptance is based on official final school-leaving results. Applicants currently at school receive provisional, subject to submission of final results.

NATIONAL BENCHMARK TEST (NBT)

Generally, most programmes offered at the Nelson Mandela University do not require applicants to write the National Benchmark Test (NBT). However, there are a very small number of qualifications which require NBT results. If under the requirements of the programme you are interested in, states that NBT results are required, please consult the NBT website (<https://www.nbt.ac.za>) to book a test date. Applicants interested in programmes requiring NBT results are encouraged to book and write these tests as early as possible. A reference letter from the University is not required.

3.2 GENERAL ADMISSION REQUIREMENTS (POSTGRADUATE)

LEVELS AND TYPES OF POSTGRADUATE STUDY

Postgraduate qualifications are structured as follows:

- Postgraduate certificate or diploma
- Bachelor honours degree
- Master's degree
- Doctoral degree

A **postgraduate certificate or diploma** provides an opportunity to undertake advanced study that will strengthen and deepen your knowledge in a particular discipline or profession. Completion of the qualification gives graduates access to a related master's degree programme. The programmes consist mainly of coursework modules and may include conducting and reporting research under supervision.

Duration of study: one year full-time

The bachelor **honours degree** is the initial postgraduate specialisation qualification, preparing students for research-based postgraduate study. This qualification typically follows a bachelor's degree, and serves to consolidate and deepen the student's experience in a particular discipline, and to develop research capacity in the methodology and techniques of that discipline. It demands a high level of theoretical engagement and intellectual independence. In some cases a bachelor honours degree carries recognition by an appropriate professional or statutory body. Bachelor honours degree programmes usually include conducting and reporting research under supervision, in a manner that is appropriate to the discipline or field of study. Not all honours programmes at Nelson Mandela University involve conducting research, but

all of them include a research methodology course as part of the coursework component. Completion of a bachelor honours degree meets the minimum entry requirement of admission to a cognate Master's degree. Entry into a master's degree programme is usually in the area of specialisation of the bachelor honours degree. A qualification may not be awarded for early exit from a bachelor honours degree.

Bachelor honours programmes usually take one year of full-time study.

A **master's degree** may be earned in one of two ways: (i) by completing a single advanced research project, culminating in the production and acceptance of a dissertation, or (ii) by successfully completing a coursework programme and a smaller applied research component. The admission requirement is a relevant honours degree. Professional or advanced career- focused bachelor's degrees, such as BEng, BPharm, BCur, BPsych and BTech, may also be recognised as the minimum entry requirement to a related master's degree programme. Duration of study: Coursework master's degree: one year full- time. Research master's degree: one year to 4 years.

A **doctoral degree** requires a candidate to undertake research at the most advanced academic level, culminating in the production of a thesis. The research outcome has to make a significant and original academic contribution to a discipline or field. The degree may be earned through pure discipline based on multi- disciplinary or applied research. The degree may include a coursework component as preparation to the research, but does not contribute to the credit value of the qualification.

Duration of study: 2 to 6 years

3.3 RE-ADMISSION REQUIREMENTS FOR UNDERGRADUATE PROGRAMMES

Re-admission requirements are, where applicable, reflected as part of the qualification specific requirements in addition to the general requirements reflected here.

Maximum period of study exceeded

In the event that a student exceeded the maximum allowable period of study, the student will only be readmitted under special circumstances (e.g. when the student, with due consideration of his/her academic record, is likely to complete his/her qualification by the end of the year).

Note: Students shall generally only be admitted to the third year of study after having completed all modules prescribed for the first year of study.

3.4 REVIEW OF ACADEMIC PROGRESS AND ACADEMIC SUPPORT

The faculty monitors the academic progress of students throughout the semester, especially after each examination period (June and November). The students may be requested to consult with the Head of Programme whereby any problems that they are experiencing could be identified and discussed, where possible.

For students the Faculty sources academic support assistance from other departments to ensure support, at an early stage, to potentially 'at risk' students. These interventions may include referrals for Guidance and Counselling, Learning Skills Enhancement Programmes, or interventions like Tutorials or Supplemental Instruction. The students will also be requested to have regular meetings where any problems that

they are experiencing could be identified and discussed. At these meetings other professional support services would also be present.

A detailed report is then submitted to the Head of the Programme or the Director of the School for action. A final report is submitted to the Teaching and Learning Committee. The report includes proposed actions to be put in place for the modules where a low pass rate was obtained.

Students whose progress is deemed unsatisfactory will receive either warning/conditional letters or be denied re-admission to the programme, in accordance with the approved re-admission rules. Copies of the letters will be put on their student records.

3.5 MAXIMUM PERIOD OF STUDY

The following maximum periods of study to be allowed for students:

Full-time: The following maximum periods of study be allowed for full-time students:

Programme Credits	Minimum Period of Study	Maximum Period of Study
120 credits	1 year	2 years
360+ credits	3 years	5 years
480+ credits	4 years	6 years

Full-time Extended Programmes: The following maximum periods of study be allowed for full-time students in extended programmes:

Programme Credits	Minimum Period of Study	Maximum Period of Study
120 credits	2 years	3 years
360+ credits	4 years	6 years
480+ credits	5 years	7 years

Part-time: The following maximum periods of study be used as a guideline for part-time students taking due cognisance of personal circumstances:

Programme Credits*	Minimum Period of Study	Maximum Period of Study
120 credits	2 years	3 years
360+ credits	4 years	7 years

***Note must be taken that the faculty does not have part-time programmes with 480 credits.**

3.6 EXPERIENTIAL LEARNING REQUIREMENTS (WHERE APPLICABLE)

The experiential period involves the solution of real problems, giving practical experience of the application and usefulness of knowledge gained at Nelson Mandela University. Project work is submitted for academic assessment during the experiential period.

Professionals of any discipline need appropriate work experience before they can practise their chosen career effectively. Experience shows that the integration of theory and in-service/experiential learning creates diplomats who are more mature and hence readily employable.

Work experience encourages students to develop a greater sense of responsibility, place more reliance on their judgement, and find greater meaning in their studies. Students become involved with people from different spheres of life and develop a greater confidence when working as part of a team.

To fulfil the requirements of the National Diploma, a student must complete at least one semester of applicable experiential learning. Guides outlining the requirements for successful completion of experiential learning are obtainable from the Experiential Training Administrator of the Faculty. In each module the student is given projects and/or assignments which must be completed and submitted for evaluation.

It is imperative for students to register for the experiential learning component. This can be done at the beginning of the term or prior to leaving the campus at the end of the preceding term. Special registration forms for this purpose are obtainable from the Experiential Training Administrator of the Faculty.

Although Nelson Mandela University will help as far as possible to arrange, in the final instance, the onus in this respect will be on the student. Many firms sponsor students and in these cases the experiential learning is naturally arranged by the sponsoring firm.

The experiential learning (part 1 and part 2) module, namely, Engineering Practice, is roughly 24 weeks in duration or a minimum of 800 notional hours. The learning differs in that level 1 focuses on developing hand skills by participating in physical work while level 2 requires a much higher level of synthesis, responsibility and accountability, as would be expected of an engineering technician. This, again, would be done under supervision of a mentor, but facilitating some independent work by the student.

IMPORTANT NOTES SPECIFIC TO EXPERIENTIAL LEARNING

The Unit for Co-operative Education & Service Learning provides essential student placement support services to learners who have to complete a compulsory experiential learning component in order to qualify. It specialises in the placement of students' "gaining entry into the workplace".

Students can access services and information on:

- Work-integrated learning opportunities.
- Internships.
- Presentations by companies.
- Bursaries.
- Career Fair.
- Graduate Placement.

Contact Information:

Ms Tracey Dissel
Manager: North Campus
R-Block, Room 012
Tel: +27 (0)41 504 3540
Fax: +27 (0)41 504 9540
Email: tracey.dissel@mandela.ac.za

Mr Johan Steyn
Administrative Assistant: North Campus
R-Block, Room 011
Tel: +27 (0)41 504 3506 / 3972
Fax: +27 (0)41 504 9506
Email: johan.steyn@mandela.ac.za

Ms Amy Butler
Co-ordinator: Second Avenue Campus
Room 125
Tel: +27 (0)41 504 3751
Fax: +27 (0)41 504 9751
Email: amy.butler@mandela.ac.za

Webpage: www.mandela.ac.za/cooped
Facebook: <http://facebook.com/pages/NelsonMandelaUniversity-Unit-for-Co-operative-education/116647591744424?created>

- The Head of Department (HOD) is responsible for the guidelines for experiential learning, monitoring, assessment and accrediting the training.
- Detailed guidelines are provided in the Logbook, which is available from the Experiential Training Administrator or an electronic copy may be found on the Internet at www.mandela.ac.za.
- It is the student's responsibility to present and discuss the guidelines in the Logbook with the mentor or applicable company representative prior to engaging in any learning to ensure that the scope of learning proposed by the employer/training institute meets the guidelines in the Logbook.
- The HOD or Experiential Training Administrator may be consulted for any clarifications needed.
- Students must register for experiential learning on commencing their training using the document in appendix A in the Logbook. It may be posted or faxed to the experiential training administrator.
- The student must submit a complete logbook with applicable reports and assessments for each completed experiential learning program, on or before.
- Experiential learning not registered, will not be recognised for the Diploma.
- Students that have completed an apprenticeship or formal learnerships may apply for recognition towards experiential learning units. Please contact the relevant HOD for further information.
- Logbooks must be handed in directly after completion (before 15 August or 17 January).
- Learners can at any time apply for the recognition of experience gained prior to the first enrolment for the qualification at this Institution. For available opportunities, please see the faculty notice boards.

Enquiries: Experiential Training Administrator
 Tel: +27(0)41 504 3518 Fax: +27(0)41 504 9518
 E-mail:

3.7 PROFESSIONAL STATUS AND RECOGNITION OF DEGREES

SCHOOL OF THE BUILT ENVIRONMENT

The School consists of the Departments of Construction Management, Building & Human Settlement Development, and Quantity Surveying. The School offers various undergraduate and postgraduate study opportunities in the fields related to the construction and property environment, such as project management, facilities management, construction management, construction health and safety management, property economics and valuation, as well as programmes that develop the organisational and analytical skills, business management and research competencies relevant to the quantity surveying profession.

The School's programmes are highly acclaimed and received national and international accreditation. Quantity Surveying degrees and Building Diplomas from Nelson Mandela University are accredited by the South African Council for the Quantity Surveying Profession. The Quantity Surveying degrees are also accredited by the Royal Institution of Chartered Surveyors in the UK. The Construction Management qualifications are accredited by the Chartered Institute of Building (UK), which is endorsed by the South African Council for the Project and Construction Management Professions (SACPCMP).

Institutes and professional bodies:

ACPM	Association for Construction Project Managers
ASAQS	Association of South African Quantity Surveyors
CIOB (Africa)	Chartered Institute of Building (Africa)
ESSA	Ergonomics Society of South Africa
ISM	Institute of Safety Management
RICS	Royal Institution of Chartered Surveyors
SACPCMP	South African Council for the Project and Construction Management Professions
SACQSP	South African Council for the Quantity Surveying Profession

The programmes offered in the School are accredited by or affiliated to the following professional bodies:

Accreditation	Affiliation
SA Council for the Quantity Surveying Profession (SACQSP)	Institute of Safety Management (ISM)
Royal Institution of Chartered Surveyors (RICS)	Ergonomics Society of South Africa (ESSA)
Chartered Institute of Building (CIOB) (Africa)	Association for Construction Project Managers (ACPM)
SA Council for the Project & Construction Management Professions (SACPCMP)	The Association of South African Quantity Surveyors (ASAQS)

SCHOOL OF ENGINEERING

The School of Engineering offers a continuum of academic programmes including National Diplomas, Bachelor, Master's and Doctoral degrees. Aspects of basic science, engineering science and mathematics are integrated with applied technologies in the respective fields to ensure well balanced qualifications to ensure maximum employability and to serve the needs of industry. The teaching, learning and research experience is enriched by practical and research work in excellent laboratories and active engagement with local, national and international universities.

The abovementioned programmes are offered in the full spectrum of engineering activities including Civil, Industrial, Electrical and Mechanical Engineering as well as Mechatronics and Operations Management. The relevance and quality of the programmes offered are closely managed with Advisory Board participation and regular self-evaluation. External accreditation by the Engineering Council of South Africa (ECSA) on behalf of the Higher Education Quality Committee (HEQC) further ensures quality and international standards via the Sidney, Washington and Dublin accords.

Engineering is best defined by five distinguishing characteristics.

- First, it encompasses initiatives, services and the solution of problems that are of importance to society and the economy.
- Second, engineering activity brings benefits through effectively and sustainably utilising natural resources, harnessing energy, using materials with beneficial properties, using machinery and equipment, transferring, storing and processing information, constructing, operating and maintaining infrastructure and plant, and the organisation and control of systems or processes. These actions involve risks, requiring engineering activity to be conducted with due care for safety, health, the environment and sustainability.
- Third, engineering functions include designing materials, components, systems or processes; planning the capacity and location of infrastructure; investigating, advising and reporting on engineering problems; improvement of materials, components, systems or processes; managing or operating plant and processes; managing implementation or construction projects; implementing designs or solutions; research, development and commercialisation of products.
- Fourth, engineering activity requires a body of knowledge and distinctive competencies. The body of knowledge is based on mathematics, basic sciences, engineering sciences, information technology and contextual knowledge including legal, financial and regulatory aspects. Distinctive competencies include identifying problems and designing solutions, managing activities, addressing impacts of solutions and activities on people and the environment, acting ethically, applying judgment and taking responsibility.
- Fifth, the practice of engineering activities at professional level involves a number of roles, recognized in categories of registration under the Engineering Profession Act:
 - Professional Engineer,
 - Professional Engineering Technologist,
 - Professional Engineering Technician, and
 - Professional Certificated Engineer.

These form the engineering professional team.

WHAT ARE THE CHARACTERISTIC ROLES OF ENGINEERING TEAM MEMBERS?

Professional Engineers are characterised by the ability to solve problems, develop components, systems, services and processes through creativity, innovation and the application of fundamental and engineering principles.

They provide technical and commercial leadership through well-developed interpersonal skills. They work independently and responsibly, applying original thought and judgment to technical and risk-based decisions in complex situations. Professional Engineers have a broad, fundamentals-based appreciation of engineering sciences, with depth in specific areas, together with knowledge of financial, commercial, legal, social and health, safety and environmental matters. Professional Engineering Technologists are characterised by the ability to apply established and newly-developed engineering technology to solve problems, develop components, systems, services and processes.

They provide leadership in the application of technology and commercially and have well-developed interpersonal skills. They work independently and responsibly, applying judgment to decisions on the application of technology to problems and associated risks.

Professional Engineering Technologists have a focused understanding of engineering sciences underlying specific technologies, and financial, commercial, legal, social and health, safety and environmental matters.

Professional Engineering Technicians are characterized by the ability to apply proven, commonly understood techniques, procedures, practices and codes in support of engineering activities. They supervise engineering operations, construction and activities. They work independently and responsibly within an allocated area or under guidance of an engineer or technologist. Professional Engineering Technicians have a working understanding of engineering sciences underlying the techniques used, together with financial, legal and health, safety and environmental methodologies.

Professional Certificated Engineers apply current engineering technology and knowledge of health and safety legislation and practise creatively and innovatively to safe, effective operations in manufacturing and mining. They provide leadership in safe, technically and commercially effective operations and have well-developed management skills.

They work independently and responsibly, applying judgment to decisions arising in the application of technology and health and safety considerations. Professional Certificated Engineers have a focused understanding of engineering sciences underlying a manufacturing or mining plant and operations, together with financial, commercial, legal, social and health, safety and environmental matters.

HOW ARE ENGINEERING PROFESSIONALS DEVELOPED?

The process of professional development in engineering has three principal phases.

- First, engineering education leads to a qualification accredited for the category of registration. Meeting educational requirements is called Stage 1 of professional development.
- Second, training and experience while employed develops the professional competencies to Stage 2, where the person becomes professionally registered. Demonstration of competency at Stage 2 is based on actual performance of engineering work.

- Third, once registered, the professional must maintain and expand his or her competence.

This and other information is available at: <http://www.ecsa.co.za>.

After obtaining the Diploma or higher qualifications, students may join a number of institutes and professional bodies which will add additional status to their qualifications. More information is available from the Dean and the faculty website.

Table of institutes and professional bodies:

ICMEESA	Institution of Certified Mechanical & Electrical Engineers, SA
ILESA	Institute of Lighting Engineers of South Africa
IPET	Institute of Professional Engineering Technologists
SAACE	South African Association of Consulting Engineers
SAICE	South African Institute of Civil Engineering
SAIEE	South African Institute of Electrical Engineers
SAIETE	South African Institute of Electrical Technician Engineers
SAIIE	South African Institute of Industrial Engineers
SAIMC	South African Institute of Measurement and Control
SAIMechE	South African Institute of Mechanical Engineering
SAINT	South African Institute of Non-Destructive Testing
SAIRAC	South African Institute of Refrigeration and Air-conditioning
SAIW	South African Institute of Welding
SAWEK	Suid-Afrikaanse Akademie vir Wetenskap en Kuns: Ingenieursafdeling
SPE	South African Society for Professional Engineers
ECSA	Engineering Council of South Africa (Professional Registration Body for South Africa)

SCHOOL OF INFORMATION TECHNOLOGY

The School of IT consists of four Departments, namely Applied Technologies, Network Engineering, Software Engineering and IT Management and Governance. These Departments collectively offer an extensive range of undergraduate and postgraduate programmes in the computing discipline of Information Technology. The vision of the School is to be the leading provider of state-of-the-art Information and Communication Technology expertise in South Africa. The undergraduate programmes are designed to give students an adequate grounding in the fundamental principles underlying their chosen field of study, while at the same time emphasising the practical and applied nature of the subject matter. The School of IT has a wide reach in terms of access to tertiary education for those interested in this field of study. It includes a Higher Certificate, three different diploma streams, as well as a BIT. Students can also further their studies in Advanced Diploma, MIT and PhD IT. In addition, the School offers an MPhil in IT Governance to equip and prepare graduates with advanced knowledge and research skills to contribute to the governance and assurance of information technology and related information and information systems as a critical asset of a modern-day enterprise.

A significant portion of the tuition time is spent in our well-equipped computer laboratories. Students are prepared for an interesting and rewarding career.

At postgraduate level, students can specialise in various research focus areas including Information Security Management and Governance, Health Informatics, Information and Cybersecurity, Usability and User Experience and ICT4D and other areas. The Centre for Research in Information and Cyber Security (CRICS) and the

Centre for Community Technologies (CCT), which form part of the School, lead the School's postgraduate research programmes in these areas.

3.8 SPECIAL PRIZES AND AWARDS

SCHOOL OF THE BUILT ENVIRONMENT

There are several prizes for which students may compete and numerous other bursaries which are awarded annually. Merit awards are allocated to deserving students. The following prizes which may be awarded annually are offered to students for academic achievement:

Donors	Prize awarded for
Ace Solutions	Best student in Information Technology 4.
ASAQS (EC Chapter) and ASAQS	Best student in Quantity Surveying I. Best student in Quantity Surveying II. Best student in Quantity Surveying III. Best student in Quantity Surveying IV.
ASAQS	Best overall first-year student. Best overall second-year student. Best overall third-year student. Best overall fourth-year student.
Association of Construction Project Managers (ACPM)	Best Construction Management student who has shown excellence in application to his/her studies.
Association of Construction Project Managers (ACPM)	Construction Management student who has shown determination in maintaining a good standard in his/her studies.
Bell-John Prize ASAQS	Best all-round Quantity Surveying student in any year of study.
Brink Botha Enterprises	Best Construction Management student with the highest overall mark in any year of study.
BTKM	Best fourth-year Quantity Surveying student. Student with the highest mark in Quantities 3.
Chris & Gillian Adendorff	Best Professional Practice 4 student.
CIOB	Best student in Construction Management 4.
CIOB	Best Masters in Project Management student for attaining the highest overall mark MSc (PM)
Clay Brick Association	Best Construction Management student over three years of study in the subject Production Analysis.
Clay Brick Association	Best Construction Management 3 student.
Clay Brick Association	Best Construction Management 4 student.
Concrete Society of SA (EC Branch)	Student with highest mark in Structures and Concrete III.
Décor Pro	Student with the highest mark in Construction Management I.
Dekon Projects (Pty) Ltd	Student with the highest mark in Construction Technology II.
Department of Building and Human Settlement	Student with highest mark in Construction Management II.

Donors	Prize awarded for
Development	
Departmental Prize	Best Construction Management Treatise 4 student.
Departmental Prize	Best student in Building Science (Materials and Methods) 3.
Dimitri Zenios Property Developers	Best Construction Management student in Property Economics 4.
East Cape MBA	Best National Diploma: Building student.
First National Bank	Best student in Building Science (Materials and Methods) 1.
First National Bank	Best student in Building Science (Materials and Methods) 2.
First National Bank	Best student in Building Science (Environment and Services) 1.
First National Bank	Best student in Building Science (Environment and Services) 2.
First National Bank	Best student in Building Science (Environment and Services) 3.
First National Bank	Best Basic Surveying 1 student.
First National Bank	Best Information Technology for Building Disciplines 1 student.
Greyvensteins Attorneys	Best student in combined subjects: Company Law and Commercial Law 4.
Head of Department: Quantity Surveying	Best Student in Building Economics 4.
JBCC	Student with the highest mark in Quantity Surveying 3.
JCB Toy Prize	Best Project Management 4 student.
Kemach Cape (Pty) Ltd	Best BSc (CS) and BSc Hons (CM) student over 4 years of study.
Letchmiah Daya Mandindi (LDM)	Student with the highest mark in Quantities 2. Student with the highest mark in Quantities 4. Student with the highest mark in Building Economics 4.
LIEBHERR – Africa (Pty) Ltd	Awarded to a BSc (CS) or BSc Hons (CM) student who obtains his/her degree <i>cum laude</i>
Master Builders Association	Best Construction Management student with the highest overall mark in any year of study.
MBA (EC)	Best overall student in Construction Management in any year of study BSc (CM)
NMC (Pty) Ltd	Best Production Analysis 1 student.
NMC (Pty) Ltd	Best Production Analysis 2 student.
NMC (Pty) Ltd	Best Production Analysis 3 student.
NMC (Pty) Ltd	Student with the highest mark in Quantity Surveying 2.
NMC (Pty) Ltd	Student with the highest mark in Quantity Surveying 4.
NMC (Pty) Ltd	Student with the highest mark in Building Economics 3.
Randcivils	Best all-round female undergraduate Quantity Surveying student.

Donors	Prize awarded for
Red Hat Construction	Best first-year Building student. Best third-year Building student.
Rhino Greenbuilding (division of Rhino Plastics)	Best Quantity Surveying student over three years of study in Building Science (Materials and Methods).
Rhino Greenbuilding (division of Rhino Plastics)	Best Construction Management student over three years of study in Building Science (Materials and Methods).
Rousseau Probert Elliot	Outstanding Treatise which contributes to progressive and innovative approach to Quantity Surveying.
Sondor Industries Ltd	Student with highest mark in Construction Technology I.
South African Institute of Steel Construction (SAISC)	Best Building Science (Structures) student over three years of study.
South African Institute of Steel Construction (SAISC)	Best Building Economics 2 student.
Stanley Warren Prize	Student with the highest mark in Quantities 1.
Studio D'Arch Architects	Best Building Science (Environment and Services) 3 student.
Strydom Basson and Tait (Pty) Ltd	Best second-year Building student.
The Elilox Group (Pty) Ltd	Best Masters in Project Management student for attaining the highest overall mark MSc (PM)
Universal Equipment	Best Building Science (Materials and Methods) student over three years of study.
Universal Equipment	Best Building Science (Materials and Methods) 4 student.
Wiehahn Formwork and Scaffolding	Student with the highest mark in Construction Technology III.
Wiley-Blackwell	Best Building Science (Structures) 1 student.
Wiley-Blackwell	Best Building Science (Structures) 2 student.
Wiley-Blackwell	Best Building Science (Structures) 3 student.

SCHOOL OF ENGINEERING

There are several prizes for which students may compete and numerous other bursaries which are awarded annually.

Merit awards are allocated to deserving students. The following prizes, which may be awarded annually, are offered to students for academic achievement:

Donors	Prize awarded for
AECOM SA (Pty) Ltd	Best Water Engineering III student
Aurecon SA (Pty) Ltd	Best S3 Civil Engineering student Best BTech: Civil Engineering student
Bosch Stemele (Pty) Ltd	Best National Diploma: Civil Engineering student
GIBB (Pty) Ltd	Best S1 Civil Engineering student
Hatch Africa (Pty) Ltd	Best National Diploma: Civil Engineering student
Haw & Inglis	Best Surveying I student

Donors	Prize awarded for
	Best Surveying II student Best Construction Methods I student Best Management: (Civil) II student Best Water Engineering II student
Jeffares & Green (Pty)	Best National Diploma: Civil Engineering student Best Civil Engineering Docs III student Best Civil Engineering Project III group
KCS Consultants	Best BTech Civil Engineering student Best S4 Civil Engineering student
Mott MacDonald Africa (Pty) Ltd	Best BTech: Civil Engineering student
Much Asphalt (Pty) Ltd	Best Geotechnical Engineering II student Best Geotechnical Engineering III student
PPC Cement LTD	Best Construction Materials I student
SAICE (Algoa Branch)	Best S2 Civil Engineering student
SAICE (National Office)	Best National Diploma: Civil Engineering student
South African Roads Federation (EC) - SARF	Best Transportation Engineering II student Best Transportation Engineering III student Best BTech: Transportation Engineering student
The Joint Structural Division of SAICE & IStructE	Best Structural Engineering Design Project student
4G Technology	Best Industrial Project IV Engineering student.
Microchip	Best Digital Electronic Engineering student.
Major Tech	Best Power Systems Engineering student.
Departmental Trophy	Best Electrical Engineering student.
Meterman Digital Multimeters	Top 3 Electrical Engineering Level III students.
FLUKE Digital Multimeters	(Overall) Top 3 Electrical Engineering students.
Cadbury	Best Project in Productivity Level I.
	Best Project in Productivity Level II.
Aberdare Cable	Best N Dip: Industrial Engineering student.
Department of Industrial Engineering	Best N Dip: Operations Management student.
Ford Motors	Best B Tech: Operations Management student.
SABS	Best B Tech: Quality student.
Barlow World Automotive Coatings	Best Industrial Project in Operations Management.
Department of Industrial Engineering	Best B Tech: Industrial Engineering student.
Nelson Mandela University: Mechanical Engineering Department	Best Student: Mechanics I
Nelson Mandela University: Mechanical	Best Student: Mechanical Engineering

Donors	Prize awarded for
Engineering Department	Drawing I
Nelson Mandela University: Mechanical Engineering Department	Best Student: Engineering Materials and Science I
Nelson Mandela University: Mechanical Engineering Department	Best Student: Fluid Mechanics II
Nelson Mandela University: Mechanical Engineering Department	Best Student: Mechanics of Machines II
Nelson Mandela University: Mechanical Engineering Department	Best Student: Strength of Materials II
Nelson Mandela University: Mechanical Engineering Department	Best Student: Thermodynamics II
Nelson Mandela University: Mechanical Engineering Department Micrographics	Best Student: Fluid Mechanics III
Nelson Mandela University: Mechanical Engineering Department	Best Student: Mechanical Engineering Design II
Nelson Mandela University: Mechanical Engineering Department	Best Student: Strength of Materials III
Nelson Mandela University: Mechanical Engineering Department	Best Student: Thermodynamics III
Nelson Mandela University: Mechanical Engineering Department	Best Student: Applied Strength of Materials III
Nelson Mandela University: Mechanical Engineering Department	Best Student: Hydraulic Machines III
Nelson Mandela University: Mechanical Engineering Department	Best Student: Mechanical Engineering Design III
Nelson Mandela University: Mechanical Engineering Department	Best Student: Steam Plant III
Nelson Mandela University: Mechanical Engineering Department	Best Student with best combined total (MSL4 & MSS4)
Nelson Mandela University: Mechanical Engineering Department	Best Student with best combined total (MTD4 & MTR4)
Nelson Mandela University: Mechanical Engineering Department Micrographics	Best Overall student (MDM4)
Nelson Mandela University: Mechanical Engineering Department eNtsa SAIMECHe	Best National Diploma Student
Nelson Mandela University: Mechanical Engineering Department eNtsa SAIMECHe	Best B-Tech Student
Nelson Mandela University: Mechanical Engineering Department eNtsa SAIMECHe	Best Masters Student

Note: The above prizes are awarded subject to donor availability.

SCHOOL OF INFORMATION TECHNOLOGY

Special prizes for which students may compete and which are awarded annually for academic achievement in the School of IT, are listed below. In addition to these prizes, merit awards are allocated to deserving students.

Donors	Prize awarded for
LexisNexis	Top Programming Student.
CISCO Systems	Top Networking Student.
Business Connexion (Pty) Ltd	Top Support Services Student.
The Lydia Palmer Award	Top Third Year Software Development Project
School of IT	Top Higher Certificate Student. Top First Year Dip IT Student. Top Second Year Dip IT Student. Top IT Diploma Student. Top Advanced Diploma Student Top BIT First Year Student Top BIT Second Year Student Top BIT Third Year Student
Executive Dean of the Faculty of Engineering, the Built Environment & Technology	The Dean's Award for Academic Accomplishment is given each year to the graduate who had the best diploma/degree performance in the School. The qualification (diploma, degree, honours degree or master's degree) must have been obtained cum laude.

Note: The above prizes are awarded subject to donor availability.

3.9 STATEMENT ON THE UNIVERSITY'S INTERVENTION IN THE EVENT OF POSSIBLE DISRUPTIONS TO ACADEMIC ACTIVITIES

From past experience the University knows that circumstances beyond our control may disrupt our academic activities. The University therefore reserves the right to implement certain emergency measures when deemed necessary to manage such situations. Please note that the University shall not be held liable for any inconvenience, damage or other negative consequence resulting from the implementation of such emergency measures.

3.10 BOARD OF FACULTY/FACULTY MANAGEMENT COMMITTEE

The Board of Faculty consists of all academic staff in the Faculty, a student representative from each instructional programme and a student representative of the SRC for the faculty. The Faculty Management Committee consists of the Dean, Directors and Heads of Departments and acts as the management committee of the Board of Faculty.

4	CERTIFICATES
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4.1	HIGHER CERTIFICATE IN INFORMATION TECHNOLOGY IN USER SUPPORT SERVICES
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Qualification code:	70003
Offering:	Full-time North Campus (01) OR Full-time George Campus (02)
Aligned NQF Level:	5
SAQA ID:	63990
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The purpose of the qualification is to produce graduates who are productive, competent, able to work independently, and who can manage time effectively in entry-level technical user support positions that span a wide range of computing environments requiring support personnel.

ADMISSION REQUIREMENTS

- Minimum NSC statutory requirements for higher certificate entry must be met.
- An applicant with NSC Grade 12 Mathematics or Technical Mathematics requires a minimum Applicant Point Score of 290.
- An applicant with NSC Grade 12 Mathematical Literacy requires a minimum Applicant Point Score of 305.
- NSC achievement rating of at least 35% for Mathematics or Technical Mathematics or 55% for Mathematical Literacy.

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	30 credits or more	Students can register for outstanding modules; all outstanding modules must be passed in second year of registration for qualification.*
	Less than 30 credits	Re-admission denied.
After two years	Less than 120 credits	Re-admission denied.

Students should note that they can only continue with 2nd semester modules if the pre-requisite 1st semester modules have been passed.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Academic progression:

Candidates who qualify with the Higher Certificate in IT in User Support Services may get admission to the Diploma: IT (Support Services) if they obtained an average of 60% for all modules at the exit level.

DURATION

The qualification shall extend over a minimum of one year of full-time study.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Information Technology Skills 1	Semester 1	ITS1011	30
Information Systems 1	Semester 1	WIH1011	30
Technical Support 1	Semester 2	TSS1012	30
User Support 1	Semester 2	USS1012	30
Credits First Year			120

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites	Co-requisites
Technical Support 1	TSS1012	WIH1011	
User Support 1	USS1012	ITS1011	

4.2 HIGHER CERTIFICATE IN MECHATRONIC ENGINEERING

Qualification code:	70005
Offering:	Full-time North Campus (01)
Aligned NQF Level:	5
SAQA ID:	99748
Total NQF Credits for qualification:	140

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The Higher certificate in Mechatronic Engineering (an engineering discipline which is a fusion of Electrical and Mechanical engineering as well as Information Technology) is primarily vocational in nature, but with a high conceptual focus and balance between theoretical and practical integration providing graduates with the required knowledge, skills and attributes to operate effectively in a supporting role to Artisans, Technicians, Technologists and Engineers in the field of Mechatronics in automated manufacturing industries. Mechatronic Engineering includes but is not limited to all automated manufacturing, robotics, automated Programmable Logic Control Systems, Human

Machine Interfaces, vehicle control and engine management systems and maintenance of said systems. Employment opportunities exist in a vast range of automated manufacturing plants. The knowledge profile of this programme emphasizes general principles and application in Mechatronic Engineering. The qualification further signifies that the student has attained a basic level of higher education knowledge and competence in Mechatronics and closely related fields of Electrical and Mechanical Engineering as determined by a HEQSF level 5 learning programme and is capable of applying such knowledge and competence in a relevant occupation.

Career opportunities:

Successful candidates can pursue a multitude of career opportunities within the automated manufacturing environment. There is a rapidly rising demand for knowledge and skills in this field emanating specifically from the development of technology (especially the integration of computer based control, data acquisition and monitoring) as applied to automated processes and the need for adequate levels of support staff and artisans with these highly developed technological skills. Work done by the Mechatronics support occupation is characterized by the ability to apply proven, commonly understood detailed techniques, procedures, practices and codes to solve narrowly-defined Mechatronic engineering problems under supervision of technicians, technologists and engineers.

Industry further requires a significant increase in not only the amount of Artisans but also an increase in the conceptual understanding of engineering science within the discipline, which will be achieved by the Higher Certificate. Although the scope of the Higher Certificate and this qualification falls outside the ambit of Artisan training, the Higher Certificate will provide an excellent alternative pathway for non-contracted learners to prepare for the trade test to qualify as Artisans.

ADMISSION REQUIREMENTS

National Senior Certificate (NSC)

- Minimum NSC statutory requirements for higher certificate entry must be met.
- An applicant with NSC Grade 12 Mathematics or Technical Mathematics requires a minimum Applicant Score of 330.
- NSC Achievement rating of at least 50% for Mathematics or Technical Mathematics.
- NSC Achievement rating of at least 50% for Physical Sciences or Technical Science.

National Certificate Vocational (NCV) in related vocational field

- Minimum National Certificate (Vocational) Level 4 statutory requirements for Higher Certificate entry must be met.
- English, Afrikaans or isiXhosa (First additional language) on at least level 3 (40-49%).
- NCV Achievement rating of at least 4 (50-59%) for Mathematics.
- NCV Achievement rating of at least 4 (50-59%) for Physical Science.

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	30 credits or more	Students can register for outstanding modules; all outstanding modules must be passed in second year of registration for qualification.*
	Less than 30 credits	Re-admission denied.
After two years	Less than 120 credits	Re-admission denied.

Students should note that they can only continue with 2nd semester modules if the pre-requisite 1st semester modules have been passed.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

STATUTORY AND OTHER REQUIREMENTS*Academic progression:*

Candidates who qualify with the Higher Certificate in Mechatronic Engineering may get admission to the Bachelor of Engineering Technology (BEngTech) degrees subject to meeting admission criteria.

Possible admission to further studies:

Successful candidates attaining certain minimum averages for the course can also qualify for admission to other Engineering qualifications offered at the university.

Eg: A Higher Certificate in Mechatronics with an average of 60% or above and a minimum of 60% for Mathematics is required for admission to BEngTech degrees.

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

DURATION

The qualification shall extend over a minimum of one year of full-time study.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
Semester 1				
	Mathematics	Semester 1	MAT1011	14
	Physical Science	Semester 1	PHY1001	10
	Electrotechnology A	Semester 1	MET1001	12
	Mechanotechnology A	Semester 1	MEC1001	12
	Introduction to Computers	Semester 1	ICL1001	14
	Language Studies	Semester 1	LES1001	12
Semester 2				
	Electrotechnology B	Semester 2	MET2002	12
	Mechanotechnology B	Semester 2	MEC2002	12

		Presented	Module Code	Credit Value
	Mechatronic Systems	Semester 2	MES1002	14
	Manufacturing	Semester 2	MAN1002	14
	Mechatronic Project	Semester 2	MEP1002	14
	Total Credits			140

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites	Co-requisites
Physical Science 1001	PHY1001		MAT1011
Electrotechnology 1001	MET1001		
Mechanotechnology 1001	MEC1001		
Mechanotechnology 2002	MEC2002	MEC1001	
Mechatronic Systems 1002	MES1002		
Manufacturing 1002	MAN1002		
Mechatronic Project 1002	MEP1002	MET1001 and PHY1001 and	

4.3 HIGHER CERTIFICATE IN RENEWABLE ENERGY ENGINEERING

Qualification code:	70007
Offering:	Full-time North Campus (01)
Aligned NQF Level:	5
SAQA ID:	110936
Total NQF Credits for qualification:	140

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

This programme is to train people to a preartisan level for the renewable energy field. The graduate will be able to competently assist artisans, technicians, technologists and engineers working in the renewable energy sector. Further personal development and life-long learning can also be pursued.

Programme outcomes:

The graduate of this programme will have a good understanding of renewable energy and specific skills related to implementation of small scale renewable energy. The graduate will have completed an HEQSF level 5 learning programme and will be capable of applying the knowledge and competence in a relevant occupation.

ADMISSION REQUIREMENTS**National Senior Certificate (NSC)**

- Minimum NSC statutory requirements for higher certificate entry must be met.
- An applicant with NSC Grade 12 Mathematics or Technical Mathematics requires a minimum Applicant Score of 330.
- NSC Achievement rating of at least 50% for Mathematics or Technical Mathematics.
- NSC Achievement rating of at least 50% for Physical Sciences or Technical Science.

National Certificate Vocational (NCV) in related vocational field

- Minimum National Certificate (Vocational) Level 4 statutory requirements for Higher Certificate entry must be met.
- English, Afrikaans or isiXhosa (First additional language) on at least level 3 (40-49%).
- NCV Achievement rating of at least 4 (50-59%) for Mathematics.
- NCV Achievement rating of at least 4 (50-59%) for Physical Science.

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	30 credits or more	Students can register for outstanding modules; all outstanding modules must be passed in second year of registration for qualification.*
	Less than 30 credits	Re-admission denied.
After two years	Less than 120 credits	Re-admission denied.

Students should note that they can only continue with 2nd semester modules if the pre-requisite 1st semester modules have been passed.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

STATUTORY AND OTHER REQUIREMENTS*Academic progression:*

Candidates who qualify with the Higher Certificate in Mechatronic Engineering may get admission to the Bachelor of Engineering Technology (BEngTech) degrees subject to meeting admission criteria.

Possible admission to further studies:

Successful candidates attaining certain minimum averages for the course can also qualify for admission to other Engineering qualifications offered at the university. Eg: A Higher Certificate in Mechatronics with an average of 60% or above and a minimum of 60% for Mathematics is required for admission to BEngTech degrees.

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

DURATION

The qualification shall extend over a minimum of one year of full-time study.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
Semester 1				
	Mathematics	Semester 1	MAT1011	14
	Physical Science	Semester 1	PHY1001	10
	Renewable Energy Electrotechnology	Semester 1	EET1001	12
	Mechanotechnology	Semester 1	MEC1001	12
	Introduction to Computers	Semester 1	ICL1001	14
	Language Studies	Semester 1	LES1001	12
Semester 2				
	Renewable Energy Systems	Semester 2	ERE1002	12
	Solar Photovoltaic Systems	Semester 2	ESP1002	12
	Wind Energy Systems	Semester 2	MWE1002	14
	Hydro Systems	Semester 2	MHS1002	14
	Renewable Energy Projects	Semester 2	ERR1002	14
	Total Credits			140

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites	Co-requisites
Physical Science 1001	PHY1001		MAT1011 ICL1001 LES1001
Renewable Energy Electrotechnology	EET1001		MAT1011 PHY1001 ICL1001 LES1001
Mechanotechnology 1001	MEC1001		MAT1011 PHY1001 ICL1001 LES1001
Renewable Energy Systems	ERE1002	PHYV1001 EET1001 MEC1001	
Solar Photovoltaic Systems	ESP1002	PHYV1001 EET1001	
Wind Energy Systems	MWE1002	PHYV1001 EET1001 MEC1001	
Hydro Systems	MHS1002	PHYV1001 EET1001	

Module	Code	Pre-requisites	Co-requisites
		MEC1001	
Renewable Energy Projects	ERR1002	MAT1011, PHY1001, EET1001, MEC1001	Any two of ERS1002, ESP1002, MWE1002, MHS1002

5 EXTENDED PROGRAMMES

5.1 NATIONAL DIPLOMA (ENGINEERING: ELECTRICAL) (EXTENDED) (NO NEW INTAKE)

Qualification code:	3369
Offering:	Full-time North Campus (07)
Aligned NQF Level:	6
SAQA ID:	87117
Total NQF Credits for qualification:	396

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Persons achieving this qualification will be competent to apply engineering principles and well-defined problem-solving techniques in the field of electrical engineering by operating within relevant standards and codes.

Qualification objectives:

The qualified diplomat must be able to:

- demonstrate the ability to apply theory and practical hand skills in electrical engineering activities and applications;
- install, assemble, commission and maintain electrical engineering equipment or functions within applicable standards and codes of practice;
- apply technical knowledge and analytical skills to diagnose problems in electrical equipment or systems and develop appropriate solutions;
- demonstrate the ability to apply the principles of entrepreneurship when developing design solutions to engineering problems;
- plan and supervise tasks and projects considering all the appropriate technical and non-technical aspects;
- act independently and/or in a team, under supervision and, where appropriate, exhibit professional integrity.
- communicate effectively;
- register with ECSA as a Candidate Professional Engineering Technician in the field of Electrical Engineering.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Minimum NSC requirements for diploma entry must be met. In exceptional cases candidates who do not meet the statutory requirements for admission to a diploma, but perform satisfactorily in the Nelson Mandela University Access Assessment Battery, will be considered for Senate's discretion admission.
- English, Afrikaans or isiXhosa (home language or first additional language) on at least level 3 (40-49%).
- NSC achievement rating of at least 3 (40-49%) for Mathematics.
- NSC achievement rating of at least 3 (40-49%) for Physical Science.
- Candidates must perform satisfactorily in the Nelson Mandela University Access Assessment Battery.
- Only applicants with an Admission Points Score between 26 and 33 may be referred to write the Access Assessment Battery before a decision is made on whether or not to admit the applicant to the course.

Recommended NCV Subjects:

- The National Certificate Vocational Level 4 with the following minimum pass mark in the following subjects:
- 50% in the three Fundamental subjects: English, Mathematics, Life Orientation; and
- 50% in the Compulsory subject Physical Sciences; and
- 50% in any two other Compulsory subjects.

RE-ADMISSION REQUIREMENTS

- Candidates shall only be permitted to register for any modules in the second year of study if they have passed all the modules prescribed in the first year of study.
- Candidates must have passed at least 50% of the credits prescribed in the first year of study in order to be allowed to re-register for the programme.
- Candidates who have not completed all the foundational modules in the programme after two (2) years of full-time study will not be allowed to re-register for the programme.

Period	Total Credits Passed	Outcome
After one year	30 credits and more	Students are allowed to continue.
	Less than 30 credits	Re-admission denied.*
After two years	Passed all first-year modules	Students are allowed to continue.
	All first-year modules have not been passed	Re-admission denied.*
After six semesters	192 credits and more	Students are allowed to continue
	144-191 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 144 credits	Re-admission denied.*
After eight semesters	240 credits and more	Students are allowed to continue.
	192 – 239 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at

Period	Total Credits Passed	Outcome
		least 80% of their registered credits.
	Less than 192 credits	Re-admission denied.
After ten semesters	Less than 240 credits	Re-admission denied.
	240 credits and more	Only final-year students would be considered.
After twelve semesters		Only special circumstances will be considered.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

That only one (1) registration (intake) per year be implemented as from 2014 until 2017 for the abovementioned programmes.

From 2017 until Teach-Out date (end of 2023) only Semester 1 and Semester 3 modules will be offered in Semester 1 and Semester 2 and Semester 4 modules in Semester 2 of an Academic year.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following module shall be regarded as the major module: Design Project III.

Pass-on-link:

The pass-on link criteria as stipulated in the General Prospectus will be applied to the following modules:

- Digital Systems I (EDS1111) to Digital Systems II (EDS2112)
- Electronics I (EEL1011) to Electronics II (EEL2012)
- Electrical Engineering I (ENG1311) to Electrical Engineering II (ENG2012)

A total of 2 modules may be taken from another Engineering qualification subject to approval by the relevant Head of Department and provided that the total number of credits for the qualification is adhered to.

Refer to the 'phase-out' schedule available from the Department.

To register for Electrical Engineering Practice I (P1), a student must have at least completed all of the first-year modules according to the curriculum, which amounts to 120 credits.

To register for Electrical Engineering Practice II or Electronic Engineering Practice II (P2), a student must have at least completed: Electrical Engineering Practice I (P1); and 80% of the modules from the third year according to the curriculum, which amounts to a further 96 credits.

DURATION

The qualification shall extend over a minimum of four years of full-time study. Please

refer to the section regarding Maximum Period of Study under General Information and Regulations.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2017.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2023.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
	Academic and Life Skills Development I	Year	ALM1110	4
	Communication	Year	CCM11X0	9
	Concepts of Physics	Year	COP11X0	11
	Introduction to Engineering	Year	IES11X1	6
	Extended Computer Skills I	Year	ITCL1X0	12
	Pre Calculus I	Semester 1	MAT11X1	4
	Augmented Mathematics I	Semester 2	WIS10X2	12
FOUNDATION CREDITS YEAR 1				58
REGULAR CREDITS YEAR 1				0
TOTAL CREDITS YEAR 1				58
		Presented	Module Code	Credit Value
Second Year				
Compulsory modules:				
	Academic and Life Skills Development II	Year	ALM2110	2
	Digital Systems I	Semester 1	EDS1111	12
	Digital Systems II	Semester 2	EDS2112	12
	Electronics I	Semester 1	EEL1011	12
	Electronics II	Semester 2	EEL2012	12
	Electrical Engineering I	Semester 1	ENG1311	12
	Electrical Engineering II	Semester 2	ENG2012	12
	Project 1	Semester 2	EPJ1012	12
	Mathematics II	Semester 2	WIS2112	12
FOUNDATION CREDITS YEAR 2				2
REGULAR CREDITS YEAR 2				96
TOTAL CREDITS YEAR 2				98

		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Design Project III (<i>Major</i>)	Semester 2	EDP3012	12
Select nine of the following modules in consultation with the Head of Department:				
	Digital Systems III	Semester 1	EDS3111	12
	Electrical Machines II	Semester 1	EEM2111	12
	Industrial Electronics II	Semester 1	EIE2011	12
	Electrical Engineering III	Semester 1	ENG3111	12
	Mathematics III	Semester 1	WIS3111	12
	Electronics III	Semester 1	EEL3011	12
	Electronic Communication II	Semester 1	EEC2111	12
	Software Design II	Semester 1	ESW2011	12
	Electrical Machines III	Semester 2	EEM3012	12
	Power Electronics III	Semester 2	EPE3012	12
	Electrical Protection III	Semester 2	EPR3012	12
	Radio Engineering III	Semester 2	ERE3012	12
	Control Systems II	Semester 2	ECS2012	12
	Software Design III	Semester 2	ESW3012	12
TOTAL REGULAR CREDITS YEAR 3				120
		Presented	Module Code	Credit Value
Fourth Year				
Compulsory modules:				
	Electrical Engineering Practice I	Semester 1 or Semester 2	EEP1211 or EEP1212	60
Select one of the following modules:				
	Electrical Engineering Practice II	Semester 1 or Semester 2	EEP2211 or EEP2212	60
	Electronic Engineering Practice III	Semester 1 or Semester 2	ELP2211 or ELP2212	60
TOTAL REGULAR CREDITS YEAR 4				120
TOTAL FOUNDATION CREDITS				60
TOTAL REGULAR CREDITS				336
TOTAL CREDITS				396

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed prerequisite modules.

Module	Code	Prerequisites	Co-requisites
Augmented Mathematics I	WIS10X2	MAT11X1	
Academic & Life Skills Development II	ALM2010	ALM1110	
Digital Systems II	EDS2112	EDS1111/2	
Electronics II	EEL2012	EEL1011/2	
Electrical Engineering II	ENG2012	ENG1311/2	
Project I	EPJ1012	EEL1011/2 and ENG1311/2	
Mathematics II	WIS2112	WIS1111/2	
Design Project III	EDP3011/2	EDS3111/2 or EEL3011/2 or ENG3111/2	
Digital Systems III	EDS3111/2	EDS2111/2	
Electronic Communication II	EEC2111/2	EEL1011/2 and ENG1311/2	
Electronics III	EEL3011/2	EEL2011/2	
Electrical Machines II	EEM2111/2	ENG2011/2	
Industrial Electronics II	EIE2011/2	EEL1011/2 and ENG2011/2	
Electrical Engineering III	ENG3111/2	ENG2011/2	
Software Design II	ESW2011/2	CCM1111/2 and CCP1111/2 and WIS1111/2 and EDS1111/2 and EEL1011/2 and ENG1311/2	
Mathematics III	WIS3111/2	WIS2111/2	
Control Systems II	ECS2011/2	CCP1111/2 and EDS2111/2 and EEL2011/2 and ENG2011/2	
Electrical Machines III	EEM3011/2	EEM2111/2	
Power Electronics III	EPE3011/2	EIE2011/2	
Electrical Protection III	EPR3011/2	ENG2011/2	
Radio Engineering III	ERE3011/2	EEC2111/2	
Software Design III	ESW3011/2	ESW2011/2	

CURRICULUM SPECIALISATION AREAS

Even though Nelson Mandela University only offers one National Diploma: Engineering: Electrical qualification, this can be obtained by taking modules within three sub-disciplines of Electrical Engineering, namely, Power Systems, Digital/Industrial Automation Systems and Electronic Communication Systems.

To obtain the National Diploma: Engineering: Electrical from Nelson Mandela University and work in one of these specialised areas/sub-disciplines, the recommended combination of modules taken at the appropriate levels should be as follows:

POWER SYSTEMS			
Choose the following modules			
Electrical Machines II	EEM2111/2	Design Project III	EDP3011/2
Industrial Electronics II	EIE2011/2	Electrical Machines III	EEM3011/2
Electrical Engineering III	ENG3111/2	Power Electronics III	EPE3011/2
Software Design II	ESW2011/2	Electrical Protection III	EPR3011/2
Mathematics III	WIS3111/2	Control Systems II	ECS2011/2

INDUSTRIAL AUTOMATION SYSTEMS			
Choose the following modules			
Digital Systems III	EDS3111/2	Design Project III	EDP3011/2
Electronics III	EEL3011/2	Electrical Machines II	EEM2011/2
Industrial Electronics II	EIE2011/2	Power Electronics III	EPE3011/2
Software Design II	ESW2011/2	Software Design III	ESW3011/2
Mathematics III	WIS3111/2	Control Systems II	ECS2011/2

ELECTRONIC COMMUNICATIONS			
Choose the following modules			
Digital Systems III	EDS3111/2	Design Project III	EDP3011/2
Electronic Communication II	EEC2111/2	Radio Engineering III	ERE3011/2
Electronics III	EEL3011/2	Control Systems II	ECS2011/2
Software Design II	ESW2011/2	Software Design III	ESW3011/2
Mathematics III	WIS3111/2	Industrial Electronics II	EIE2011/2

6	DIPLOMAS
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6.1	DIPLOMA IN ARCHITECTURAL TECHNOLOGY
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Qualification code:	1252
Offering:	Full-time South Campus (A1)
Aligned NQF Level:	6
SAQA ID:	97082
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The programme aims to produce architectural technologists who will be competent to design at the basic level and, with the aid of the latest technological equipment, perform the technical aspects of architectural practice at the intermediate level.

Construction technology, design and documentation are the main areas of focus. However, because architecture by its very nature is design-orientated and because technologists are allowed to practice independently, architectural design and design theory also forms part of the programme.

ADMISSION REQUIREMENTS

- Minimum NSC statutory requirements for diploma entry must be met.
- An applicant with NSC Grade 12 Mathematics or Technical Mathematics requires a minimum Applicant Score of 330.
- An applicant with NSC Grade 12 Mathematical Literacy requires a minimum Applicant Score of 345.
- NSC achievement rating of at least 45% for Mathematics or Technical Mathematics or 60% for Mathematical Literacy.
- Qualifying applicants will be required to prepare a prescribed portfolio and attend an interview. Some applicants may be required to attend a three-week "preparation to architectural technology" qualification course prior to registration.
- Selection is based on the submission of a creative portfolio of work, comprising drawings, sketches and other creative or technical projects, as outlined by the Department as well as an interview with the department's staff to discuss the creative portfolio.
- International applicants who are unable to present themselves for an interview must courier the portfolio or send an electronic copy with a covering letter to the department. The final selection of applicants will only be finalised after the Grade 12 results have been received by Admissions and the Department.

Recommended NSC subjects

- Visual Arts
- Design
- Physical Science
- Engineering Graphics and Design

Mathematics is compulsory and subjects like Art, Science, Woodwork and Technical Drawing are given priority during selection of candidates. Selection is, in addition to the above, based on an extended selection procedure which applicants must attend.

RE-ADMISSION REQUIREMENTS**Rules for all programmes (except extended programmes)**

Period of registration	Total Credits Passed	Outcome
After 1 year	60 or more credits	Students are allowed to continue.
	Less than 59 credits	Conditional re-admission, e.g. limiting the number of modules a student may register for, determining minimum progress to be achieved (e.g. 80% of modules to be passed to continue with second semester or following year). Progress will be reviewed at the end of the first semester; and students may be required to cancel registration of one or more modules should progress be deemed unsatisfactory.
After 2 years	120 or more credits	Students are allowed to continue.
	70 - 119 credits	Conditional re-admission.
	Less than 70 credits	Re-admission denied.
After 3 years	200 or more credits	Students are allowed to continue.
	140-199 credits	Conditional re-admission.
	Less than 140 credits	Re-admission denied.
After 4 years	280 or more credits	Students are allowed to continue.
	230-279 credits	Conditional re-admission.
	Less than 230 credits	Re-admission denied; final-year students may be considered if special circumstances exist.
After 5 years (three-year programme)	Less than all credits	Re-admission denied; final-year students may be considered if special circumstances exist.
After 5 years (four-year programme)	380 or more credits	Students are allowed to continue.
	340-379	Conditional re-admission.
	Less than 340 credits	Re-admission denied; final-year students may be considered if special circumstances exist.
After 6 years (four-year programme)	Less than all credits	Re-admission denied; final-year students may be considered if special circumstances exist.

Procedure to appeal refusal of re-admission:

Student is informed via e-mail once decision is made to exclude student from a programme. Appeals must be submitted to Faculty Administration on the relevant form by the last day of the January re-examination period (date) or within five (5) days of receiving notification of re-admission refusal, whichever date is the latest. **No late submissions will be considered.**

The outcome of the appeal will be communicated to you via e-mail before commencement of registration. Please provide a valid cell phone number and e-mail address for this purpose on the appeal form.

The decision of the Faculty Management Committee is final and no further appeals would be considered.

Process to determine if re-admission requirements have been met:

The following process will be followed to determine whether a student has met the re-admission requirements:

- At the end of each semester, Faculty Administration reviews students' progress and simultaneously identifies those students who have not met the required re-admission conditions. Heads of Department, in consultation with Faculty Administration, finalise the lists of students who are not re-admitted.
- Faculty Administration then informs students accordingly; a copy of the letter is put on the students' record.
- Students who have been denied re-admission have one further opportunity to apply for enrolment in an alternative programme in another school or faculty via the Admissions Office.

STATUTORY AND OTHER REQUIREMENTS

For more information in connection with Nelson Mandela University's regulations, consult the General Prospectus and Regulations. The following is additional information and a summary of the more important points of the above Prospectus.

Minimum attendance:

Due to the practical nature of the qualification, students who have not attended a minimum of 80% of normal lectures will be refused permission to sit for the examination unless special leave is granted. In addition to this, students who have not completed and handed in, on time, a minimum of 80% of their projects for a particular module, or part of a module, will not be allowed to sit for the examination in that module.

Portfolio examinations/continuous evaluation:

Where continuous evaluation in any form is used as an evaluation method, all tasks, etc. submitted for this purpose will be kept at Nelson Mandela University for three years for certification purposes. Students who wish to keep their original work for employment-seeking purposes should substitute these with ammonia prints or 35mm colour slides directly after assessment has been completed.

Promotion rules:

All the **major modules**, namely Design 1 (DAP1001/1002), Construction and Detailing 1 (DKD1001/1002), Computer Applications 1 (DKP1001/1002) and Studio Work 1 (DSW1001/1002) in the first year must be satisfactorily completed before a student is promoted into second year. The pre-requisite and co-requisite modules apply to promotion in second and third year due to the integrated nature of the major subjects.

Practical Learning:

Although the Nelson Mandela University will help as far as possible to arrange the practical learning, in the final instance the onus in this respect will be on the student.

Academic support:

The Faculty of Arts strives to ensure that all our students are successful in their studies. Furthermore, the Faculty develops and uses, in collaboration with the Centre for Teaching, Learning and Media (CTLM), teaching and learning practices based on

learner-centeredness. The Faculty of Arts also recognises the importance of providing students with comprehensive academic support processes and interventions to ensure success in their studies.

The faculty also recognises the importance of effective teaching and learning practices to ensure the academic success of students. Therefore, proactive teaching and learning interventions are vital to ensure student success and throughput. In addition, as interaction between staff and students is required to ensure learning difficulties are addressed, academic staff needs to allocate adequate time slots for student consultation.

Academic Support Initiatives:

Examination and test results are analysed after every examination period (June and November examinations) by the relevant Head of Department (HoD). A detailed report is then submitted to the School Management Committee (SMC) for action. A final report is submitted by the Director of the School (DoS) to the Faculty Management Committee (FMC) (normally in February and August). The report includes proposed remedial actions to be put in place for the modules where a low pass rate was obtained. Remedial actions and interventions are linked to teaching and learning practices, curricula design, academic support, timetabling and venue availability.

Barriers to learning are then identified by FMC and addressed by the Faculty Teaching and Learning Committee, FMC, Student Counselling or referred to the particular SMC for further action.

Review of academic progress:

Lecturers monitor the academic progress of students throughout the semester, especially after each semester test. Lecturers will use academic support initiatives to ensure support at an early stage to potentially at risk students. These interventions may include referrals to SCCDC for Guidance and Counselling, Learning Skills Enhancement Programmes, or interventions in collaboration with CTLM like Tutorials or SI.

In programmes where **semester modules** are offered, Faculty Administration in consultation with Heads of Department, monitors progress at the end of each semester. Students whose progress is deemed unsatisfactory will receive either warning/conditional letters in accordance with the approved rules, where applicable.

In programmes where **year modules** are offered, progress will be monitored by relevant HoDs. Students whose progress is deemed unsatisfactory will receive either warning/conditional letters or be denied re-admission to the programme, in accordance with the approved rules. HoDs will where necessary identify remedial actions and implement academic support initiatives.

The generic Faculty rules will apply but new first-years are in addition subject to the following rule:

Students who fail two or more of the **major** modules {namely Design 1 (DAP1001/1002), Construction and Detailing 1 (DKD1001/1002), Computer Applications 1 (DKP1001/1002) and Studio Work 1 (DSW1001/1002)} in the **first semester of the first year** will **not** be allowed to continue with the 2nd semester but will be required to complete a minimum of six months' experiential learning in a Registered Architectural Practice in the 2nd semester before being permitted to repeat the failed first-year modules the following year. Upon successful completion of this experiential learning, candidates will be required to submit a letter from the employer

accompanied by a portfolio of evidence. Students would furthermore be required to avail themselves for a departmental test as part of re-admission criteria.

DURATION

The qualification shall extend over three years of full-time study.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Applied Building Science – Module I	Semester 1	DBS1001	10
Applied Building Science – Module II	Semester 2	DBS1002	10
Computer Applications I – Module 1	Semester 1	DKP1001	5
Computer Applications I – Module II	Semester 2	DKP1002	5
Construction and Detailing I – Module I	Semester 1	DKD1001	10
Construction and Detailing 1 – Module II	Semester 2	DKD1002	10
History of Architecture and Design – Module I	Semester 1	DHA1001	5
Introduction to Design Theory – Module I	Semester 1	DHA1021	5
History of Architecture and Design – Module II	Semester 2	DHA1002	5
Introduction to Design Theory – Module II	Semester 2	DHA1022	5
Presentation Methods – Module I	Semester 1	DAP1001	10
Introduction to Design – Module II	Semester 2	DAP1002	10
Studio Work I – Module I	Semester 1	DSW1001	10
Studio Work I – Module II	Semester 2	DSW1002	10
Survey and Landscaping III	Year	DSL3000	12
Credits First Year	Minimum		122
Second Year			
Compulsory modules:			
Services – Module I	Semester 1	DBD3001	4
Services – Module II	Semester 2	DBD3002	4
Environmental Design – Module III	Year	DBD3030	4
Communication I	Semester 1	LMK1001	10
Computer Aided Drafting III	Semester 1	DAD3001	12
Construction and Detailing – Module I	Semester 1	DKD2001	10
Construction and Detailing – Module II	Semester 2	DKD2002	10
Office Management Practice – Module I	Semester 1	DOP3001	4
Office Management Practice – Module II	Semester 2	DOP3002	4
Design Theory	Semester 1	DPA3001	8
Design – Module I	Semester 1	DPA3011	8
Design – Module II	Semester 2	DPA3002	8
Studio Work II – Module I	Semester 1	DSW2001	10

		Presented	Module Code	Credit Value
	Studio Work II – Module II	Semester 2	DSW2002	10
	Practical Studies II	Semester 2	DPS2002	20
	Credits Second Year	Minimum		126
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Construction and Detailing III (<i>Major</i>)	Semester 1	DKD3001	24
	Studio Work III (<i>Major</i>)	Semester 1	DSW3001	24
	Office Practice III: Contract Management	Semester 1	DOP3131	4
	Architectural Technology Practice III (in-service training) *	Semester 2	DAT3012	60
	Credits Third Year	Minimum		112
	Total Credits			360

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed prerequisite modules.

MODULE	Module Code	Prerequisite	Co-requisite*
First Year			
Studio work 1- Module 11	DSW1002	DSW1001- Studio work 1-module 1, DAP1001 –Presentation methods- module 1, DKD1001- Construction and detailing 1- module 1	
Computer applications 11- module 1	DKP1002	DKP1001- Computer applications- module 1	
Construction and detailing 1-module 11	DKD1002	DKD1001- Construction and detailing 1-module 1	
History of Architecture and design – module 11	DHA1002	DHA1001 – History of Architecture and design – module 1	
Introduction to design theory- module 11	DHA1022	DHA1021- Introduction to design theory- module 1	
Introduction to design - module 11	DAP1002	DAP1001 –Presentation methods- module 1	
Second Year			
Services – module 1	DBD3001	DAP1002-Introduction to design - module 11	
Computer aided drafting 111	DAD3001	DKD1002- Construction and detailing 1-module 11, DAP1002- Introduction to design - module 11	
Construction and detailing- module 1	DKD2001	DSW1002- Studio work 1- Module 11, DAP1002-Introduction to design - module 11	
Construction and	DKD2002	DKD2001- Construction and	

detailing-module 11		detailing- module 1	
Office management practice-module 11	DOP3002	DOP3001- Office management practice-module 1	
Design theory	DPA3001	DHA1022- Introduction to design theory- module 11, DHA1021- Introduction to design theory- module 1, DSW1002- Studio work 1- Module 11,DAP1002- Introduction to design - module 11	Construction and detailing- module 1 DKD2001
Design – module 1	DPA3011	DAP1002-Introduction to design - module 11, DAP1001 – Presentation methods- module 1	
Studio work 11-module 1	DSW2001	DKD2001- Construction and detailing- module 1, DAP1002- Introduction to design - module 11	
Services – module 11	DBD3002	DBD3001- Services – module 1	
Studio work 11-module 11	DSW2002	DSW2001- Studio work 11-module 1	
Practical Studies 11	DPS2002	DAD3001- Computer aided drafting 111	
Third Year			
Construction and detailing 111	DKD3001	DKD2001- Construction and detailing- module 1, DKD2002- Construction and detailing-module 11	
Studio work 111	DSW3001	DSW2002- Studio work 11-module 11, DSW2001- Studio work 11-module 1, DPA3002-Design-module 11, DPA3011-Design- module 1	

6.2 NATIONAL DIPLOMA (BUILDING) (NO NEW INTAKE)

Qualification code:	3262
Offering:	Full-time North Campus (01)
Aligned NQF Level:	6
SAQA ID:	87113
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Admission Points Score of 25 (score for Life Orientation excluded).
- Minimum NSC requirements for diploma entry must be met.
- English, Afrikaans or isiXhosa (home language or first additional language) on at least level 3 (40-49%).
- NSC achievement rating of at least 3 (40-49%) for Mathematics.

- Applicants with an Admission Points Score between 21 and 24 (score for Life Orientation excluded) may be referred to write the Access Assessment Battery before a decision is made on whether or not to admit the applicant to the course.
- As a limited number of students can be admitted, admission is subject to selection based on academic merit. The selection is undertaken by the Department of Building and Quantity Surveying and the CAAR consultant quality assured the selection process.
- Recommended NSC subjects:
 - Business Economics
 - Science
 - Accounting
 - Civil Technology

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of

Period	Total Credits Passed	Outcome
		registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career options.

Furthermore, a student will **only** be promoted to the second year provided that the student has at least passed the three major modules, namely Construction Technology I (DCT1010), Construction Management I (DCO1010) and Quantity Surveying I (DQS1010).

Furthermore, students will only be promoted to the third year if they have passed all the first- and second-year modules and handed in their experiential learning logbooks

STATUTORY AND OTHER REQUIREMENTS

Experiential learning requirements:

To fulfil the requirements of the national Diploma, a student must complete at least one year of applicable experiential learning. During this experiential learning period, students must register for both Building Practice modules as specified in the curriculum. Students will be required to gain practical experience in accordance with prescribed criteria as outlined in the Guide "Experiential Learning", which is made available to students at the end of their first year. In addition, students must register for and complete three modules which will each comprise projects that have to be completed in accordance with prescribed requirements.

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following modules shall be regarded as the major modules:

- Construction Management III
- Construction Technology III
- Quantity Surveying III

DURATION

The qualification shall extend over a minimum of three years of full-time study as prescribed. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2015.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2020.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Applied Building Science I	Year	DBS1010	20
Communication I	Semester 1	DCM1021	10
Construction Management I	Year	DCO1010	20
Computer Applications I	Semester 2	DCP1012	10
Construction Technology I	Year	DCT1010	20
Quantity Surveying I	Year	DQS1010	20
Site Surveying I	Year	DSS1010	20
Credits First Year			120
	Presented	Module Code	Credit Value
Second Year (Experiential training)			
Compulsory modules:			
Construction Management II	Year	DCO2010	20
Construction Technology II	Year	DCT2010	20
Building Practice I	Semester 1 or Semester 2	DET1011 or DET1012	30
Building Practice II	Semester 1 or Semester 2	DET2011 or DET2012	30
Quantity Surveying II	Year	DQS2010	20
Credits Second Year			120
	Presented	Module Code	Credit Value
Third Year			
Compulsory modules:			
Construction Accounting III	Year	DCA3010	20
Construction Management III (<i>Major</i>)	Year	DCO3010	20

	Presented	Module Code	Credit Value
Structures and Concrete III	Year	DCS3010	20
Construction Technology III (<i>Major</i>)	Year	DCT3010	20
Price Analysis and Estimating III	Year	DPE3010	20
Quantity Surveying III (<i>Major</i>)	Year	DQS3010	20
Credits Third Year			120
Total Credits			360

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites
Construction Management II	DCO2010	DCO1010
Construction Technology II	DCT2010	DCT1010
Quantity Surveying II	DQS2010	DQS1010
Construction Management III	DCO3010	DCO2010
Construction Technology III	DCT3010	DCT2010
Quantity Surveying III	DQS3010	DQS2010

6.3 DIPLOMA IN BUILDING

Qualification code:	7226
Offering:	Full-time North Campus (01)
Aligned NQF Level:	6
SAQA ID:	97084
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

- Minimum NSC statutory requirements for diploma entry must be met.
- An applicant with NSC Grade 12 Mathematics or Technical Mathematics requires a minimum Applicant Point Score of 330.
- NSC achievement rating of at least 45% for Mathematics or Technical Mathematics.
- As a limited number of students can be admitted, admission is subject to selection based on academic merit. The selection is undertaken by the Department of Building and Quantity Surveying.

SELECTION PROCEDURE

As a limited number of students can be admitted, admission is subject to selection based on academic merit. The selection is undertaken by the Department of Building and Quantity Surveying.

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years		Only final-year students would be

Period	Total Credits Passed	Outcome
(three-year programme)		considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career options.

Furthermore, a student will **only** be promoted to the second year provided that the student has at least passed the three major modules, namely Construction Technology I (DCT1010), Construction Management I (DCO1010) and Quantity Surveying I (DQS1010).

Furthermore, students will only be promoted to the third year if they have passed all the first- and second-year modules and handed in their experiential learning logbooks.

STATUTORY AND OTHER REQUIREMENTS

Experiential learning requirements:

To fulfil the requirements of the national Diploma, a student must complete at least one year of applicable experiential learning. During this experiential learning period, students must register for both Building Practice modules as specified in the curriculum. Students will be required to gain practical experience in accordance with prescribed criteria as outlined in the Guide "Experiential Learning", which is made available to students at the end of their first year. In addition, students must register for and complete three modules which will each comprise projects that have to be completed in accordance with prescribed requirements.

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following modules shall be regarded as the major modules:

- Construction Management III
- Construction Technology III
- Quantity Surveying III

DURATION

The qualification shall extend over a minimum of three years of full-time study as prescribed. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
	Applied Building Science I	Year	DBS1000	20
	Communication I	Semester 1	DCM1001	10
	Construction Management I	Year	DCO1000	20
	Computer Applications I	Semester 2	DCP1002	10
	Construction Technology I	Year	DCT1000	20
	Quantity Surveying I	Year	DQS1000	20
	Site Surveying I	Year	DSS1000	20
	Credits First Year			120
		Presented	Module Code	Credit Value
Second Year (Experiential training)				
Compulsory modules:				
	Construction Management II	Year	DCO2000	20
	Construction Technology II	Year	DCT2000	20
	Building Practice I	Semester 1 or Semester 2	DET1001 or DET1002	30
	Building Practice II	Semester 1 or Semester 2	DET2001 or DET2002	30
	Quantity Surveying II	Year	DQS2000	20
	Credits Second Year			120
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Construction Accounting III	Year	DCA3000	20
	Construction Management III (<i>Major</i>)	Year	DCO3000	20
	Structures and Concrete III	Year	DCS3000	20
	Construction Technology III (<i>Major</i>)	Year	DCT3000	20
	Price Analysis and Estimating III	Year	DPE3000	20
	Quantity Surveying III (<i>Major</i>)	Year	DQS3000	20
	Credits Third Year			120
	Total Credits			360

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites
Construction Management II	DCO2000	DCO1000
Construction Technology II	DCT2000	DCT1000
Quantity Surveying II	DQS2000	DQS1000
Construction Management III	DCO3000	DCO2000
Construction Technology III	DCT3000	DCT2000
Quantity Surveying III	DQS3000	DQS2000

6.4	NATIONAL DIPLOMA (ENGINEERING: CIVIL) (NO NEW INTAKE)
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Qualification code:	3323
Offering:	Full-time North Campus (01)
Aligned NQF Level:	6
SAQA ID:	87116
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Persons achieving this qualification will be able, independently as well as under supervision, to analyse and solve well-defined and lower-level open-ended Civil Engineering problems through the application of accepted Civil Engineering techniques. The qualification is intended for engineering practitioners in the Civil Engineering industry. The qualified person will be able to register with the Engineering Council of South Africa (ECSA) as a candidate Engineering Technician in the discipline of Civil Engineering. After a period of appropriate industry training, the qualified person will be able to register with ECSA as a Professional Engineering Technician.

Qualification Objectives:

- Enable students to solve well defined problems and improve systems in the design, construction, operation, maintenance and service sectors of the civil industry.
- Apply civil engineering techniques and principles to analyse a variety of simple structural and service-related operational problems.
- Develop and recommend alternatives for improving civil engineering service delivery problems.
- Communicate effectively in a technological environment.
- Apply management principles in manufacturing or service environment.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Admission Points Score of 34.

- Minimum NSC requirements for diploma entry must be met.
- English, Afrikaans or isiXhosa (home language or first additional language) on at least level 3 (40-49%).
- NSC achievement rating of at least 4 (50-59%) for Mathematics.
- NSC achievement rating of at least 4 (50-59%) for Physical Sciences.
- Applicants with an Admission Points Score between 26 and 33 may be referred to write the Access Assessment Battery before a decision is made on whether or not to admit the applicant to the course.
- **Or**
- An N3 Certificate with a minimum of 60% in Mathematics and Engineering Science and two languages at senior certificate level.
- Recommended NSC subjects:
- Engineering Graphics and Design

RE-ADMISSION REQUIREMENTS

Period	Total credits passed	Outcome
After one semester	30 credits and more	Students are allowed to continue.
	Less than 30 credits	Registration in semester two will be conditional.
After two semesters	60 credits and more	Students are allowed to continue.
	Less than 60 credits	Re-admission denied.*
After four semesters (2 years)	120 credits and more	Students are allowed to continue.
	100-119 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 100 credits	Re-admission denied.*
After six semesters (3 years)	192 credits and more	Students are allowed to continue.
	144-191 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 144 credits	Re-admission denied.*
After eight semesters (4 years)	240 credits and more	Final-year students are allowed to continue.
	Less than 240 credits and non-final year students	Apply individual consideration; final-year students should not be denied re-admission.
After ten semesters		Only final-year students would be considered.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career options.

That only one (1) registration (intake) per year be implemented as from 2014 until 2017 for the abovementioned programmes.

From 2017 until Teach-Out date (end of 2022) only Semester 1 and Semester 3 modules will be offered in Semester 1 and Semester 2 and Semester 4 modules in

Semester 2 of an Academic year. Dependent on available resources, additional modules out of sequence may be offered.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following module shall be regarded as the major module: CDOB341/2 - Civil Engineering Project 3

Pass-on-link:

The pass-on link criteria as stipulated in the General Prospectus will be applied to the following modules:

- Surveying I (CSU1111) to Surveying II (CSU2212)
- Applied Mechanics I (CAM1111) to Theory of Structures II (CTS2212)
- Drawing I (CDR1111) to Drawing II (CDR2212)
- Construction Materials I (COM1111) to Construction Methods I (CME1112)

DURATION

The National Diploma is a three-year qualification of which two years are spent in full-time study at Nelson Mandela University and one year in industry undergoing experiential training. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2017.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Applied Mechanics I	Semester 1	CAM1111	10
Communication Skills I	Semester 2	CCM1112	5
Computer Skills I	Semester 1	CCP1111	10
Drawing I	Semester 1	CDR1111	10
Drawing II	Semester 2	CDR2212	10
Management (Civil) I	Semester 2	CMC1212	10
Construction Methods I	Semester 2	CME1112	10
Construction Materials I	Semester 1	COM1111	10
Surveying I	Semester 1	CSU1111	10
Surveying (Civil) II	Semester 2	CSU2212	5
Theory of Structures II	Semester 2	CTS2212	10
Mathematics I	Semester 1	WIC1101	10

		Presented	Module Code	Credit Value
	Mathematics II	Semester 2	WIC2302	10
	Credits First Year			120
		Presented	Module Code	Credit Value
Second Year (one-year experiential training)				
Compulsory modules:				
	Engineering Practice: Civil II	Semester 1 or Semester 2	CEP2311 or CEP2312	60
	Engineering Practice: Civil III	Semester 1 or Semester 2	CEP3311 or CEP3312	60
	Credits Second Year			120
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Documentation III		CDO3422	
	Civil Engineering Documentation III	Semester 2	CDOA342	5
	Civil Engineering Project III (<i>Major</i>)	Semester 2	CDOB342	5
	Geotechnical Engineering II	Semester 1	CGE2311	10
	Geotechnical Engineering III	Semester 2	CGE3412	10
	Management (Civil) II	Semester 1	CMC2311	10
	Reinforced Concrete and Masonry Design II	Semester 1	CRC3311	10
	Structural Analysis II	Semester 1	CSA2311	5
	Structural Analysis III	Semester 2	CSA3412	5
	Structural Steel and Timber Design III	Semester 2	CSS3412	10
	Transportation Engineering II	Semester 1	CTE2311	10
	Transportation Engineering III	Semester 2	CTE3412	10
	Hydraulics II	Semester 1	CWEA231	7.5
	Water and Waste Water Treatment II	Semester 1	CWEB231	7.5
	Stormwater Design III	Semester 2	CWEA342	7
	Water and Sewage Reticulation III	Semester 2	CWEB342	8
	Credits Third Year			120
	Total Credits			360
Note:				
<ul style="list-style-type: none"> Admission to these offerings in an order different to that set out above is subject to approval by the Head of Department. No timetable clashes will be permitted. Refer to the 'phase-out' schedule available from the Department. 				

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed prerequisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Prerequisites	Co-requisites
Drawing I	CDR1111/2		CSU1111/2
Surveying I	CSU1111/2		CDR1111/2
Construction Methods I	CME1111/2	COM1111/2	
Drawing II	CDR2211/2	CDR1111/2 and CCP1111/2	
Mathematics II	WIC2301/2	WIC1101/2	
Surveying (Civil) II	CSU2211/2	CSU1111/2	
Theory of Structures II	CTS2211/2	CAM1111/2	
Geotechnical Engineering II	CGE2311/2	COM1111/2	
Hydraulics II	CWEA231/2	CAM1111/2	
Management (Civil) II	CMC2311/2	CMC1211/2	
Reinforced Concrete and Masonry Design III	CRC3311/2	CTS2211/2	CSA2311/2
Structural Analysis II	CSA2311/2	CTS2212	
Transportation Engineering II	CTE2311/2		CSU2211/2 and CDR2211/2
Civil Engineering Documentation III	CDOA341/2	CMC2311/2	CDOB341/2
Civil Engineering Project III	CDOB341/2	CTE2311/2 and CDR2211/2	CWEA341/2 and CWEB341/2 and CDOA341/2
Geotechnical Engineering III	CGE3411/2	CGE2311/2	
Stormwater Design III	CWEA341/2	CWEA231/2	
Structural Analysis III	CSA3411/2	CSA2311/2	
Structural Steel and Timber Design III	CSS3411/2	CSA2311/2	CSA3411/2
Transportation Engineering III	CTE3411/2		CGE2311/2
Water and Sewage Reticulation III	CWEB341/2	CWEA231/2	CDOB341/2

6.5 NATIONAL DIPLOMA IN ENGINEERING: ELECTRICAL (NO NEW INTAKE)

Qualification code:	3366
Offering:	Full-time North Campus (01)
Aligned NQF Level:	6
SAQA ID:	87117
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Persons achieving this qualification will be competent to apply engineering principles and well-defined problem-solving techniques in the field of electrical engineering by operating within relevant standards and codes.

Qualification objectives:

The qualified diplomat must be able to:

- demonstrate the ability to apply theory and practical hand skills in electrical engineering activities and applications;
- install, assemble, commission and maintain electrical engineering equipment or functions within applicable standards and codes of practice;
- apply technical knowledge and analytical skills to diagnose problems in electrical equipment or systems and develop appropriate solutions;
- demonstrate the ability to apply the principles of entrepreneurship when developing design solutions to engineering problems;
- plan and supervise tasks and projects considering all the appropriate technical and non-technical aspects;
- act independently and/or in a team, under supervision and, where appropriate, exhibit professional integrity.
- communicate effectively;
- register with ECSA as a Candidate Professional Engineering Technician in the field of Electrical Engineering.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Admission Points Score of 34.
- Minimum NSC requirements for diploma entry must be met.
- English, Afrikaans or isiXhosa (home language or first additional language) on at least level 3 (40-49%).
- NSC achievement rating of at least 4 (50-59%) for Mathematics.
- NSC achievement rating of at least 4 (50-59%) for Physical Sciences.
- Applicants with an Admission Points Score between 26 and 33 may be referred to write the Access Assessment Battery before a decision is made on whether or not to admit the applicant to the course.
- **Or** A 60% pass in N3 Engineering Mathematics and Engineering Science plus Grade 12 Languages.
- Testing includes Extended Diploma in Electrical Engineering.

Recommended NCV Subjects

The National Certificate Vocational Level 4 with the following minimum pass mark in the following subjects:

- 50% in the three Fundamental subjects: English, Mathematics, Life Orientation; and
- 50% in the Compulsory subject Physical Sciences; and
- 50% in any two other Compulsory subjects.

RE-ADMISSION REQUIREMENTS

Period	Total credits passed	Outcome
After one semester	30 credits and more	Students are allowed to continue.
	Less than 30 credits	Registration in semester two will be conditional.
After two semesters	60 credits and more	Students are allowed to continue.
	Less than 60 credits	Re-admission denied.*
After four semesters (2 years)	120 credits and more	Students are allowed to continue.
	100-119 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 100 credits	Re-admission denied.*
After six semesters (3 years)	192 credits and more	Students are allowed to continue.
	144-191 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 144 credits	Re-admission denied.*
After eight semesters (4 years)	240 credits and more	Final-year students are allowed to continue.
	Less than 240 credits and non-final year students	Apply individual consideration; final-year students should not be denied re-admission.
After ten semesters		Only final-year students would be considered.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

That only one (1) registration (intake) per year be implemented as from 2014 until 2017 for the abovementioned programmes.

From 2017 until Teach-Out date (end of 2022) only Semester 1 and Semester 3 modules will be offered in Semester 1 and Semester 2 and Semester 4 modules in Semester 2 of an Academic year.

STATUTORY AND OTHER REQUIREMENTS*Obtaining the qualification:*

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following module shall be regarded as the major module: Design Project III.

Pass-on-link:

The pass-on link criteria as stipulated in the General Prospectus will be applied to the following modules:

- Digital Systems I (EDS1111) to Digital Systems II (EDS2112)
- Electronics I (EEL1011) to Electronics II (EEL2012)
- Electrical Engineering I (ENG1311) to Electrical Engineering II (ENG2012)

DURATION

The qualification shall extend over at least three years of full-time study. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2017.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
	Communication Skills I	Semester 1	CCM1111	6
	Computer Skills I	Semester 1	CCP1111	6
	Digital Systems I	Semester 1	EDS1111	12
	Electronics I	Semester 1	EEL1011	12
	Electrical Engineering I	Semester 1	ENG1311	12
	Mathematics I	Semester 1	WIS1111	12
	Electronics II	Semester 2	EEL2012	12
	Electrical Engineering II	Semester 2	ENG2012	12
	Project I	Semester 2	EPJ1012	12
	Digital Systems II	Semester 2	EDS2112	12
	Mathematics II	Semester 2	WIS2112	12
	Credits First Year			120

		Presented	Module Code	Credit Value
Second Year				
Compulsory modules:				
	Design Project III (<i>Major</i>)	Semester 1 or Semester 2	EDP3012	12
Select nine of the following modules in consultation with the Head of Department:				
	Digital Systems III	Semester 1	EDS3111	12
	Electrical Machines II	Semester 1	EEM2111	12
	Industrial Electronics II	Semester 1	EIE2011	12
	Electrical Engineering III	Semester 1	ENG3111	12
	Mathematics III	Semester 1 or Semester 2	WIS3111	12
	Electronics III	Semester 1	EEL3011	12
	Electronic Communication II	Semester 1	EEC2111	12
	Software Design II	Semester 1	ESW2011	12
	Electrical Machines III	Semester 2	EEM3012	12
	Power Electronics III	Semester 2	EPE3012	12
	Electrical Protection III	Semester 2	EPR3012	12
	Radio Engineering III	Semester 2	ERE3012	12
	Control Systems II	Semester 2	ECS2012	12
	Software Design III	Semester 2	ESW3012	12
	Credits Second Year			120
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Electrical Engineering Practice I	Semester 1 or Semester 2	EEP1211 or EEP1212	60
Select one of the following modules:				
	Electrical Engineering Practice II	Semester 1 or Semester 2	EEP2211 or EEP2212	60
	Electronic Engineering Practice II	Semester 1 or Semester 2	ELP2211 or ELP2212	60
	Credits Third Year			120
	Total Credits			360
Please note:				
<ul style="list-style-type: none"> A total of 2 modules may be taken from another Engineering qualification subject to approval by the relevant Head of Department and provided that the total number of credits 				

	Presented	Module Code	Credit Value
<p>for the qualification is adhered to.</p> <ul style="list-style-type: none"> • Refer to the 'phase-out' schedule available from the Department. • To register for Electrical Engineering Practice I (P1), a student must have at least completed all of the first-year modules according to the curriculum, which amounts to 120 credits. • To register for Electrical Engineering Practice II or Electronic Engineering Practice II (P2), a student must have at least completed: <ul style="list-style-type: none"> ○ Electrical Engineering Practice I (P1); and ○ 80% of the modules from the second year according to the curriculum, which amounts to a further 96 credits. 			

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed prerequisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Prerequisites	Co-requisites
Digital Systems II	EDS2112	EDS1111/2	
Electronics II	EEL2012	EEL1011/2	
Electrical Engineering II	ENG2012	ENG1311/2	
Project I	EPJ1012	EEL1011/2 and ENG1311/2	
Mathematics II	WIS2112	WIS1111/2	
Design Project III*	EDP3011/2	EDS3111/2 or EEL3011/2 or ENG3111/2	
Digital Systems III	EDS3111/2	EDS2111/2	
Electronic Communication II	EEC2111/2	EEL1011/2 and ENG1311/2	
Electronics III	EEL3011/2	EEL2011/2	
Electrical Machines II	EEM2111/2	ENG2011/2	
Industrial Electronics II	EIE2011/2	EEL1011/2 and ENG2011/2	
Electrical Engineering III	ENG3111/2	ENG2011/2	
Software Design II	ESW2011/2	CCM1111/2 and CCP1111/2 and WIS1111/2 and EDS1111/2 and EEL1011/2 and ENG1311/2	
Mathematics III	WIS3111/2	WIS2111/2	
Control Systems II	ECS2011/2	CCP1111/2 and EDS2111/2 and EEL2011/2 and ENG2011/2	
Electrical Machines III	EEM3011/2	EEM2111/2	

Module	Code	Prerequisites	Co-requisites
Power Electronics III	EPE3011/2	EIE2011/2	
Electrical Protection III	EPR3011/2	ENG2011/2	
Radio Engineering III	ERE3011/2	EEC2111/2	
Software Design III	ESW3011/2	ESW2011/2	

CURRICULUM SPECIALISATION AREAS

Even though Nelson Mandela University only offers one National Diploma: Engineering: Electrical qualification, this can be obtained by taking modules within three sub-disciplines of Electrical Engineering, namely, Power Systems, Digital/Industrial Automation Systems and Electronic Communication Systems. To obtain the National Diploma: Engineering: Electrical from Nelson Mandela University and work in one of these specialised areas/sub-disciplines, the recommended combination of modules taken at the appropriate levels should be as follows:

POWER SYSTEMS			
Choose the following modules			
Electrical Machines II	EEM2111/2	Design Project III	EDP3011/2
Industrial Electronics II	EIE2011/2	Electrical Machines III	EEM3011/2
Electrical Engineering III	ENG3111/2	Power Electronics III	EPE3011/2
Software Design II	ESW2011/2	Electrical Protection III	EPR3011/2
Mathematics III	WIS3111/2	Control Systems II	ECS2011/2

INDUSTRIAL AUTOMATION SYSTEMS			
Choose the following modules			
Digital Systems III	EDS3111/2	Design Project III	EDP3011/2
Electronics III	EEL3011/2	Electrical Machines II	EEM2011/2
Industrial Electronics II	EIE2011/2	Power Electronics III	EPE3011/2
Software Design II	ESW2011/2	Software Design III	ESW3011/2
Mathematics III	WIS3111/2	Control Systems II	ECS2011/2

ELECTRONIC COMMUNICATIONS			
Choose the following modules			
Digital Systems III	EDS3111/2	Design Project III	EDP3011/2
Electronic Communication II	EEC2111/2	Radio Engineering III	ERE3011/2
Electronics III	EEL3011/2	Control Systems II	ECS2011/2
Software Design II	ESW2011/2	Software Design III	ESW3011/2
Mathematics III	WIS3111/2	Industrial Electronics II	EIE2011/2

6.6

**NATIONAL DIPLOMA (ENGINEERING: INDUSTRIAL)
(NO NEW INTAKE)**

Qualification code:	3706
Offering:	Full-time North Campus (01)
Aligned NQF Level:	6
SAQA ID:	87118
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

- Persons achieving this qualification will be able, independently as well as under supervision, to analyse and solve well-defined and lower-level open-ended manufacturing and service-related problems through the application of accepted Industrial Engineering techniques.
- They will be able to assess simple systems and calculate expected system performance. The qualification is intended for engineering practitioners in industry.
- The qualified person will be able to register with the Engineering Council of South Africa (ECSA) as a Technician-in-Training in the field of Industrial Engineering.

Qualification Objectives:

- To enable students to solve well defined problems and improve systems in both the manufacturing and service sectors of industry. This results in cheaper, better quality products and services for on-time delivery to customers.
- Apply industrial engineering techniques and principles to analyse manufacturing and service-related operational problems.
- Develop and recommend alternatives for improving manufacturing and service-related operational problems.
- Design and develop simple manufacturing and service-related systems.
- Communicate effectively in a technological environment.
- Apply management principles in manufacturing or service environment.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Admission Points Score of 34.
- Minimum NSC requirements for diploma entry must be met.
- English, Afrikaans or isiXhosa (home language or first additional language) on at least level 3 (40-49%).
- NSC achievement rating of at least 4 (50-59%) for Mathematics.
- NSC achievement rating of at least 4 (50-59%) for Physical Sciences.
- Applicants with an Admission Points Score between 26 and 33 may be referred to write the Access Assessment Battery before a decision is made on whether or not to admit the applicant to the course.
- **Or** An N3 Certificate with a minimum of 50% in Mathematics and Engineering Science and two languages at senior certificate level.
- If an applicant has not taken the optional Mathematics topics, additional modules may be added to the qualification, which may extend the duration of study.

RE-ADMISSION REQUIREMENTS

Period	Total credits passed	Outcome
After one semester	30 credits and more	Students are allowed to continue.
	Less than 30 credits	Registration in semester two will be conditional.
After two semesters	60 credits and more	Students are allowed to continue.
	Less than 60 credits	Re-admission denied.*
After four semesters (2 years)	120 credits and more	Students are allowed to continue.
	100-119 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 100 credits	Re-admission denied.*
After six semesters (3 years)	192 credits and more	Students are allowed to continue.
	144-191 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 144 credits	Re-admission denied.*
After eight semesters (4 years)	240 credits and more	Final-year students are allowed to continue.
	Less than 240 credits and non-final year students	Apply individual consideration; final-year students should not be denied re-admission.
After ten semesters		Only final-year students would be considered.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

That only one (1) registration (intake) per year be implemented as from 2014 until 2017 for the abovementioned programmes.

From 2017 until Teach-Out date (end of 2022) only Semester 1 and Semester 3 modules will be offered in Semester 1 and Semester 2 and Semester 4 modules in Semester 2 of an Academic year.

STATUTORY AND OTHER REQUIREMENTS*Obtaining the qualification:*

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following module shall be regarded as the major module: Engineering Workstudy III

Pass-on-link:

The pass-on link criteria as stipulated in the General Prospectus (~~G1.6.12.2.1~~) will be applied to the following modules:

- Engineering Work Study I (IEW1111) to Engineering Work Study II (IEW2212)
- Production Engineering I (IPI1111) to Production Engineering II (IPI2212)
- Mechanical Engineering Drawing I (MED1111) to Computer-Aid Drafting I (MCD1312)
- Mechanical Manufacturing Engineering I (MNE1111) to Mechanical Manufacturing Engineering II (MNE2212)

The qualification structure for the National Diploma consists of 2 years' academic training and 1 year of experiential training.

DURATION

The qualification shall extend over at least three years of full-time study. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2017.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Communication Skills I	Semester 1	CCM1111	5
Computer Skills I	Semester 1	CCP1111	5
Engineering Work Study I	Semester 1	IEW1111	10
Engineering Work Study II	Semester 2	IEW2212	10
Production Engineering: Industrial I	Semester 1	IPI1111	10
Production Engineering: Industrial II	Semester 2	IPI2212	10
Qualitative Techniques I	Semester 1 Semester 2	IQT1211 IQT1212	10
Computer Aided Drafting I	Semester 2	MCD1312	10
Mechanics I	Semester 2	MEC1112	10
Mechanical Engineering Drawing I	Semester 1	MED1111	10
Mechanical Manufacturing Engineering I	Semester 1	MNE1111	10
Mechanical Manufacturing Engineering II	Semester 2	MNE2212	10
Mathematics I	Semester 1	WIS1111	10
Select one of the following modules:			
Motor Vehicle Engineering I	Semester 1	MVE1111	10
Mathematics II	Semester 2	WIS2112	10
Credits First Year			120

		Presented	Module Code	Credit Value
Second Year				
Compulsory modules:				
	Automation III	Semester 1 or Semester 2	IAT3111 or IAT3112	10
	Engineering Workstudy II (<i>Major</i>)	Semester 2	IEW3312	10
	Industrial Accounting III	Semester 2	IIB3112	10
	Costing II	Semester 1	IKM2111	10
	Industrial Leadership III	Semester 2	ILS3112	10
	Facility, Layout And Materials Handling II	Semester 1	IMH2111	10
	Manufacturing Relations II	Semester 1	IMR2111	10
	Operational Research III	Semester 2	ION3112	10
	Quality Assurance II	Semester 2	IQA2112	10
Select two of the following modules:				
	Computer and Programming Skills I	Semester 1	CCP1411	10
	Mechanical Manufacturing Engineering III	Semester 2	MNE3312	10
	Strength Of Materials II	Semester 2	MSM2212	10
	Strength Of Materials III	Semester 1	MSM3211	10
	Mathematics III	Semester 1 or Semester 2	WIS3301 or WIS3302	10
	Credits Second Year			120
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Industrial Engineering Practice I	Semester 1 or Semester 2	IIE1211 or IIE1212	60
	Industrial Engineering Practice II	Semester 1 or Semester 2	IIE2211 or IIE2212	60
	Credits Third Year			120
	Total Credits			360

Please note:

- The modules listed above are required for entrance to the Bachelor of Technology: Industrial Engineering and meet the standards laid down for registration with the Engineering Council of South Africa (ECSA). Other options are available and can be discussed with the relevant Head of Department.
- Refer to the 'phase-out' schedule available from the Department.
- A total of 2 modules may be taken from another Engineering qualification subject to approval by the Head of Department and provided that the total number of credits for the qualification is adhered to.

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed prerequisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Prerequisites	Co-requisites
Computer Aided Drafting I	MCD1312	MED1111	
Engineering Work Study II	IEW2212	IEW1111	
Mathematics II	WIS2112	WIS1111	
Mechanical Manufacturing Engineering II	MNE2212	MNE1111	
Production Engineering: Industrial II	IPI2212	IPI1111	
Automation III	IAT3111/2	MCD1311/2 and MNE2211/2	
Mathematics III	WIS3301/2	WIS2111/2	
Quality Assurance II	IQA2111/2	IQT1211/2	
Strength Of Materials II	MSM2211/2	MEC1111 and WIS1111	
Engineering Workstudy III	IEW3311/2	IEW2211/2 and MNE2211/2	
Facility, Layout And Materials Handling II	IMH2111/2	MCD1311/2 and IEW1111/2	
Industrial Accounting III*	IIB3111/2	IKM2111/2	
Mechanical Manufacturing Engineering III	MNE3311/2	MNE2211/2	
Strength Of Materials III	MSM3211/2	MSM2211/2	
Operational Research III	ION3111/2	WIS1111/2 and IPI2211/2	

**6.7 NATIONAL DIPLOMA (ENGINEERING: MECHANICAL)
(NO NEW INTAKE)**

Qualification code:	3718
Offering:	Full-time North Campus (01)
Aligned NQF Level:	6
SAQA ID:	87119
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

- Diplomats achieving this qualification will be able to integrate, independently as well as under supervision, analytical and practical engineering techniques and engineering knowledge to solve well-defined engineering problems. They will also be able to select criteria to judge processes and outcomes. This qualification is intended for engineering practitioners in industry.

- The diplomats will be able to register with the Engineering Council of South Africa (ECSA) as a Technician-In-Training in the field of Mechanical Engineering.
- Qualification Objectives:
- Apply mechanical engineering principles to diagnose and solve engineering problems.
- Demonstrate mechanical engineering knowledge and skills in one or more specialised areas.
- Engage in mechanical engineering design work individually and as part of a team.
- Communicate effectively in a technological environment.
- Apply management principles in an engineering environment.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes.

- Admission Points Score of 34.
- Minimum NSC requirements for diploma entry must be met.
- English, Afrikaans or isiXhosa (home language or first additional language) on at least level 3 (40-49%).
- NSC achievement rating of at least 4 (50-59%) for Mathematics.
- NSC achievement rating of at least 4 (50-59%) for Physical Sciences.
- Applicants with an Admission Points Score between 26 and 33 may be referred to write the Access Assessment Battery before a decision is made on whether or not to admit the applicant to the course. **Or**
- An N3 Certificate with a minimum of 60% in Mathematics and Engineering Science and 50% for any other electives.
- Recommended NSC subjects: Engineering Graphics and Design

RE-ADMISSION REQUIREMENTS

Period	Total credits passed	Outcome
After one semester	30 credits and more	Students are allowed to continue.
	Less than 30 credits	Registration in semester two will be conditional.
After two semesters	60 credits and more	Students are allowed to continue.
	Less than 60 credits	Re-admission denied.*
After four semesters (2 years)	120 credits and more	Students are allowed to continue.
	100-119 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 100 credits	Re-admission denied.*
After six semesters (3 years)	192 credits and more	Students are allowed to continue.
	144-191 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 144 credits	Re-admission denied.*
After eight semesters (4 years)	240 credits and more	Final-year students are allowed to continue.
	Less than 240 credits and	Apply individual consideration; final-

	non-final year students	year students should not be denied re-admission.
After ten semesters		Only final-year students would be considered.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career options.

That only one (1) registration (intake) per year be implemented for semester 1 modules as from 2014 until 2017 for the abovementioned programmes.

From 2017 until Teach-Out date (end of 2022) only selected Semester 1 and Semester 3 modules will be offered in Semester 1, and selected Semester 2 and Semester 4 modules in Semester 2 of an Academic year.

STATUTORY AND OTHER REQUIREMENTS

Minimum attendance:

Due to the practical nature of the classes offered, students have to attend a minimum of 80% of normal lectures to gain permission to sit for the examination, unless special leave is granted.

Recognition of modules done at other tertiary institutions:

The Department will consider modules done at other tertiary institutions for exemption according to the General Prospectus and Rules of Nelson Mandela University, subject to the following criteria.

In all cases where exemptions are being contemplated, requests to do so must be lodged in writing with the HOD before registration at the other tertiary institution takes place. Where the applicants cannot meet the criteria below, they will be advised to arrange for the diploma to be awarded through the other tertiary institution.

- A candidate may only be exempted from modules with a cumulative credit value of not more than half of the total credit value of the relevant qualification.
- Level III modules will not be exempted. However, in cases where a student has entered for all level III modules but has failed a limited number of these, and in the subsequent study period is employed in an area remote from Port Elizabeth, an exception may be made by the Faculty Management Committee.
- In such cases, the equivalent module done at the other tertiary institution may be exempted, but this will apply only to a maximum of half of the total credit value of the exit-level modules.

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following modules shall be regarded as the major modules:

- Applied Strength of Materials III
- Hydraulic Machines III
- Steam Plant III
- Mechanical Engineering Design III

		Presented	Module Code	Credit Value
Second Year				
Compulsory modules:				
	Communication in Practice: Module B (coupled to MDE3211/2)	Semester 2	CCM1422	5
	Computer and Programming Skills I	Semester 2	CCP1412	10
	Mechanical Engineering Design II	Semester 1	MDE2211	10
	Mechanical Engineering Design III (<i>Major</i>) (coupled to CCM1422)	Semester 2	MDE3212	10
	Electrotechnology I	Semester 1	MET1111	10
	Fluid Mechanics III	Semester 1	MFM3211	10
	Hydraulic Machines III (<i>Major</i>)	Semester 2	MHM3112	10
	Mechanics of Machines III	Semester 2	MMB3212	10
	Strength of Materials III	Semester 2	MSM3222	10
	Applied Strength of Materials III (<i>Major</i>)	Semester 2	MST3112	10
	Steam Plant III (<i>Major</i>)	Semester 2	MTD3112	10
	Thermodynamics III	Semester 1	MTH3211	10
	Mathematics III	Semester 1	WIS3111	10
	Credits Second Year			125
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Mechanical Engineering Practice I	Semester 1 or Semester 2	MEP1011 or MEP1012	60
	Mechanical Engineering Practice II	Semester 1 or Semester 2	MEP2011 or MEP2012	60
	Credits Third Year			120
	Total Credits			360
A maximum of 90 credits at level 1 are allowed.				
Note:				
<ul style="list-style-type: none"> • With regards to Mechanical Engineering Practice I and II, please refer to the logbook for detailed guidelines and other criteria. • A total of 2 modules may be taken from another Engineering qualification subject to approval by the Head of Department and provided that the total number of credits for the qualification is adhered to. • Refer to the 'phase-out' schedule available from the Department. 				

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Prerequisites	Co-requisites
Communication Principles: Module A	CCM1222	MED1111	
Computer Aided Drafting I	MCD1312	MEC1111 and WIS1111/2	
Fluid Mechanics II	MFL2212	MEC1111 and WIS1111/2	
Mechanics of Machines II	MMB2212	WIS1111/2	
Mathematics II	WIS2111/2	MEC1111 and WIS1111/2	
Strength of Materials II	MSM2212	MEC1111 and WIS1111/2	
Fluid Mechanics III	MFM3211/2	MFL2212	
Mechanical Engineering Design II	MDE2211/2	MED1111 and MSM2212 and MEC1111	
Mathematics III	WIS3111/2	WIS2111/2	
Strength of Materials III	MSM3221/2	MSM2212	
Thermodynamics III	MTH3211/2	MTH2212	
Mechanics of Machines III	MMB3211/2	MMB2212	
Applied Strength of Materials III	MST3111/2	MSM3221/2	
Hydraulic Machines III	MHM3111/2	MFM3211/2	
Mechanical Engineering Design III	MDE3211/2	MEC1111 and WIS1111/2 and MSM2212 and MMB2212 and MDE2211/2	
Steam Plant III	MTD3111/2	MTH3211/2	
Communication in Practice: Module B (coupled to MDE3211/2)	CCM1421/2	CCM1221/2	

**6.8 NATIONAL DIPLOMA
(INFORMATION TECHNOLOGY: COMMUNICATION NETWORKS)
(NO NEW INTAKE)**

Qualification code:	3227
Offering:	Full-time North Campus (01)
Aligned NQF Level:	6
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Design, develop, implement and manage networks by integrating knowledge of modern network topologies and protocols to create an appropriate and adequate environment of communication and information sharing.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Admission Points Score of 32.
- Minimum NSC requirements for diploma entry must be met.
- English, Afrikaans or isiXhosa (home language or first additional language) on at least level 3 (40-49%).
- NSC achievement rating of at least 3 (40-49%) for Mathematics.
- Applicants with an Admission Points Score between 26 and 31 may be referred to write the Access Assessment Battery before a decision is made on whether or not to admit the applicant to the course.
- Recommended NSC subjects:
 - Computer Applications Technology AND/OR Information Technology

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be

Period	Total Credits Passed	Outcome
		reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

* An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career options.

Note: Students shall generally only be admitted to the third year of study after having completed all modules prescribed for the first year of study.

STATUTORY AND OTHER REQUIREMENTS*Obtaining the qualification:*

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus.

The following modules shall be regarded as the major modules:

- Distributed Systems III A: Network Operating Systems
- Distributed Systems III B: Project
- Communication Networks III A
- Communication Networks III B

A maximum of 60 credits in the curriculum may be substituted subject to approval from the School Management Committee and the requirements of the NATED 151.

DURATION

The qualification shall extend over a minimum of three years of full-time study. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2023.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Information Technology Skills I	Year	ITS1110	30
Development Software I	Year	ONT1000	30
Systems Software I: Networks	Year	WC11600	15
Systems Software I: IT Essentials	Semester 1	WC11601	15
Information Systems IA	Year	WIH1370	15
Information Systems IB	Year	WIH1380	15
Credits First Year			120
	Presented	Module Code	Credit Value
Second Year			
Compulsory modules:			
Digital Systems I	Semester 2	CII2012	15
Mathematics	Semester 1	CII2021	15
Distributed Systems II	Year	CNW2110	30
Development Software II	Year	ONT2000	30
Communication Networks IIA	Semester 1	WCN2111	15

		Presented	Module Code	Credit Value
	Communication Networks IIB	Semester 2	WCN2112	15
	Credits Second Year			120
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Digital Systems II	Semester 1	CII3011	15
	Digital Systems III	Semester 2	CII3012	15
	Distributed Systems III A: Network Operating Systems (<i>Major</i>)	Semester 1	CNW3011	15
	Distributed Systems III B: Project (<i>Major</i>)	Semester 2	CNW3012	15
	Support Services II	Year	SSO2000	30
	Communication Networks III A (<i>Major</i>)	Semester 1	WCN3011	15
	Communication Networks III B (<i>Major</i>)	Semester 2	WCN3012	15
	Credits Third Year			120
	Total Credits			360

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Prerequisites	Co-requisites
Distributed Systems II	CNW2110	WCI1601	
Development Software II	ONT2000	ONT1000	
		SDS1000	
Communication Networks IIA	WCN2111	WCI1600	
Communication Networks IIB	WCN2112	WCN2111	
Digital Systems II	CII3011	CII2012	
Digital Systems III	CII3012	CII3011	
Distributed Systems III A: Network Operating Systems	CNW3011	CNW2110	
		SSI2000	
Distributed Systems III B: Project	CNW3012	WCN2112	
Support Services II	SSO2000	WCI1601	
		WIH1370	
Communication Networks III A	WCN3011	WCN2112	
Communication Networks III B	WCN3012	WCN3011	

6.9

DIPLOMA (INFORMATION TECHNOLOGY: COMMUNICATION NETWORKS)

Qualification code:	7227
Offering:	Full-time North Campus (01)
Aligned NQF Level:	6
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Design, develop, implement and manage networks by integrating knowledge of modern network topologies and protocols to create an appropriate and adequate environment of communication and information sharing.

ADMISSION REQUIREMENTS:

- Applicant Score of 330 with Maths, 330 with Technical Maths
- Minimum NSC requirements for diploma entry must be met.
- NSC achievement percentage of at least 45% for Maths/Technical Maths

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.

Period	Total Credits Passed	Outcome
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

* An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career options.

Note: Students shall generally only be admitted to the third year of study after having completed all modules prescribed for the first year of study.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following modules shall be regarded as the major modules:

- Distributed Systems III A: Network Operating Systems
- Distributed Systems III B: Project
- Communication Networks III A
- Communication Networks III B

A maximum of 60 credits in the curriculum may be substituted subject to approval from the School Management Committee and the requirements of the NATED 151.

DURATION

The qualification shall extend over a minimum of three years of full-time study. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
	Information Technology Skills I	Year	ITS1010	30
	Development Software I	Year	ONT1030	30
	Systems Software I: Networks	Year	WCI1010	15
	Systems Software I: IT Essentials	Semester 1	WCI1011	15
	Information Systems IA	Year	WIH1020	15
	Information Systems IB	Year	WIH1040	15
	Credits First Year			120
		Presented	Module Code	Credit Value
Second Year				
Compulsory modules:				
	Digital Systems I	Semester 2	CII2022	15
	Mathematics	Semester 1	CII2031	15
	Distributed Systems II	Year	CNW2120	30
	Development Software II	Year	ONT2030	30
	Communication Networks IIA	Semester 1	WCN2131	15
	Communication Networks IIB	Semester 2	WCN2132	15
	Credits Second Year			120
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Digital Systems II	Semester 1	CII3021	15
	Digital Systems III	Semester 2	CII3022	15
	Distributed Systems III A: Network Operating Systems (<i>Major</i>)	Semester 1	CNW3021	15
	Distributed Systems III B: Project (<i>Major</i>)	Semester 2	CNW3022	15
	Support Services II	Year	SSO2010	30
	Communication Networks III A (<i>Major</i>)	Semester 1	WCN3021	15
	Communication Networks III B (<i>Major</i>)	Semester 2	WCN3022	15
	Credits Third Year			120
	Total Credits			360

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module		Prerequisite	
Name	Code	Name	Code
Distributed Systems II	CNW2120	Systems Software I: IT Essentials	WCI1011
Development Software II	ONT2030	Development Software I	ONT1030/ SDS1030
Communication Networks IIA	WCN2131	Systems Software I: Networks & CCNA1 Certificate	WCI1010
Communication Networks IIB	WCN2132	Communication Networks IIA	WCN2131
Digital Systems II	CII3021	Digital Systems I	CII2022
Digital Systems III	CII3022	Digital Systems II	CII3021
Distributed Systems III A: Network Operating Systems	CNW3021	Distributed Systems II/ Systems Software II	CNW2120/ SSI2010
Distributed Systems III B: Project	CNW3022	Communication Networks IIB	WCN2132
Support Services II	SSO2010	Systems Software I: IT Essentials & Information Systems IA	WCI1011 & WIH1020
Communication Networks III A	WCN3021	Communication Networks IIB	WCN2132
Communication Networks III B	WCN3022	Communication Networks III A	WCN3021

6.10	NATIONAL DIPLOMA (INFORMATION TECHNOLOGY: SOFTWARE DEVELOPMENT) (NO NEW INTAKE)
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Qualification code:	3224
Offering:	Full-time North Campus (01)
Aligned NQF Level:	6
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Designing and producing software products and systems to meet specified needs so that they work reliably and their production and maintenance is cost effective.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes

- Admission Points Score of 32.
- Minimum NSC requirements for diploma entry must be met.
- English, Afrikaans or isiXhosa (home language or first additional language) on at least level 3 (40-49%).
- NSC achievement rating of at least 2 (30-39%) for Mathematics or 4 (50-59%) for Mathematical Literacy.
- Applicants with an Admission Points Score between 26 and 31 may be referred to write the Access Assessment Battery before a decision is made on whether or not to admit the applicant to the course.
- Recommended NSC subjects:
 - Computer Applications Technology OR Information Technology

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in

Period	Total Credits Passed	Outcome
		second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

* An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career options.

Note: Students shall generally only be admitted to the third year of study after having completed all modules prescribed for the first year of study.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following modules shall be regarded as the major modules:

- Development Software III: C#
- Development Software III: Project
- Information Systems III: Systems Analysis and Design
- Information Systems III: Advanced Design
- Information Systems III: Project Management

A maximum of 60 credits in the curriculum may be substituted subject to approval from the School Management Committee and the requirements of the NATED 151.

DURATION

The qualification shall extend over a minimum of three years of full-time study. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2023.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
	Information Technology Skills I	Year	ITS1110	30
	Development Software I	Year	ONT1000	30
	Systems Software I: Networks	Year	WCI1600	15
	Systems Software I: IT Essentials	Semester 1	WCI1601	15
	Information Systems IA	Year	WIH1370	15
	Information Systems IB	Year	WIH1380	15
	Credits First Year			120
		Presented	Module Code	Credit Value
Second Year				
Compulsory modules:				
	Internet Programming II	Year	ITP2000	30
	Development Software II	Year	ONT2000	30
	Technical Programming I	Year	PRT1000	30
	Information Systems II	Year	WIH2100	30
	Credits Second Year			120
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Development Software III: C# (<i>Major</i>)	Semester 1	ONT3601	15
	Development Software III: Project (<i>Major</i>)	Year	ONT3660	15
	Technical Programming II	Year	PRT2110	30
	Graphical User Interface Design I	Year	SGU1000	30
	Information Systems III: Systems Analysis and Design (<i>Major</i>)	Semester 1	WIH3601	10
	Information Systems III: Advanced Design (<i>Major</i>)	Semester 2	WIH3602	10
	Information Systems III: Project Management (<i>Major</i>)	Semester 1	WIH3661	10
	Credits Third Year			120
	Total Credits			360

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Prerequisites	Co-requisites
Internet Programming II	ITP2000	ONT1000 or	
		SDS1000	
Development Software II	ONT2000	ONT1000 or	WIH2100
		SDS1000	
Technical Programming I	PRT1000	ONT1000 or	
		SDS1000	
Information Systems II	WIH2100	WIH1370 and	
		WIH1380	
Development Software III: Project	ONT3660	ONT2000 and	WIH3661
		WIH2100	
Development Software III: C#	ONT3601	ONT2000	
Technical Programming II	PRT2110	ONT2000 and	
		PRT1000	
Graphical User Interface Design I	SGU1000	ONT1000 or	
		SDS1000	
Information Systems III: System Analysis & Design	WIH3601	WIH2100	
Information Systems III: Advanced Design	WIH3602	WIH3601	
Information Systems III: Project Management	WIH3661	WIH2100	ONT3660

6.11 DIPLOMA (INFORMATION TECHNOLOGY: SOFTWARE DEVELOPMENT)

Qualification code:	7224
Offering:	Full-time North Campus (01)
Aligned NQF Level:	6
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Designing and producing software products and systems to meet specified needs so that they work reliably and their production and maintenance is cost effective.

ADMISSION REQUIREMENTS

- Applicant Score of 330 with Maths or 330 with Technical Maths or 345 with Maths Lit
- Minimum NSC requirements for diploma entry must be met.

- NSC achievement percentage of at least 45% for Maths/Technical Maths or 60% for Maths Lit

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.

Period	Total Credits Passed	Outcome
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

* An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career options.

Note: Students shall generally only be admitted to the third year of study after having completed all modules prescribed for the first year of study.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following modules shall be regarded as the major modules:

- Development Software III: C#
- Development Software III: Project
- Information Systems III: Systems Analysis and Design
- Information Systems III: Advanced Design
- Information Systems III: Project Management

A maximum of 60 credits in the curriculum may be substituted subject to approval from the School Management Committee and the requirements of the NATED 151.

DURATION

The qualification shall extend over a minimum of three years of full-time study. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Information Technology Skills I	Year	ITS1010	30
Development Software I	Year	ONT1030	30
Systems Software I: Networks	Year	WCI1010	15
Systems Software I: IT Essentials	Semester 1	WCI1011	15

		Presented	Module Code	Credit Value
	Information Systems IA	Year	WIH1020	15
	Information Systems IB	Year	WIH1040	15
	Credits First Year			120
		Presented	Module Code	Credit Value
Second Year				
Compulsory modules:				
	Internet Programming II	Year	ITP2020	30
	Development Software II	Year	ONT2030	30
	Technical Programming I	Year	PRT1030	30
	Information Systems II	Year	WIH2010	30
	Credits Second Year			120
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Development Software III: C# (<i>Major</i>)	Semester 1	ONT3001	15
	Development Software III: Project (<i>Major</i>)	Year	ONT3010	15
	Technical Programming II	Year	PRT2030	30
	Graphical User Interface Design I	Year	SGU1010	30
	Information Systems III: Systems Analysis and Design (<i>Major</i>)	Semester 1	WIH3001	10
	Information Systems III: Advanced Design (<i>Major</i>)	Semester 2	WIH3002	10
	Information Systems III: Project Management (<i>Major</i>)	Semester 1	WIH3061	10
	Credits Third Year			120
	Total Credits			360

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module		Prerequisite		Co-requisite	
Name	Code	Name	Code	Name	Code
Internet Programming II	ITP2020	Development Software I	ONT1030/ SDS1010		
Development Software II	ONT2030	Development Software I	ONT1030/ SDS1010	Information Systems II	WIH2010
Technical Programming I	PRT1000	Development Software I	ONT1030/ SDS1010		
Information	WIH2010	Information	WIH1020		

Module		Prerequisite		Co-requisite	
Name	Code	Name	Code	Name	Code
Systems II		Systems IA & 1B			
Development Software III: Project	ONT3010	Development Software II & Information Systems II	ONT2030 & WIH2010	Information Systems III: Project Management	WIH3061
Development Software III: C#	ONT3001	Development Software II	ONT2030		
Technical Programming II	PRT2030	Development Software II & Technical Programming I	ONT2030 & PRT1030		
Graphical User Interface Design I	SGU1010	Development Software I	ONT1030/ SDS1010		
Information Systems III: System Analysis & Design	WIH3001	Information Systems II	WIH2010		
Information Systems III: Advanced Design	WIH3002	Information Systems III: System Analysis & Design	WIH3001		
Information Systems III: Project Management	WIH3061	Information Systems II	WIH2010	Development Software III: Project	ONT3010

6.12 NATIONAL DIPLOMA (INFORMATION TECHNOLOGY: SUPPORT SERVICES) (NO NEW INTAKE)

Qualification code:	3228
Offering:	Full-time North Campus (01)
Aligned NQF Level:	6
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Identifies the various types of end users and explore their possible needs. These needs include support in the use of existing software packages, basic maintenance of computers and equipment, and support for the development of end users' own computer applications. Support Services also include management of information centres.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Admission Points Score of 32.
- Minimum NSC requirements for diploma entry must be met.

- English, Afrikaans or isiXhosa (home language or first additional language) on at least level 3 (40-49%).
- NSC achievement rating of at least 2 (30-39%) for Mathematics or 4 (50-59%) for Mathematical Literacy.
- Applicants with an Admission Points Score between 26 and 31 may be referred to write the Access Assessment Battery before a decision is made on whether or not to admit the applicant to the course.
- Recommended NSC subjects:
 - Computer Applications Technology OR Information Technology
OR
 - Higher Certificate in IT in User Support Services with an average of 60% or above. An applicant may be referred for assessment on the Access Assessment Battery and any other relevant assessment before an admission decision is reached.

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be

Period	Total Credits Passed	Outcome
		allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

* An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career options.

Note: Students shall generally only be admitted to the third year of study after having completed all modules prescribed for the first year of study.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following modules shall be regarded as the major modules: Information Systems III and Support Services III

A maximum of 60 credits in the curriculum may be substituted subject to approval from the School Management Committee and the requirements of the NATED 151.

Should you wish to continue to the B Tech: IT (Communication Networks), you will need to select the modules WCN3011 and WCN3012.

DURATION

The qualification shall extend over a minimum of three years of full-time study. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2023.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Development Software I	Year	SDS1000	30
Information Technology Skills I	Year	SIS1000	30
Systems Software I: Networks	Year	WC11600	15
Systems Software I: IT Essentials	Semester 1	WC11601	15
Information Systems IA	Year	WIH1370	15
Information Systems IB	Year	WIH1380	15
Credits First Year			120
	Presented	Module Code	Credit Value
Second Year			
Compulsory modules:			
Communication Networks IIA	Semester 1	WCN2111	15
Communication Networks IIB	Semester 2	WCN2112	15
Systems Software II	Year	SSI2000	30
Support Services II	Year	SSO2000	30
Information Systems II	Year	WIH2100	30
Credits Second Year			120
	Presented	Module Code	Credit Value
Third Year			
Compulsory modules:			
Information Systems III (<i>Major</i>)	Year	SIH3000	30
Installation Management III	Year	SIM3000	30
Support Services III (<i>Major</i>)	Year	SSO3000	30
Sub-total			90
Select 30 credits from the following modules:			
Graphical User Interface Design I	Year	SGU1000	30
Communication Networks III A	Semester 1	WCN3011	15
Communication Networks III B	Semester 2	WCN3012	15
Credits Third Year			120
Total Credits			360

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Prerequisites	Co-requisites
Communication Networks IIA	WCN2111	WCI1600	
Communication Networks IIB	WCN2112	WCN2111	
Systems Software II	SSI2000	WCI1601	
Support Services II	SSO2000	WCI1601 and WIH1370	
Information Systems II	WIH2100	WIH1370 and WIH1380	
Information Systems III	SIH3000	WIH2100	
Installation Management III	SIM3000	SSI2000	
Support Services III	SSO3000	SSO2000	
Graphical User Interface Design I	SGU1000	SDS1000 or ONT1000	
Communication Networks III A	WCN3011	WCN2112	
Communication Networks III B	WCN3012	WCN3011	

6.13 DIPLOMA (INFORMATION TECHNOLOGY: SUPPORT SERVICES)

Qualification code:	7228
Offering:	Full-time North Campus (01)
Aligned NQF Level:	6
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Identifies the various types of end users and explore their possible needs. These needs include support in the use of existing software packages, basic maintenance of computers and equipment, and support for the development of end users' own computer applications. Support Services also includes management of information centres.

ADMISSION REQUIREMENTS

- Applicant Score of 330 with Maths or 330 with Technical Maths or 345 with Maths Lit
- Minimum NSC requirements for diploma entry must be met.
- NSC achievement percentage of at least 45% for Maths/Technical Maths or 60% for Maths Lit
- OR
- Higher Certificate in IT in User Support Services with an average of 60% or above.

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at

Period	Total Credits Passed	Outcome
		least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

* An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career options.

Note: Students shall generally only be admitted to the third year of study after having completed all modules prescribed for the first year of study.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following modules shall be regarded as the major modules: Information Systems III and Support Services III.

A maximum of 60 credits in the curriculum may be substituted subject to approval from the School Management Committee and the requirements of the NATED 151.

DURATION

The qualification shall extend over a minimum of three years of full-time study. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Development Software I	Year	SDS1030	30
Information Technology Skills I	Year	SIS1010	30
Systems Software I: Networks	Year	WCI1010	15
Systems Software I: IT Essentials	Semester 1	WCI1011	15
Information Systems IA	Year	WIH1020	15
Information Systems IB	Year	WIH1040	15
Credits First Year			120

		Presented	Module Code	Credit Value
Second Year				
Compulsory modules:				
	Communication Networks IIA	Semester 1	WCN2131	15
	Communication Networks IIB	Semester 2	WCN2132	15
	Systems Software II	Year	SSI2010	30
	Support Services II	Year	SSO2010	30
	Information Systems II	Year	WIH2010	30
	Credits Second Year			120
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Information Systems III (<i>Major</i>)	Year	SIH3010	30
	Installation Management III	Year	SIM3010	30
	Support Services III (<i>Major</i>)	Year	SSO3010	30
	Communication Networks III A	Semester 1	WCN3021	15
	Communication Networks III B	Semester 2	WCN3022	15
	Credits Third Year			120
	Total Credits			360

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module		Prerequisite	
Name	Code	Name	Code
Communication Networks IIA	WCN2131	Systems Software I: Networks & CCNA1 Certificate	WCI1010
Communication Networks IIB	WCN2132	Communication Networks IIA	WCN2131
Systems Software II	SSI2010	Systems Software I: IT Essentials	WCI1011
Support Services II	SSO2010	Systems Software I: IT Essentials & Information Systems IA	WCI1011 & WIH1020
Information Systems II	WIH2010	Information Systems IA & Information Systems IB	WIH1020
Information Systems III	SIH3010	Information Systems II	WIH2010
Installation Management III	SIM3010	Systems Software II	SSI2010
Support Services III	SSO3010	Support Services II	SSO2010
Communication Networks III A	WCN3021	Communication Networks IIB	WCN2132

Module		Prerequisite	
Name	Code	Name	Code
Communication Networks III B	WCN3022	Communication Networks III A	WCN3021

6.14 DIPLOMA IN INTERIOR DESIGN

Qualification code:	1552
Offering:	Full-time South Campus (A1)
Aligned NQF Level:	6
SAQA ID:	97099
Total NQF Credits for qualification:	368

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The programme aims to produce interior designers who will be competent to design the working spaces or living environments of people so that they are more efficient, comfortable and aesthetically pleasing. The focus is on the re-use of existing buildings or installations in new buildings of a variety of types but most particularly the commercial field.

Design exercises are augmented by the study of interior design theory, history of interior design, soft furnishings, marketing, retail design, shop fitting, space planning and related construction technologies and building services. Design trends across the spectrum of design disciplines and the latest developments in design thinking are covered in detail.

ADMISSION REQUIREMENTS

- Minimum NSC statutory requirements for diploma entry must be met.
- An applicant with NSC Grade 12 Mathematics or Technical Mathematics requires a minimum Applicant Score of 310.
- An applicant with NSC Grade 12 Mathematical Literacy requires a minimum Applicant Score of 325.
- Admission is subject to Departmental selection.
- NSC subjects like **Visual Arts**, and **Design** are given priority during selection of candidates. Qualifying applicants will be required to prepare a prescribed portfolio, attend an interview and complete a placement assessment.
- Selection is based on the submission of a creative portfolio of work, comprising drawings, sketches and other creative or technical projects, as outlined by the Department as well as an interview with the department's staff to discuss the creative portfolio.
- International applicants who are unable to present themselves for an interview must courier the portfolio or send an electronic copy with a covering letter to the department. The final selection of applicants will only be finalised after the Grade 12 results have been received by Admissions and the Department.

RE-ADMISSION REQUIREMENTS**Rules for all programmes (except extended programmes)**

Period of registration	Total Credits Passed	Outcome
After 1 year	60 or more credits	Students are allowed to continue.
	Less than 59 credits	Conditional re-admission, e.g. limiting the number of modules a student may register for, determining minimum progress to be achieved (e.g. 80% of modules to be passed to continue with second semester or following year). Progress will be reviewed at the end of the first semester; and students may be required to cancel registration of one or more modules should progress be deemed unsatisfactory.
After 2 years	120 or more credits	Students are allowed to continue.
	70 - 119 credits	Conditional re-admission.
	Less than 70 credits	Re-admission denied.
After 3 years	200 or more credits	Students are allowed to continue.
	140-199 credits	Conditional re-admission.
	Less than 140 credits	Re-admission denied.
After 4 years	280 or more credits	Students are allowed to continue.
	230-279 credits	Conditional re-admission.
	Less than 230 credits	Re-admission denied; final-year students may be considered if special circumstances exist.
After 5 years (three-year programme)	Less than all credits	Re-admission denied; final-year students may be considered if special circumstances exist.
After 5 years (four-year programme)	380 or more credits	Students are allowed to continue.
	340-379	Conditional re-admission.
	Less than 340 credits	Re-admission denied; final-year students may be considered if special circumstances exist.
After 6 years (four-year programme)	Less than all credits	Re-admission denied; final-year students may be considered if special circumstances exist.

RE-ADMISSION RULES

The generic Faculty rules will apply but new first-years are in addition subject to the following rule:

Students who fail two or more of the **major** modules {namely Drawing for Design 1 (DFD1001/1002/1010), Design Studies (DDS1001/1002) and Design Theory (DTE2001/2002)} in the **first semester of the first year** will **not** be allowed to

continue with the 2nd semester but will be required to complete a minimum of six months' experiential learning in an appropriate office before being permitted to repeat the failed first-year modules the following year. Upon successful completion of the experiential learning, candidates will be required to submit a letter from the employer

STATUTORY AND OTHER REQUIREMENTS

Minimum attendance:

Due to the practical nature of the qualification, students who have not attended a minimum of 80% of normal lectures will be refused permission to sit for the examination unless special leave is granted. In addition to this, students who have not completed and handed in, on time, a minimum of 80% of their projects for a particular module, or part of a module, will not be allowed to sit for the examination in that module.

Portfolio Examinations/Continuous Evaluation:

Where continuous evaluation in any form is used as an evaluation method, all tasks, etc. submitted for this purpose will be kept at Nelson Mandela University for three years for certification purposes. Students who wish to keep their original work for employment-seeking purposes should substitute these with ammonia prints or 35mm colour slides directly after assessment has been completed.

Promotion rules:

All the **major modules**, namely Drawing for Design 1 (DFD1001/1002/1010), Design Studies (DDS1001/1002) and Design Theory (DTE2001/2002) in the first year must be satisfactorily completed before a student is promoted into second year. In addition, students are required to obtain an average of 60% for all 1st-year modules.

Experiential learning requirements:

To fulfil the requirements of the National Diploma, a student must complete at least 8 weeks of applicable experiential learning. Proof that students took part in formal educational tours that included visits to Interior Design Practices will be accepted as substitute for half of this requirement.

DURATION

The qualification shall extend over three years of full-time study.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Computer Applications	Year	DKP1010	10
Design Studies I			
Design Studies I – Module A	Semester 1	DDS1001	18
Design Studies I – Module B	Semester 2	DDS1002	18
Design Technology I			
Design Technology I – Module A	Semester 1	DDT1001	18
Design Technology I – Module B	Semester 2	DDT1002	18
Design Theory II			
Design Theory II – Module A	Semester 1	DTE2001	6
Design Theory II – Module B	Semester 2	DTE2002	6

		Presented	Module Code	Credit Value
	Drawing for Design I			
	Presentation – Module A	Semester 1	DFD1001	8
	Presentation – Module B	Semester 2	DFD1002	8
	Studio Work I	Year	DFD1010	8
	History of Art and Design I			
	History of Art and Design – Module A	Semester 1	DHD1001	6
	History of Art and Design – Module B	Semester 2	DHD1002	6
	Interior Design Practice III A (in-service training)	Year	DIP3020	4
	Credits First Year	Minimum		136
		Presented	Module Code	Credit Value
Second Year				
Compulsory modules:				
	Design Technology II			
	Building Science – Module I	Semester 1	DDT2001	9
	Construction – module I	Semester 1	DDT2011	9
	Building Science – Module II	Semester 2	DDT2002	9
	Construction – Module II	Semester 2	DDT2012	9
	Design Theory III			
	Design Theory III - Module A	Semester 1	DTE3001	3
	History of Interior Design - Module A	Semester 1	DTE3021	3
	Design Theory III – Module B	Semester 2	DTE3002	3
	History of Interior Design - Module B	Semester 2	DTE3022	3
	Interior Design II			
	Interior Design II – Module A	Semester 1	DID2011	18
	Interior Design II – Module B	Semester 2	DID2022	18
	Presentation Methods II			
	2D CAD	Semester 1	DPM2011	14
	3D CAD	Semester 2	DPM2012	14
	Office Practice III			
	Office Management – Module I	Semester 1	DOP3001	4
	Office Management – Module II	Semester 2	DOP3002	4
	Professional Design Practice I	Semester 1	DPD1000	12
	Interior Design Practice III B (in-service training)	Year	DIP3030	4
	Credits Second Year	Minimum		136
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Design Technology III			

	Presented	Module Code	Credit Value
Design Technology – Module I (<i>Major</i>)	Semester 1	DDT3001	15
Design Technology – Module II (<i>Major</i>)	Semester 2	DDT3002	15
Interior Design III			
Interior Design III - Module A (<i>Major</i>)	Semester 1	DID3001	15
Interior Design III - Module B (<i>Major</i>)	Semester 2	DID3002	15
Contemporary Developments III			
Contemporary Developments in Interior design - Module A	Semester 1	DPD3021	6
Contemporary Developments in Interior design - Module B	Semester 2	DPD3022	6
Presentation Methods III			
Presentation Methods III - Module A (<i>Major</i>)	Semester 1	DPM3011	10
Presentation Methods III - Module B (<i>Major</i>)	Semester 2	DPM3012	10
Office Practice III			
Office Practice 3 - Contract Management	Semester 1	DOP3031	4
Interior Design Practice III C (in-service training)	Year	DIP3040	4
Credits Third Year	Minimum		100
Total Credits			370

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed prerequisite modules.

Module	Module Code	Prerequisite	Co-requisite*
First Year			
Design Studies I – module B	DDS1002	DDS1001- Design Studies I – module A	DDT1002, DTE2002
			DDS1001, DTE2001
Design Technology I – module B	DDT1002	DDT1001- Design Technology I – module A	DDS1002, DTE2002
Presentation – module B	DFD1002	DFD1001- Presentation – module A	
History of Art and Design – module B	DHD1002	DHD1001- History of Art and Design – module A	
			DDS1001, DDT1001
Design Theory II – module B	DTE2002	DTE2001- Design Theory II – module A DKP1010- Computer applications	DDS1002, DDT1002

Module	Module Code	Prerequisite	Co-requisite*
Second Year			
Construction – module I	DDT2011	DDT1002 -Design Technology I – module B DDS1002 Construction – module II DTE2002 Design Studies I – module B	DID2011, DTE3001
Construction – module II	DDT2012	DDT2011- Construction – module I, DID2011- Interior Design II – module A ,DTE3001-Design 111 module A	DIS2012, DTE3002
Interior Design II – module A	DID2011	DDS1002- Design Studies I – module B, DDT1002 - Design Technology I – module B DFD1010 – Studio Work 1	DDT2011, DTE3001
Interior Design II – module B	DID2012	DID2011- Interior Design II – module A , DTE3001- Design theory 111	DTE3002, DDT2012, DDT2011
Office management – Module 11	DOP3002	DOP3001 – Office Management – module 1	
2D CAD	DPM2011	DKP1010 – Computer applications, DFD1010 - Studio Work 1	
3D CAD	DPM2012	DPM2011-2D CAD	DDT2012
Design theory 111 – Module A	DTE3001	DTE2002- Design theory 11-module B	DID2011, DDT2011
Design theory 111 – Module A	DTE3002	DTE3001- Design theory 111 – Module A, DID2011 Interior Design II – module A,	DDT2012, DID2011
History of Interior design- Module A	DTE3021	DHD1002- History of Art and Design – module B	
History of Interior Design - module B	DTE3022	DTE3021- History of Interior design- Module A	
Third Year			
Design Technology – Module I	DDT3001-	DDT2012-Construction – module II, DID2012- Interior Design II – module B, DTE3002- Design Theory III - module B	DID3001
Design Technology – Module II	DDT3002	DDT3001- Design Technology – Module I, DID3001- Interior Design III - Module A	DID3002, DPM3002
Interior Design III - Module A	DID3001	DID2012- Interior Design II	DPD3021, DDT3001,

Module	Module Code	Prerequisite	Co-requisite*
		– module B, DTE3002- Design Theory III - module B, DDT2012- Construction – module II	DPM3001
Interior Design III - Module B	DID3002	DID3001- Interior Design III - Module A, DPD3021- Contemporary Developments in Interior design - module A	DPD3022
Contemporary Developments in Interior design - module A	DPD3021	DTE3002 Design Theory III - module B, DDT2012- Construction –module 11, DID2012- Interior Design II – module B	DID3001
Contemporary Developments in Interior design - module B	DPD3022	DPD3021- Contemporary Developments in Interior design - module A, DID3001- Interior Design III - Module A	DID3002
Presentation Methods III - Module A	DPM3011	DPM2012-3D CAD	DID3001
Presentation Methods III - Module B	DPM3012	DPM3011-Presentation Methods III - Module A	DDT3001, DID3002

**6.15 NATIONAL DIPLOMA (OPERATIONS MANAGEMENT)
(NO NEW INTAKE)**

Qualification code:	3584
Offering:	Part-time North Campus (21)
Aligned NQF Level:	6
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Persons achieving this qualification will be able to plan, organise and control the production, operations and related activities. Globally, the possible positions of individuals with this type of qualification include production planners, operations managers, supervisors, a foreman, work study practitioners, quality practitioners and operations analysts.

Qualification Objectives:

Provide students with skills and knowledge to develop as managers in all spheres of production and operations.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Admission Points Score of 30.
- Minimum NSC requirements for diploma entry must be met.
- English, Afrikaans or isiXhosa (home language or first additional language) on at least level 3 (40-49%).
- NSC achievement rating of at least 3 (40-49%) for Mathematics or 5 (60-69%) for Mathematical Literacy.
- Applicants with an Admission Points Score between 22 and 29 may be referred to write the Access Assessment Battery before a decision is made on whether or not to admit the applicant to the course.
- Must be in full-time employment in a related field.

RE-ADMISSION REQUIREMENTS

Period	Total credits passed	Outcome
After one year	60 credits and more	Students are allowed to continue.
	Less than 60 credits	None.
After two years	90 credits and more	Students are allowed to continue.
	Less than 60 credits	Re-admission denied.*
After three years	135 credits and more	Students are allowed to continue.
	Less than 90 credits	Re-admission denied.*
After four years	180 credits and more	Students are allowed to continue.
	179-140 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 140 credits	Re-admission denied.*
After five years	225 credits and more	Students are allowed to continue.
	190-224 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 190 credits	Re-admission denied.*
After six years	270 credits and more	Students are allowed to continue.
	240-269 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 240 credits	Re-admission denied.*
After seven years	315 credits and more	Students are allowed to continue.
	288 – 314	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 288 credits	Re-admission denied.*
After eight years		Only final-year students would be considered.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career options.

That only one (1) registration (intake) per year be implemented as from 2014 until 2017 for the abovementioned programmes.

From 2018 until Teach-Out date (end of 2022) only Semester 1 and Semester 3 modules will be offered in Semester 1 and Semester 2 and Semester 4 modules in Semester 2 of an Academic year.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following module shall be regarded as the major module: Operations Management III

Pass-on-link:

The pass-on link criteria as stipulated in the General Prospectus will be applied to the following modules: tied to the following modules:

- Organisational Effectiveness I (BOE1111) to Organisational Effectiveness II (BOE2112).
- Operations Management I (BPJ1311) to Operations Management II (BPJ2322).

DURATION

The qualification shall extend over at least three years of part-time study. (This diploma is offered on a **part-time basis only**.) Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2018.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Part-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
	Organisational Effectiveness I	Semester 1	BOE1111	30
	Organisational Effectiveness II	Semester 2	BOE2112	30
	Operations Management I	Semester 1	BPJ1311	30
	Operations Management II	Semester 2	BPJ2322	30
	Credits First Year			120

	Presented	Module Code	Credit Value
Second Year			
Compulsory modules:			
Communication I	Semester 1	BCN1111	23
End-User Computing I	Year	BEU1110	23
Operational Research III	Semester 1	BOA3211	30
Operations Management Techniques II	Semester 2	BPI2322	30
Credits Second Year			116
	Presented	Module Code	Credit Value
Third Year			
Compulsory modules:			
Operations Management Practice I	Semester 1	BAI1311	30
Operations Management Techniques III	Semester 2	BPI3422	30
Operations Management III (<i>Major</i>)	Semester 1	BPJ3411	30
Sub-total			90
Select two of the following modules with a total credit value of 46:			
Labour Law (2 modules)		BAH1000	
Common Law and Social Legislation	Semester 1	BAH1101	12
Labour Relations Act	Semester 2	BAH1202	12
Management Principles and Practice I	Semester 1	BBM1121	23
Personnel Function	Semester 1	BDA1111	23
Costing and Estimating	Semester 2	BKM1112	23
Workplace Dynamics I	Semester 2	BWD1112	23
Motor Vehicle Engineering I	Semester 1	MVE1111	23
Credits Third Year			136
Total Credits			360
Please note:			
<ul style="list-style-type: none"> The diploma is issued subject to the candidate having passed the eleven compulsory modules and a minimum of 2 additional optional modules. Refer to the 'phase-out' schedule available from the Department. The specified time-table arrangements will be adhered to as far as possible, but unforeseen circumstances, such as non-availability of lecturers or limited interest, may force unavoidable changes. 			

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Prerequisites	Co-requisites
Operations Management II	BPJ2322	BPJ1311	
Organisational Effectiveness II	BOE2112	BOE1111	
Operational Research III	BOA3211 or	BPI2321	

Module	Code	Prerequisites	Co-requisites
	BOA3212		
Operations Management Practice I	BAI1311 or BAI1322	BPJ2322 and BOE2112 and BCN1111	
Operations Management Techniques III	BPI3411 or BPI3422	BPI2321	
Operations Management III	BPJ3411 or BPJ3422	BPJ2322	

6.16 DIPLOMA OPERATIONS MANAGEMENT

Qualification code:	7755
Offering:	Part-time North Campus (21)
Aligned NQF Level:	6
SAQA ID:	101691
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The Diploma in Operations Management is specifically designed to build the necessary knowledge, understanding, abilities and skills required towards becoming primarily a competent operations manager and operations employee.

The student who completes the Diploma in Operations Management is considered to have a sound knowledge of planning and managing an organisation's resources and processes that create products or services. The resources include the workforce, technology, supply chain, production and service creation processes, materials, and information which typically represents a significant portion of an organisation's cost and assets. The graduate is considered to have a depth of knowledge across a broad set of operations management issues that permeate all levels of decision making from long term strategies to the tactical to day to day activities. The graduate is able to contribute to the organisation's success by developing resource based distinctive competencies.

This learning programme meets the requirements of the new Higher Education Qualification Sub Framework (HEQSF) for a 3 year Diploma qualification (offered part-time), is primarily industry oriented and will develop and transfer cutting edge operations management related knowledge as a foundation for wealth creation and economic sustainability. The learning programme is a coherent mix of social sciences, the application of quantitative methods, technology application and some basic (industrial) engineering sciences.

This qualification will provide students with a sound knowledge base in the operations management discipline and the ability to apply that knowledge, skills and values to make a meaningful contribution to the economy and national development by ensuring optimal utilisation of resources.

Qualification Objectives:

- Demonstration of the ability to identify, analyse, evaluate, critically reflect on and address solve well-defined and lower-level open-ended manufacturing and service-related problems within the operations management field.
- The ability to identify, analyse, evaluate, critically reflect on and address and solve well-defined and lower-level, open-ended manufacturing and service-related problems within the operations management field.
- The ability to access, process and manage information, in respect of demonstration of the ability to develop appropriate processes of information gathering for a given use within the operations management field and the ability to independently or in a team validate the sources of information and evaluate and manage the information within the operations management field.
- The ability to independently validate the sources of information and evaluate and manage the information to solve well-defined and lower-level open-ended manufacturing and service-related problems within the operations management field.
- Producing and communicating information, in respect of which a learner is able to demonstrate the ability to develop and communicate ideas and opinions using appropriate academic, professional, or occupational discourse.
- Demonstration of the ability to manage processes and solve well-defined and lower-level open-ended manufacturing and service-related problems in unfamiliar contexts within the operations management field, recognising that problem solving is context- and system-bound, and does not occur in isolation.
- Management of learning, in respect of which a learner is able to demonstrate the ability to identify, evaluate and address his or her learning needs within the Operations Management field in a self-directed manner, and to facilitate collaborative learning processes.

ADMISSION REQUIREMENTS

- Minimum NSC statutory requirements for diploma entry must be met.
- An applicant with NSC Grade 12 Mathematics or Technical Mathematics requires a minimum Applicant Score of 310.
- An applicant with NSC Grade 12 Mathematical Literacy requires a minimum Applicant Score of 325.
- NSC achievement rating of at least 40% for Mathematics or Technical Mathematics or 60% for Mathematical Literacy.
- Must be in full-time employment in a related field. A comprehensive curriculum vitae must be provided along with the application form.
- All applicants must write the National Benchmark Tests (Academic and Quantitative Literacy tests) and submit the scores before their application can be finalised.

National Certificate (Vocational) Requirement

- Minimum National Certificate (Vocational) Level 4 statutory requirements for diploma entry must be met.
- English, Afrikaans or isiXhosa (first additional language) on at least a level 4 (50-59%).
- NC(V) achievement rating of at least a 5 (60-69%) for Mathematics or a 5 (60-69%) for Mathematical Literacy.
- Full-time employment in a related field (a comprehensive curriculum vitae must be provided along with application form).

SELECTION PROCEDURE

- Admissions is subject to Departmental selection.

RE-ADMISSION REQUIREMENTS

- Re-admission to the programme in a following academic year is subject to:
- Candidates passing at least 50% credits per academic year;
- Candidates passing defined pre-requisite modules.

Period	Total credits passed	Outcome
After one year	60 credits and more	Students are allowed to continue.
	Less than 60 credits	None.
After two years	90 credits and more	Students are allowed to continue.
	Less than 60 credits	Re-admission denied.*
After three years	135 credits and more	Students are allowed to continue.
	Less than 90 credits	Re-admission denied.*
After four years	180 credits and more	Students are allowed to continue.
	179-140 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 140 credits	Re-admission denied.*
After five years	225 credits and more	Students are allowed to continue.
	190-224 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 190 credits	Re-admission denied.*
After six years	270 credits and more	Students are allowed to continue.
	240-269 credits	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 240 credits	Re-admission denied.*
After seven years	315 credits and more	Students are allowed to continue.
	288 – 314	Students may only register for the next semester. To be re-admitted again, they must have passed at least 80% of their registered credits.
	Less than 288 credits	Re-admission denied.*
After eight years		Only final-year students would be considered.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career options.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following module shall be regarded as the major module: Operations Project III.

DURATION

The qualification shall extend over at least four years of part-time study. (This diploma is offered on a **part-time basis only**.) Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

CURRICULUM (Part-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
	Professional Communication I (Language)	Semester 1	LEL1001	14
	Professional Communication I (Computers)	Semester 1	LEC1001	14
	Fundamentals of Manufacturing I	Semester 1	EPV1001	14
	Operations Management I	Semester 2	EPE1002	14
	Organisational Effectiveness I	Semester 2	EWS1002	14
	Credits First Year			70
		Presented	Module Code	Credit Value
Second Year				
Compulsory modules:				
	Statistics I	Semester 1	ESS1001	14
	Operations Project I	Semester 1	EIP1001	20
	Organisational Effectiveness II	Semester 1	EWS2001	14
	Operations Management Techniques II	Semester 2	EOR2002	14
	Operations Management II	Semester 2	EPE2002	14
	Quality I	Semester 2	EQQ1002	14
	Credits Second Year			90
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Operations Management Techniques III	Semester 1	EOR3001	18
	Manufacturing Relations I	Semester 1	EMB1001	14
	Operations Technology II	Semester 2	EQQ2002	14
	Costing II	Semester 2	EMB2002	14
	Operations Project II	Semester 2	EIP2002	36
	Credits Third Year			96

	Presented	Module Code	Credit Value
Fourth Year			
Compulsory modules:			
Industrial Leadership III	Semester 1	EIL3001	18
Operations Management III	Semester 1	EPE3001	18
Corporate Citizenship III	Semester 2	CCC3002	14
Global Operations Management III	Semester 2	EPM3002	18
Operations Project III (<i>Major</i>)	Semester 2	EIP3002	36
Credits Fourth Year			104
Total Credits			360

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Prerequisites	Co-requisites
Organisational Effectiveness II	EWS2001	EWS1002	
Operations Project I	EIP1001	EPE1002 and EWS1002 and EPV1001	
Operations Management Techniques II	EOR2002	ESS1001	
Operations Management II	EPE2002	EPE1002	
Quality I	EQQ1002	ESS1001 and EPE1002	
Operations Management Techniques III	EOR3001	EOR2002	
Manufacturing Relations I	EMB1001	EPE1002	
Operations Technology II	EQQ2002	EPE2002	
Costing II	EMB2002	EPE2002	
Operations Project II	EIP2002	EIP1001	
Industrial Leadership III	EIL3001	EMB1001	
Operations Management III	EPE3001	EPE2002	
Global Operations Management III	EPM3002	EPE2002	
Operations Project III	EIP3002	EIP2002 and EMB2002 and EQQ2002 and EIL3001	

7 BACHELOR DEGREES

7.1 BACHELOR OF ARCHITECTURAL STUDIES

Qualification code:	10040
Offering:	Full-time South Campus (A1)
Aligned NQF Level:	7
SAQA ID:	87233
Total NQF Credits for qualification:	388

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF). The qualification provides students with knowledge and skills in the various fields of the discipline of architecture towards post qualification registration in the profession as a Candidate Architectural Technologist. The NQF level 7 qualification also affords a platform towards higher level academic qualifications.

ADMISSION REQUIREMENTS

- Minimum NSC statutory requirements for degree entry must be met.
- An applicant with NSC Grade 12 Mathematics requires a minimum Applicant Score of 370.
- NSC achievement rating of at least 55% for Mathematics.
- Admission is subject to Departmental selection.
- Selection is based on the submission of a creative portfolio of work, comprising drawings and sketches and other creative endeavours as laid out by the Department, as well as an interview with the department's staff and a discussion with them of your creative portfolio.
- Foreign applicants or applicants unable to present themselves for an interview may apply in writing for a telephonic interview on condition that the personal portfolio is submitted. The selection of applicants will only be finalised after final matric results have been received.

SELECTION PROCEDURE

Selection is based on the submission of a creative portfolio of work, comprising drawings and sketches and other creative endeavours as laid out by the Department, as well as an interview with the department's staff and a discussion with them of your creative portfolio. Applicants (national and international) unable to present themselves for an interview may use the video call (Skype) option. The selection of applicants will only be finalised after the final matric results have been received.

RE-ADMISSION REQUIREMENTS

Rules for all programmes (except extended programmes)

Period of registration	Total Credits Passed	Outcome
After 1 year	60 or more credits	Students are allowed to continue.
	Less than 59 credits	Conditional re-admission, e.g. limiting the number of modules a student may register for, determining minimum progress to be achieved

Period of registration	Total Credits Passed	Outcome
		(e.g. 80% of modules to be passed to continue with second semester or following year). Progress will be reviewed at the end of the first semester; and students may be required to cancel registration of one or more modules should progress be deemed unsatisfactory.
After 2 years	120 or more credits	Students are allowed to continue.
	70 - 119 credits	Conditional re-admission.
	Less than 70 credits	Re-admission denied.
After 3 years	200 or more credits	Students are allowed to continue.
	140-199 credits	Conditional re-admission.
	Less than 140 credits	Re-admission denied.
After 4 years	280 or more credits	Students are allowed to continue.
	230-279 credits	Conditional re-admission.
	Less than 230 credits	Re-admission denied; final-year students may be considered if special circumstances exist.
After 5 years (three-year programme)	Less than all credits	Re-admission denied; final-year students may be considered if special circumstances exist.
After 5 years (four-year programme)	380 or more credits	Students are allowed to continue.
	340-379	Conditional re-admission.
	Less than 340 credits	Re-admission denied; final-year students may be considered if special circumstances exist.
After 6 years (four-year programme)	Less than all credits	Re-admission denied; final-year students may be considered if special circumstances exist.

STATUTORY AND OTHER REQUIREMENTS

Upon completion of the BAS degree and completing the practical training, candidate can register with the South African Council for the Architectural Profession's (SACAP) as a senior architectural technologist

Obtaining the degree:

The degree shall be obtained by completing the modules prescribed by Senate.

Unless Senate decides otherwise the degree shall be awarded *Cum Laude* if candidates comply with the requirements of rule G1.6.14, provided that:

- Design 2 or 3;
- Theory of Architecture 2 or 3;
- History of Architecture and Art 3, and
- Building Science (Detail Design and Construction) 3 shall be regarded as the exit-level modules.

The provisions of rule G1.6.14 (c) shall not be applicable to the degree of Bachelor of Architectural Studies.

The module Design 3 is a prerequisite for admission into the M Arch (Prof) degree but is not required to obtain the degree of Bachelor of Architectural Studies.

Promotion rules:

Students must obtain a minimum of 60 credits in their first year of study for the Bachelor of Architectural Studies to be promoted to the next level.

Examinations:

The following modules shall be examined only at the end of the second semester:

Design AAV 1, 2 and 3

Theory of Architecture ATV 1, 2 and 3

History of Architecture and Art AEV 1, 2 and 3

Building Science (Detail Design and Construction) ADCV 1, 2 and 3

Architecture Presentation Techniques AAV 1 and 2

Architectural Computer Usage ACUV 3

No supplementary exams or re-marks are permitted in Design (AAV), Building Science (Detail Design and Construction) (ADCV) and Architecture Presentation Techniques (AAV).

Candidates shall be admitted to a following year of study only if they have obtained credit for the prescribed modules in Design (AAV), Building Science (Detail Design and Construction) (ADCV), Theory of Architecture (ATV) and History of Architecture and Art (AEV).

Design (AAV), Theory of Architecture (ATV) and Building Science (Detail Design and Construction) (ADCV) must be taken concurrently at the first attempt.

Senate may allow candidates, who have failed to qualify for admission to a following year of study, to take modules prescribed for such following year of study, provided that:

- the Head of the Department of Architecture shall determine which modules may be taken;
- the modules in Design (AAV), Theory of Architecture (ATV), History of Architecture and Art (AEV) and Building Science (Detail Design and Construction) (ADCV) may not be taken.

Candidates shall be admitted to the third year of study or to any module prescribed for the third year of study only after having obtained credit for all the modules prescribed for the first year of study. For the purposes of this rule, the module Geometric Drawing AMV101 shall not be taken into account.

Deviation from rules

Senate may, if cogent reasons exist, allow deviations from the requirements set out above. Such deviations may be subject to certain provisos.

DURATION

The qualification shall extend over three years of full-time study.

CURRICULUM (Part-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Architecture Presentation Techniques	Year	AAAV100	6
	Architectural Theory	Year	ATV100	14
	Design	Year	AAV100	52
	History of Architecture and Art	Year	AEV100	6
	Building Science (Detail Design and Construction) for Architects	Year	ADCV100	14
	Geometric Drawing	Semester 1	AMV101	8
	Building Science (Environment and Services) 1A	Semester 1	KESV101	7
	Building Science (Environment and Services) 1B	Semester 2	KESV102	7
	Building Science (Structures) 1A	Semester 1	KBSV101	7
	Building Science (Structures) 1B	Semester 2	KBSV102	7
	Site Surveying	Semester 2	ASSV102	6
	Credits First Year	Minimum		134
		Presented	Module Code	Credit Value
Second Year				
Compulsory module:				
	Architecture Presentation Techniques	Year	AAAV200	6
	Architectural Theory	Year	ATV200	12
	Design	Year	AAV200	52
	History of Architecture and Art	Year	AEV200	10
	Building Science (Detail Design and Construction)	Year	ADCV200	12
	Building Science (Environment and Services)2A	Semester 1	KESV201	7
	Building Science (Environment and Services)2B	Semester 2	KESV202	7
	Building Science (Structures) 2A	Semester 1	KBSV201	7
	Building Science (Structures) 2B	Semester 2	KBSV202	7
	Architectural Computer Usage	Semester 2	ACUV202	6
	End-User Computing	Semester 1	WRFV101	8
	Credits Second Year	Minimum		134
		Presented	Module Code	Credit Value
Third Year				
Compulsory module:				
	Architectural Computer Usage	Year	ACUV300	10
	History of Architecture and Art	Year	AEV300	10
	Building Science (Detail Design and Construction)	Year	ADCV300	24
	Architectural Theory	Year	ATV300	14
	Building Science (Environment and Services)3A	Semester 1	KESV301	7

		Presented	Module Code	Credit Value
	Building Science (Environment and Services)3B	Semester 2	KESV302	7
	Building Science (Structures) 3A	Semester 1	KBSV301	7
	Building Science (Structures) 3B	Semester 2	KBSV302	7
	Specification	Semester 2	ASV302	6
	Credits Third Year	Minimum		92
	Total Credits			360
Required in addition to the above programme for admission to the degree of MArch (Professional):				
	Design	Year	AAV300	30

CURRICULUM MODULE REQUISITE

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites	Co-requisites
Building Science (Structures) 1B	KBSV102	Building Science (Structures) 1A KBSV101	
Design	AAV200	Design(AAV100)	
Building Science (Detail Design and Construction)	ADCV200	Building Science (Detail Design and Construction) (ADCV100)	
Building Science (Environment and Services)2A	KESV201	Building Science (Environment and Services) 1A (KESV101)	
Building Science (Environment and Services)2B	KBSV202	Building Science (Environment and Services)2B (KESV102)	
Building Science (Structures) 2A	KBSV201	Building Science (Structures) 1B KBSV102	
Building Science (Structures) 2B	KBSV202	Building Science (Structures) 2A KBSV201	
Design	AAV300	Design(AAV200)	
Building Science (Detail Design and Construction)	ADCV300	Building Science (Detail Design and Construction) (ADCV200)	
Building Science (Environment and Services)3A	KESV301	Building Science (Environment and Services) 3A (KESV201)	

Module	Code	Pre-requisites	Co-requisites
Building Science (Environment and Services)3B	KBSV302	Building Science (Environment and Services)2B (KESV202)	
Building Science (Structures) 3A	KBSV301	Building Science (Structures) 2B KBSV202	
Building Science (Structures) 3B	KBSV302	Building Science (Structures) 3A KBSV301	

7.2 BACHELOR OF ENGINEERING IN MECHATRONICS (NO NEW INTAKE)

Qualification code:	4722
Offering:	Full-time North Campus (01)
Aligned NQF Level:	8
Total NQF Credits for qualification:	572

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The purpose of the qualification is to build the necessary knowledge, understanding, abilities and skills required for further learning towards becoming a competent practising engineer, and to provide graduates with:

- A thorough grounding in mathematics, basic sciences, engineering sciences, engineering modelling, and engineering design together with the abilities to enable applications in fields of emerging knowledge;
- Preparation for careers in engineering and related areas, for achieving technical leadership and to make a contribution to the economy and national development;
- The educational requirement towards registration as a Professional Engineer with the Engineering Council of South Africa as well as to allow the graduate to make careers in engineering and related fields;
- For graduates with an appropriate level of achievement in the programme, the ability to proceed to postgraduate studies in both course-based and research masters programmes.

Learning outcomes of the Bachelor of Engineering Mechatronics qualification:

A graduate in engineering should be able to apply the following skills on the advanced level:

- **Problem-solving:** Demonstrate competence to identify, assess, formulate and solve convergent and divergent engineering problems creatively and innovatively.
- **Application of scientific and engineering knowledge:** Demonstrate competence to apply knowledge of mathematics, basic science and engineering sciences from first principles to solve engineering problems.
- **Engineering design:** Demonstrate competence to perform creative, procedural and non-procedural design and synthesis of components, systems, engineering works, products or processes.

- Investigations, experiments and data analysis: Demonstrate competence to design and conduct investigations and experiments.
- Engineering methods, skills and tools, including information technology: Demonstrate competence to use appropriate engineering methods, skills and tools, including those based on information technology.
- Professional and technical communication: Demonstrate competence to communicate effectively, both orally and in writing, with engineering audiences and the community at large.
- Impact of engineering activity: Demonstrate critical awareness of the impact of engineering activity on the social, industrial and physical environment.
- Individual, team and multi-disciplinary working: Demonstrate competence to work effectively as an individual, in teams and in multi-disciplinary environments.
- Independent learning ability: Demonstrate competence to engage in independent learning through well-developed learning skills.
- Engineering professionalism: Demonstrate critical awareness of the need to act professionally and ethically and to exercise judgment and take responsibility within own limits of competence.
- Engineering Management: Demonstrate knowledge and understanding of engineering management principles and economic decision-making.

Learning content of the Bachelor of Engineering Mechatronics qualification includes six essential knowledge areas:

- Mathematical sciences.
- Basic sciences.
- Engineering sciences.
- Engineering design and synthesis.
- Computing and information technology.
- Complementary studies.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Admission Points Score of 38.
- Minimum statutory NSC requirements for degree entry must be met.
- English, Afrikaans or isiXhosa (home language or first additional language) on at least level 3 (40–49%).
- NSC achievement rating of at least level 5 (60-69%) for Mathematics.
- NSC achievement rating of at least level 5 (60-69%) for Physical Sciences.
- Only those applicants who meet the direct entry criteria will be considered for this course.
- Recommended NSC subjects: Engineering Graphics & Design and/or Information Technology
- Other:
 - The requirements with regards to the language of learning and teaching at Nelson Mandela University must be met.
 - Adults from engineering-related jobs/occupations and fields of activity with appropriate prior learning may also apply for admission.

OR

- A Higher Certificate in Mechatronics with an average of 75% or above and a minimum of 75% for Mathematics.

STATUTORY AND OTHER REQUIREMENTS

The qualification shall be awarded on completion of the modules prescribed by Senate.

Vacation Work:

Vacation work is a requirement for the Bachelor of Engineering (Mechatronics) qualification and it may prove necessary to complete vacation work without remuneration. Engineering candidates are required to complete the vacation work modules at their own expense. These modules (MWS1000 and MWS2000) are normally attended during winter and/or summer recesses. Candidates will not be allowed to take certain third-year modules without having completed the workshop training.

A Bachelor's degree in Engineering in the field of Mechatronics is recognised as a qualifying degree for registration as a professional engineer under the Professional Engineers' Act (Act No 46 2000).

The Bachelor of Engineering (Mechatronics) degree is designed in accordance with the outcomes-based model as required by the South African Qualification Authority (SAQA). The learning outcomes and content of the qualifications have been compiled in accordance with the latest accreditation standards (E-02-PE) of ECSA, and HEQC.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following module shall be regarded as the major module: Mechatronics Project IV, EMP4110

Students must attend lectures and practicals preceding the commencement of lectures; contact the Department of Mechatronics for further details.

Electives:

Any other module from the humanities or social sciences with the minimum of 15 credits, approved by the Head of the Department, may be taken.

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory.

Period	Total Credits Passed	Outcome
		Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Prerequisites	Co-requisites
Physics for Mechatronics	FME102	F101	
Electrotechnology IIA	MET2111	MATH111	FME102
Computer Science for Engineering IB	MSE1122	MSE1111	

Module	Code	Prerequisites	Co-requisites
Digital Electronics II	MDG2111	MET2111 and WRSC101 and MSE1122	MATH201
Strength of Materials II	MSM2111	MATH115 and FME102	
Dynamics II	MTH2111	MATH115 and FME102 and MATH111 F101	
Multivariable Calculus	MATH201	MATH115	
Differential Equations	MAPM211	MATH115 or MATB102	
Numerical Methods II	MAPM212	MATH115 and WRSC101	MAPM211
Electronics II	EEL2112	MATH201 and MET2111	
Electrotechnology IIB	MET2122	MATH201 and MET2111	
Machine Design II	MMD2112	MEW101 and MAS11122 and MSM2111 and MWS1000	
Thermo-Fluids II	MTF2112	F101 and MAPM211 and MATH115 and MWS1000	
Transform Theory	MAPM213	MATH115 and MAPM211	
Mathematical Modelling for Engineers	MAPM215	MAPM211	MAPM213
Control Systems III A	ECS3211	MATH201 and MAPM213 and MAPM215 and MTH211	
Electrical Machines III	EEM3111	MET2122	
Machine Design III	MMD3111	MMD2112	
Strength of Materials III	MSM3011	MAPM211 and MAPM212 and MSM2111	
Data Structures & Algorithms	WRA201	MATH111 and MATH115 or MATA101 and MATA102	
Workshop Practice II	MWS2000	MWS1000	
Communication Systems III	ECC3112	EEL2112 and MET2112	
Control Systems IIIB	ECS3312	ECS3211	
Power Electronics & Drives III	EPE3122	EEM3111	

Module	Code	Prerequisites	Co-requisites
Mechanical Design III	MGN3112	MMD311	
Microprocessors III	MMX3112	MDG2111 and MSE1111 and MSE1122 and EEL2112	
Advanced Manufacturing Systems IV	EAM4111	MGN3112	
Process Control & Instrumentation IV	ECI4111	ECS3312	
Mechatronics Project IV	EMP4110	ECC3112 and ECS3112 and EPE3122 and MGN3112 and MMX3112 and MMD3111 and MSM3011 and MWS1000 and MWS2000	

DURATION

The qualification shall extend over at least four years of full-time study.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2015.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2021.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
1	Physics I			
	Mechanics and Thermodynamics	Semester 1	F101	15
	Physics for Mechatronics	Semester 2	FME102	15
2	Material Science	Semester 2	MAS1122	16
3	Mathematics I			
	Mathematics 1A	Semester 1	MATH111	16
	Mathematics 1B	Semester 2	MATH115	16
4	Engineering Drawing I	Semester 1	MEW101	16
5	Electrotechnology IIA	Semester 2	MET2111	10
6	Computer Science for Engineers I			
	Computer Science for Engineers IA	Semester 1	MSE1111	8
	Computer Science for Engineers IB	Semester 2	MSE1122	8
7	Computing Fundamentals for Scientists 1.1	Semester 1	WRSC101	8
8	Workshop Practice I	Year	MWS1000	-

Credits First Year		Minimum		128
Second Year				
Compulsory module:				
1	Electronics II	Semester 2	EEL2112	16
	Mathematics II			
2	Multivariable Calculus	Semester 1	MATH201	10
3	Applied Mathematics II			
	Differential Equations 211	Semester 1	MAPM211	10
	Transform Theory 213	Semester 2	MAPM213	10
	Numerical Methods II	Semester 1	MAPM212	10
	Mathematical Modelling for Engineers	Semester 2	MAPM215	10
4	Digital Electronics II	Semester 1	MDG2111	16
5	Electrotechnology IIB	Semester 2	MET2122	10
6	Machine Design II	Semester 2	MMD2112	12
7	Strength of Materials II	Semester 1	MSM2111	16
8	Thermo-fluids II	Semester 2	MTF2112	16
9	Dynamics II	Semester 1	MTH2111	12
Credits Second Year		Minimum		148
		Presented	Module Code	Credit Value
Third Year				
Compulsory module:				
	Communications Systems III	Semester 2	ECC3112	12
	Control Systems IIIA	Semester 1	ECS3211	16
	Control Systems IIIB	Semester 2	ECS3312	16
	Electric Machines III	Semester 1	EEM3111	16
	Power Electronics and Drives III	Semester 2	EPE3122	16
	Mechanical Design III	Semester 2	MGN3112	16
	Machine Design III	Semester 1	MMD3111	16
	Microprocessors III	Semester 2	MMX3112	20
	Strength of Materials III	Semester 1	MSM3011	16
	Data Structures and Algorithms 2.1	Semester 1	WRA201*	8
	Workshop Practice II	Year	MWS2000	-
Credits Third Year		Minimum		152
		Presented	Module Code	Credit Value
Fourth Year				
Compulsory module:				
	Advanced Manufacturing Systems IV	Semester 1	EAM4111	16
	Professional Communication IV	Semester 1	ECC4111	12

	Process Control and Instrumentation IV	Semester 1	ECI4111	16
	Environmental Engineering IV	Semester 2	EEN4112	15
	Mechatronics Project IV (<i>Major</i>)	Year	EMP4110	50
	Project Management: Engineering IV	Semester 1	EPM4111	9
	Human Rights **	Term 2	SSS310	15
	Evolutionary Computing IV	Semester 2	WRCI411	11
	Credits Fourth Year			144
	Total Credits			572

7.3 BACHELOR OF ENGINEERING IN MECHATRONICS

Qualification code:	71055
Offering:	Full-time North Campus (01)
Aligned NQF Level:	8
Total NQF Credits for qualification:	572

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The purpose of the qualification is to build the necessary knowledge, understanding, abilities and skills required for further learning towards becoming a competent practising engineer, and to provide graduates with:

- A thorough grounding in mathematics, basic sciences, engineering sciences, engineering modelling, and engineering design together with the abilities to enable applications in fields of emerging knowledge;
- Preparation for careers in engineering and related areas, for achieving technical leadership and to make a contribution to the economy and national development;
- The educational requirement towards registration as a Professional Engineer with the Engineering Council of South Africa as well as to allow the graduate to make careers in engineering and related fields;
- For graduates with an appropriate level of achievement in the programme, the ability to proceed to postgraduate studies in both course-based and research masters programmes.

Learning outcomes of the Bachelor of Engineering Mechatronics qualification: A graduate in engineering should be able to apply the following skills on the advanced level:

- Problem-solving: Demonstrate competence to identify, assess, formulate and solve convergent and divergent engineering problems creatively and innovatively.
- Application of scientific and engineering knowledge: Demonstrate competence to apply knowledge of mathematics, basic science and engineering sciences from first principles to solve engineering problems.
- Engineering design: Demonstrate competence to perform creative, procedural and non-procedural design and synthesis of components, systems, engineering works, products or processes.
- Investigations, experiments and data analysis: Demonstrate competence to design and conduct investigations and experiments.

- Engineering methods, skills and tools, including information technology: Demonstrate competence to use appropriate engineering methods, skills and tools, including those based on information technology.
- Professional and technical communication: Demonstrate competence to communicate effectively, both orally and in writing, with engineering audiences and the community at large.
- Impact of engineering activity: Demonstrate critical awareness of the impact of engineering activity on the social, industrial and physical environment.
- Individual, team and multi-disciplinary working: Demonstrate competence to work effectively as an individual, in teams and in multi-disciplinary environments.
- Independent learning ability: Demonstrate competence to engage in independent learning through well-developed learning skills.
- Engineering professionalism: Demonstrate critical awareness of the need to act professionally and ethically and to exercise judgment and take responsibility within own limits of competence.
- Engineering Management: Demonstrate knowledge and understanding of engineering management principles and economic decision-making.

Learning content of the Bachelor of Engineering Mechatronics qualification includes six essential knowledge areas:

- Mathematical sciences.
- Basic sciences.
- Engineering sciences.
- Engineering design and synthesis.
- Computing and information technology.
- Complementary studies.

ADMISSION REQUIREMENTS

- Minimum NSC statutory requirements for degree entry must be met.
- An applicant with NSC Grade 12 Mathematics requires a minimum Applicant Score of 410.
- NSC achievement rating of at least 60% for Mathematics.
- NSC achievement rating of at least 65% for Physical Sciences.

OR

- A Higher Certificate in Mechatronics with an average of 75% or above and a minimum of 75% for Mathematics.

STATUTORY AND OTHER REQUIREMENTS

The qualification shall be awarded on completion of the modules prescribed by Senate.

Vacation Work:

Vacation work is a requirement for the Bachelor of Engineering (Mechatronics) qualification and it may prove necessary to complete vacation work without remuneration. Engineering candidates are required to complete the vacation work modules at their own expense. These modules (MWS1000 and MWS2000) are normally attended during winter and/or summer recesses. Candidates will not be allowed to take certain third-year modules without having completed the workshop training.

A Bachelor's degree in Engineering in the field of Mechatronics is recognised as a qualifying degree for registration as a professional engineer under the Professional Engineers' Act (Act No 46 2000).

The Bachelor of Engineering (Mechatronics) degree is designed in accordance with the outcomes-based model as required by the South African Qualification Authority (SAQA). The learning outcomes and content of the qualifications have been compiled in accordance with the latest accreditation standards (E-02-PE) of ECSA, and HEQC.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following module shall be regarded as the major module: Mechatronics Project IV, EMP4110

Students must attend lectures and practicals preceding the commencement of lectures; contact the Department of Mechatronics for further details.

Electives:

Any other module from the humanities or social sciences with the minimum of 15 credits, approved by the Head of the Department, may be taken.

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be

Period	Total Credits Passed	Outcome
		deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

DURATION

The qualification shall extend over at least four years of full-time study.

CURRICULUM (Part-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
1	Physics I			
	Mechanics and Thermodynamics	Semester 1	FVV101	15
	Physics for Mechatronics	Semester 2	FMEV102	15
2	Materials Science I	Semester 2	MASV102	16
3	Mathematics I			
	Mathematics 1A	Semester 1	MATV111	16
	Mathematics 1B	Semester 2	MATV115	16
4	Engineering Drawing I	Semester 1	MEWV101	16
5	Electrotechnology IIA	Semester 2	METV202	10

		Presented	Module Code	Credit Value
6	Computer Science for Engineers I			
	Computer Science for Engineers IA	Semester 1	MSEV101	8
	Computer Science for Engineers IB	Semester 2	MSEV102	8
7	Computing Fundamentals for Scientists 1.1	Semester 1	WRSC111	8
8	Workshop Practice I	Year	MWSV100	-
	Credits First Year	Minimum		128
		Presented	Module Code	Credit Value
Second Year				
Compulsory module:				
	Compulsory modules:			
1	Electronics II	Semester 2	EELV202	16
	Mathematics II			
2	Multivariable Calculus	Semester 1	MATV201	10
3	Applied Mathematics II			
	Differential Equations	Semester 1	MAPV201	10
	Transform Theory	Semester 2	MAPV202	10
	Numerical Methods II	Semester 1	MAPV211	10
	Mathematical Modelling for Engineers	Semester 2	MAPV212	10
4	Digital Electronics II	Semester 1	MDGV201	16
5	Electrotechnology IIB	Semester 2	METV212	10
6	Machine Design II	Semester 2	MMDV202	12
7	Strength of Materials II	Semester 1	MSMV201	16
8	Thermo-fluids II	Semester 2	MTFV202	16
9	Dynamics II	Semester 1	MTHV201	12
	Credits Second Year	Minimum		148
		Presented	Module Code	Credit Value
Third Year				
Compulsory module:				
	Communications Systems III	Semester 2	ECCV302	12
	Control Systems IIIA	Semester 1	ECSV301	16
	Control Systems IIIB	Semester 2	ECSV302	16
	Electric Machines III	Semester 1	EEMV301	16
	Power Electronics and Drives III	Semester 2	EPEV302	16
	Mechanical Design III	Semester 2	MGNV302	16
	Machine Design III	Semester 1	MMDV301	16
	Microprocessors III	Semester 2	MMXV302	20
	Strength of Materials III	Semester 1	MSMV301	16
	Data Structures and Algorithms	Semester 1	WRAV201	8
	Workshop Practice II	Year	MWSV200	-

		Presented	Module Code	Credit Value
	Credits Third Year	Minimum		152
		Presented	Module Code	Credit Value
Fourth Year				
Compulsory module:				
	Advanced Manufacturing Systems IV	Semester 1	EAMV401	16
	Professional Communication IV	Semester 1	ECCV401	12
	Process Control and Instrumentation IV	Semester 1	ECIV401	16
	Environmental Engineering IV	Semester 2	EENV402	15
	Mechatronics Project IV (<i>Major</i>)	Year	EMPV400	50
	Project Management: Engineering IV	Semester 1	EPMV401	9
	Human Rights **	Term 2	SSS310	15
	Evolutionary Computing IV	Semester 2	WRCV402	11
	Credits Fourth Year			144
	Total Credits			572

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites	Co-requisites
Physics for Mechatronics	FME102	FVV101	
Mathematics 1B	MATV115	MATV111	
Electrotechnology IIA	METV202	MATV111	FMEV102
Computer Science for Engineering IB	MSEV102	MSEV101	
Digital Electronics II	MDGV201	METV202 and WRSC111	MATV201
Strength of Materials II	MSMV201	FMEV102 and MATV115	
Dynamics II	MTHV201	MATV115 and FMEV102 and FVV101 and MATV111	MATV201
Multivariable Calculus	MATV201	MATV115	
Differential Equations	MAPV201	MATV115	
Numerical Methods II	MAPV211	MATV115 and WRSC111	MAPV201
Electronics II	EELV202	MATV201 and METV202	
Electrotechnology IIB	METV212	MATV201 and METV202	
Machine Design II	MMDV202	MEVV101 and MASV102 and	

Module	Code	Pre-requisites	Co-requisites
		MSMV201 and MWSV100	
Thermo-Fluids II	MTFV202	FVV101 and MAPV201 and MATV115 and MWSV100	
Transform Theory	MAPV202	MATV115 and MAPV201	
Mathematical Modelling for Engineers	MAPV212	MAPV201	MAPV202
Control Systems III A	ECSV301	MATV201 and MAPV202 and MAPV212 and MTHV201	
Electrical Machines III	EEMV301	METV212	
Machine Design III	MMDV301	MMDV202	
Strength of Materials III	MSMV301	MAPV201 and MAPV211 and MSMV201	
Data Structures & Algorithms	WRAV201	MATV111 and MATV115	
Workshop Practice II	MWSV200	MWSV100	
Communication Systems III	ECCV302	EELV202 and METV212	
Control Systems IIIB	ECSV302	ECSV301	
Power Electronics & Drives III	EPEV302	EEMV301	
Mechanical Design III	MGNV302	MMDV301	
Microprocessors III	MMXV302	MDGV201 and MSEV101 and MSEV102	
Advanced Manufacturing Systems IV	EAMV401	MGDV302	
Process Control & Instrumentation IV	ECIV401	ECSV302	
Mechatronics Project IV	EMPV400	ECCV302 and ECSV302 and EPEV302 and MGNV302 and MMXV302 and MMDV301 and MSM301 and MWSV100 and MWSV200	

7.4

BACHELOR OF ENGINEERING TECHNOLOGY IN CIVIL ENGINEERING

Qualification code:	71010
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	99012
Total NQF Credits for qualification:	420

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Qualification Objectives:

The graduate attributes of the programme will ensure that students who complete this programme will be able to:

- Apply engineering principles to systematically diagnose and solve *broadly-defined* engineering problems.
- Apply knowledge of mathematics, natural science and engineering sciences to define and applied engineering procedures, processes, systems and methodologies to solve *broadly-defined* engineering problems.
- Perform procedural and non-procedural design of *broadly-defined* components, systems, works, products or processes to meet desired needs normally within applicable standards, codes of practice and legislation.
- Conduct investigations of *broadly-defined* problems through locating, searching and selecting relevant data from codes, data bases and literature, designing and conducting experiments, analysing and interpreting results to provide valid conclusions.
- Use appropriate techniques, resources, and modern engineering tools, including information technology, prediction and modelling, for the solution of *broadly-defined* engineering problems, with an understanding of the limitations, restrictions, premises, assumptions and constraints.
- Communicate effectively, both orally and in writing, with engineering audiences and the affected parties.
- Demonstrate knowledge and understanding of the impact of engineering activity on the society, economy, industrial and physical environment, and address issues by analysis and evaluation.
- Demonstrate knowledge and understanding of engineering management principles and apply these to one's own work, as a member and leader in a team and to manage projects.
- Engage in independent and life-long learning through well-developed learning skills.
- Comprehend and apply ethical principles and commit to professional ethics, responsibilities and norms of engineering technology practice.

ADMISSION REQUIREMENTS**National Senior Certificate:**

- Minimum NSC statutory requirements for degree entry must be met.
- An applicant with NSC Grade 12 Mathematics or Technical Mathematics requires a minimum Applicant Score of 370.
- NSC achievement rating of at least 60% for Mathematics or Technical Mathematics.
- NSC achievement rating of at least 50% for Physical Sciences or Technical Science.

National Certificate (Vocational):

- Minimum NC(V) Level 4 statutory requirements for degree entry must be met.
- English, Afrikaans or isiXhosa (first additional language) on at least a level 5 (60-69%).
- NC(V) achievement rating of at least a 5 (60-69%) for Mathematics.
- NC(V) achievement rating of at least a 5 (60-69%) for Physical Sciences
- Enrolment in related engineering NCV programmes.

OR

- A Higher Certificate in Mechatronics with an average of 60% or above and a minimum of 60% for Mathematics.

Other

- The requirements with regards to the language of learning and teaching at Nelson Mandela University must be met.
- Adults from engineering-related jobs/occupations and fields of activity with appropriate prior learning may also apply for admission.

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be

Period	Total Credits Passed	Outcome
		deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be awarded on completion of the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* to a student should he/she comply with the requirements as stipulated in the General Prospectus. The following module shall be regarded as the major module: Capstone Project 302 (CCPV302)

DURATION

The qualification shall extend over at least three years of full-time study.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Physics IA	Semester 1	PHYV101	14
Mathematics IA	Semester 1	MATV101	14

		Presented	Module Code	Credit Value
	Professional Communication Language	Semester 1	LELV111	14
	Professional Communication Computers	Semester 1	LECV101	14
	Engineering Drawing IA	Semester 1	EDRV101	14
	Physics IB	Semester 2	PHYV102	14
	Mathematics IB	Semester 2	MATV102	14
	Engineering Skills	Semester 2	CESV102	14
	Engineering Programming Civil	Semester 2	CEPV102	14
	Core:			
	Construction I	Semester 2	CCOV102	14
	Credits First Year	Minimum		140
		Presented	Module Code	Credit Value
Second Year				
Compulsory module:				
	Mathematics IIA	Semester 1	MATV211	14
	Construction IIA	Semester 1	CCOV201	14
	Water Engineering IIA	Semester 1	CWEV201	14
	Surveying IIA	Semester 1	CSUV201	14
	Transportation Engineering IIA	Semester 1	CTEV201	14
	Structural Engineering IIB	Semester 2	CSEV202	14
	Construction IIB	Semester 2	CCOV202	14
	Water Engineering IIB	Semester 2	CWEV202	14
	Surveying IIB	Semester 2	CSUV202	14
	Transportation Engineering IIB	Semester 2	CTEV202	14
	Credits Second Year	Minimum		140
		Presented	Module Code	Credit Value
Third Year				
Compulsory module:				
	Structural Engineering IIIA	Semester 1	CSEV301	14
	Geotechnical Engineering	Semester 1	CGEV301	14
	Water Engineering III	Semester 1	CWEV301	14
	Project Management	Semester 1	CPMV301	14
	Transportation Engineering III	Semester 1	CTEV301	14
	Structural Engineering IIIB	Semester 2	CSEV302	14
	Corporate Citizenship for Engineering	Semester 2	CCCV302	14
	Capstone project (<i>Major</i>)	Semester 2	CCPV302	42
	Credits Third Year	Minimum		140
	Total Credits			420

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Prerequisites	Co-requisites
Mathematics IB	MATV102	MATV101	
Physics IB	PHYV102	PHYV101	
Engineering Programming Civil	CEPV102	LECV101	
Mathematics IIA	MATV211	MATV102	
Construction IIB	CCOV202	CCOV201	
Water Engineering IIB	CWEV202	CWEV201	
Surveying IIB	CSUV202	CSUV201	
Structural Engineering IIB	CSEV202	PHYV102	
Geotechnical Engineering	CGEV301	CCOV201	
Structural Engineering IIIA	CSEV301	CSEV202	
Transportation Engineering III	CTEV301	CCOV202	
Water Engineering IIA	CWEV301	CCOV202	
Capstone Project	CCPV302	CPMV301 and CWEV201 and CWEV202 and CTEV202 and CTEV301	
Structural Engineering IIIB	CSEV302	CSEV301	

7.5	BACHELOR OF ENGINEERING TECHNOLOGY IN ELECTRICAL ENGINEERING
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Qualification code:	71020
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	99051
Total NQF Credits for qualification:	420

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The purpose of Bachelor of Engineering Technology in Electrical Engineering (BEng Tech (Electrical)) is to enable the graduate to obtain the necessary knowledge, understanding, abilities and skills required towards becoming a competent, practicing Electrical Engineering Technologist.

The BEng Tech (Electrical) provides graduates with a sound knowledge base in the Electrical Engineering discipline and the ability to apply the knowledge, skills and values to register professionally. This qualification also equips graduates to undertake more specialised postgraduate studies and provides inter alia:

- The required preparation for careers in the discipline of Electrical Engineering itself and areas that potentially benefit from engineering skills and to contribute to the economy and national development;
- The educational base required for registration as a Candidate Professional Engineering Technologist with the Engineering Council of South Africa (ECSA);
- Entry to NQF level 8 programmes such as the Bachelor of Engineering Technology Honours in Electrical Engineering or the Postgraduate Diploma in Electrical Engineering, both of which will allow progression to Masters and then Doctoral programmes.

Qualification Objectives:

The graduate attributes of the programme will ensure that students who complete this programme will be able to:

- Apply engineering principles to systematically diagnose and solve *broadly-defined* engineering problems.
- Apply knowledge of mathematics, natural science and engineering sciences to define and applied engineering procedures, processes, systems and methodologies to solve *broadly-defined* engineering problems.
- Perform procedural and non-procedural design of *broadly-defined* components, systems, works, products or processes to meet desired needs normally within applicable standards, codes of practice and legislation.
- Conduct investigations of *broadly-defined* problems through locating, searching and selecting relevant data from codes, data bases and literature, designing and conducting experiments, analysing and interpreting results to provide valid conclusions.
- Use appropriate techniques, resources, and modern engineering tools, including information technology, prediction and modelling, for the solution of *broadly-defined* engineering problems, with an understanding of the limitations, restrictions, premises, assumptions and constraints.
- Communicate effectively, both orally and in writing, with engineering audiences and the affected parties.
- Demonstrate knowledge and understanding of the impact of engineering activity on the society, economy, industrial and physical environment, and address issues by analysis and evaluation.
- Demonstrate knowledge and understanding of engineering management principles and apply these to one's own work, as a member and leader in a team and to manage projects.
- Engage in independent and life-long learning through well-developed learning skills.
- Comprehend and apply ethical principles and commit to professional ethics, responsibilities and norms of engineering technology practice.

ADMISSION REQUIREMENTS

National Senior Certificate:

- Minimum NSC statutory requirements for degree entry must be met.
- An applicant with NSC Grade 12 Mathematics or Technical Mathematics requires a minimum Applicant Score of 370.
- NSC achievement rating of at least 60% for Mathematics or Technical Mathematics.
- NSC achievement rating of at least 50% for Physical Sciences or Technical Science.

National Certificate (Vocational):

- Minimum NC(V) Level 4 statutory requirements for degree entry must be met.

- English, Afrikaans or isiXhosa (first additional language) on at least a level 5 (60-69%).
- NC(V) achievement rating of at least a 5 (60-69%) for Mathematics.
- NC(V) achievement rating of at least a 5 (60-69%) for Physical Sciences.
- Enrolment in related engineering NCV programmes.

Higher Certificates:

A Higher Certificate in Mechatronics with an average of 60% or above and a minimum of 60% for Mathematics.

Other

- The requirements with regards to the language of learning and teaching at Nelson Mandela University must be met.
- Adults from engineering-related jobs/occupations and fields of activity with appropriate prior learning may also apply for admission.

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory.

Period	Total Credits Passed	Outcome
		Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be awarded on completion of the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* to a student should he/she comply with the requirements as stipulated in the General Prospectus. The following module shall be regarded as the major module: Capstone Project Electrical (ECPV302)

DURATION

The qualification shall extend over at least three years of full-time study.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Mathematics IA	Semester 1	MATV101	14
Physics IA	Semester 1	PHYV101	14

		Presented	Module Code	Credit Value
	Electrical Engineering Drawing	Semester 1	EEDV101	14
	Professional Communication Language	Semester 1	LELV111	14
	Professional Communication Computers	Semester 1	LECV101	14
	Mathematics IB	Semester 2	MATV102	14
	Physics IB	Semester 2	PHYV102	14
	Electrical Engineering Skills	Semester 2	ESKV102	14
	Electronic Systems I	Semester 2	EESV102	14
	Engineering Programming Electrical	Semester 2	EEPV102	14
	Credits First Year	Minimum		140
		Presented	Module Code	Credit Value
Second Year				
Compulsory module:				
	Mathematics II	Semester 1	MATV211	14
	Communication Systems IIA	Semester 1	ECCV211	14
	Computer Systems IIA	Semester 1	ECSV201	14
	Electronic Systems IIA	Semester 1	EESV201	14
	Electrical Systems IIA	Semester 1	ESSV201	14
	Electrical Machines and Control II	Semester 2	EMCV202	14
	Communication Systems IIB	Semester 2	ECCV202	14
	Computer System IIB	Semester 2	ECSV202	14
	Electronic Systems IIB	Semester 2	EESV202	14
	Electrical Systems IIB	Semester 2	ESSV202	14
	Credits Second Year	Minimum		140
		Presented	Module Code	Credit Value
Third Year				
Compulsory module:				
	Electrical Machines and Control III	Semester 1	EMCV301	14
	Automation and Control IIIA	Semester 1	EACV301	14
	Computer Systems III	Semester 1	ECSV311	14
	Research and Project Management	Semester 1	ERPV301	14
	Electrical Systems III	Semester 1	ESSV301	14
	Automation and Control IIIB	Semester 2	EACV302	14
	Corporate Citizenship for Engineering	Semester 2	CCCV302	14
	Capstone Project Electrical (<i>Major</i>)	Semester 2	ECPV302	42
	Credits Third Year	Minimum		140
	Total Credits			420

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Prerequisites	Co-requisites
Mathematics IB	MATV102	MATV101	
Physics IB	PHYV102	PHYV101	
Engineering Programming Electrical	EEPV102	LECV101	
Electronic Systems I	EESV102	MATV101	PHYV102
Electrical Engineering Skills	ESKV102	EEDV101	
Mathematics II	MATV211	MATV102	
Communication Systems IIA	ECCV211	EESV102 and PHYV102	MATV211
Computer Systems IIA	ECSV201	ESKV102	
Electronic Systems IIA	EESV201	EESV102 and ESKV102	
Electrical Systems IIA	ESSV201	MATV102 and PHYV102	MATV211
Electrical Machines and Control II	EMCV202	ECSV201 and ESSV201 and MATV211	
Communication Systems IIB	ECCV202	ECCV211	
Computer System IIB	ECSV202	ECSV201 and EPPV102	
Electronic Systems IIB	EESV202	EESV201	
Electrical Systems IIB	ESSV202	ESSV201	
Electrical Machines and Control III	EMCV301	ECSV202 and EESV202 and EMCV202	
Automation and Control IIIA	EACV301	ECSV202 and EESV201 and MATV211	
Computer Systems III	ECSV311	ECSV202 and EESV202	
Research and Project Management	ERPV301	ECCV202 and ECSV202 and EESV202 and EMCV202 and ESSV202	
Electrical Systems III	ESSV301	ESSV202 and MATV211	
Automation and Control IIIB	EACV302	EACV301	
Corporate Citizenship for Engineering	CCCV302	LELV111	
Capstone Project Electrical	ECPV302	ERPV301 and any 2 of the following:	

Module	Code	Prerequisites	Co-requisites
		ECCV202 or ECSV311 or EESV202 or EACV301 or EMCV301 or ESSV301	

7.6 BACHELOR OF ENGINEERING TECHNOLOGY IN INDUSTRIAL ENGINEERING

Qualification code:	71030
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	99031
Total NQF Credits for qualification:	420

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The purpose of the Bachelor of Engineering Technology in Industrial Engineering BEng Tech (Industrial) is to build the necessary knowledge, understanding, abilities and skills required towards becoming primarily a competent practicing Industrial engineering technologist as per the Sydney International Accord or a technician as per the Dublin International Accord.

The BEng Tech (Industrial) provides graduates with a sound knowledge base in the Industrial Engineering discipline and the ability to apply that knowledge, skills and values to register professionally whilst also equipping them to undertake more specialised postgraduate studies and provides inter alia:

- Preparation for careers in Industrial Engineering itself and areas that potentially benefit from engineering skills making a contribution to the economy and national development;
- The educational base required for registration as a Candidate Professional Engineering Technologist with ECSA;
- Entry to NQF level 8 programmes e.g. Bachelor of Engineering Technology Honours or Postgraduate Diploma in Industrial Engineering, which will allow candidates to proceed to Master and then Doctoral programmes.

Qualification Objectives:

The graduate attributes of the programme will ensure that students who complete this programme will be able to:

- Apply engineering principles to systematically diagnose and solve *broadly-defined* engineering problems.
- Apply knowledge of mathematics, natural science and engineering sciences to define and applied engineering procedures, processes, systems and methodologies to solve *broadly-defined* engineering problems.

- Perform procedural and non-procedural design of *broadly defined* components, systems, works, products or processes to meet desired needs normally within applicable standards, codes of practice and legislation.
- Conduct investigations of *broadly-defined* problems through locating, searching and selecting relevant data from codes, data bases and literature, designing and conducting experiments, analysing and interpreting results to provide valid conclusions.
- Use appropriate techniques, resources, and modern engineering tools, including information technology, prediction and modelling, for the solution of *broadly-defined* engineering problems, with an understanding of the limitations, restrictions, premises, assumptions and constraints.
- Communicate effectively, both orally and in writing, with engineering audiences and the affected parties.
- Demonstrate knowledge and understanding of the impact of engineering activity on the society, economy, industrial and physical environment, and address issues by analysis and evaluation.
- Demonstrate knowledge and understanding of engineering management principles and apply these to one's own work, as a member and leader in a team and to manage projects.
- Engage in independent and life-long learning through well-developed learning skills.
- Comprehend and apply ethical principles and commit to professional ethics, responsibilities and norms of engineering technology practice.

ADMISSION REQUIREMENTS

National Senior Certificate:

- Minimum NSC statutory requirements for degree entry must be met.
- An applicant with NSC Grade 12 Mathematics or Technical Mathematics requires a minimum Applicant Score of 370.
- NSC achievement rating of at least 60% for Mathematics or Technical Mathematics.
- NSC achievement rating of at least 50% for Physical Sciences or Technical Science.

National Certificate (Vocational):

- Minimum NC(V) Level 4 statutory requirements for degree entry must be met.
- English, Afrikaans or isiXhosa (first additional language) on at least a level 5 (60-69%).
- NC(V) achievement rating of at least a 5 (60-69%) for Mathematics.
- NC(V) achievement rating of at least a 5 (60-69%) for Physical Sciences
- Enrolment in related engineering NCV programmes.

Higher Certificates:

A Higher Certificate in Mechatronics with an average of 60% or above and a minimum of 60% for Mathematics.

Other

- The requirements with regards to the language of learning and teaching at Nelson Mandela University must be met.
- Adults from engineering-related jobs/occupations and fields of activity with appropriate prior learning may also apply for admission.

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at

Period	Total Credits Passed	Outcome
		least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification

The qualification shall be awarded on completion of the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* to a student should he/she comply with the requirements as stipulated in the General Prospectus. The following module shall be regarded as the major module: Capstone Project Industrial 302 (ICPV302)

DURATION

The qualification shall extend over at least three years of full-time study.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Mathematics IA	Semester 1	MATV101	14
	Physics IA	Semester 1	PHYV101	14
	Engineering Drawing IA	Semester 1	EDRV101	14
	Professional Communication Language	Semester 1	LELV111	14
	Professional Communication Computers	Semester 1	LECV101	14
	Mathematics IB	Semester 2	MATV102	14
	Physics IB	Semester 2	PHYV102	14
	Industrial Engineering Skills IB	Semester 2	IESK102	14
	Operations Engineering IB	Semester 2	IOEV102	14
	Engineering Materials IB	Semester 2	MEMV102	14
	Credits First Year	Minimum		140
		Presented	Module Code	Credit Value
Second Year				
Compulsory module:				
	Mathematics II	Semester 1	MATV211	14

		Presented	Module Code	Credit Value
	Systems Engineering IIA	Semester 1	ISEV201	14
	Engineering Programming Industrial	Semester 1	IEPV201	14
	Engineering Statistics	Semester 1	IESV201	14
	Computer Aided Design	Semester 1	CADV201	14
	Business Engineering IIB	Semester 2	IBEV202	14
	Systems Engineering IIB	Semester 2	ISEV202	14
	Operations Engineering IIB	Semester 2	IOEV202	14
	Quality Engineering	Semester 2	IQEV202	14
	Manufacturing Engineering	Semester 2	IMEV202	14
	Credits Second Year	Minimum		140
		Presented	Module Code	Credit Value
Third Year				
Compulsory module:				
	Business Engineering IIIA	Semester 1	IBEV301	14
	Operations Research	Semester 1	IORV301	14
	Operations Engineering IIIA	Semester 1	IOEV301	14
	Facilities Layout and Materials Handling	Semester 1	IFLV301	14
	Research and Project Management	Semester 1	IRPV301	14
	Business Engineering IIIB	Semester 2	IBEV302	14
	Corporate Citizenship for Engineers	Semester 2	CCCV302	14
	Automation	Semester 2	IATV302	14
	Capstone Project Industrial (<i>Major</i>)	Semester 2	ICPV302	28
	Credits Third Year	Minimum		140
	Total Credits			420

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Prerequisites	Co-requisites
Mathematics IB	MATV102	MATV101	
Physics IB	PHYV102	PHYV101	
Engineering Materials IB	MEMV102	PHYV101	
Mathematics II	MATV211	MATV102	
Computer Aided Design	CADV201	EDRV101	
Systems Engineering IIB	ISEV202	ISEV201	
Operations Engineering IIB	IOEV202	IOEV102	
Quality Engineering	IQEV202	IESV201	
Manufacturing Engineering	IMEV202	IESK102 and	

		MEMV102	
Operations Engineering IIIA	IOEV301	IOEV202	
Facilities Layout and Materials Handling	IFLV301	CADV201 and IOEV102	
Business Engineering IIIB	IBEV302	IBEV301	
Automation	IATV302	IEPV201 and CADV201 and IBEV301	
Capstone Project Industrial	ICPV302	ISEV202 and IQEV202 and IMEV202 and IBEV301 and IOEV301 and IFLV301 and IRPV301	

7.7 BACHELOR OF ENGINEERING TECHNOLOGY IN MARINE ENGINEERING

Qualification code:	71060
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	101705
Total NQF Credits for qualification:	420

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The Bachelor of Engineering Technology in Marine Engineering– BEngTech (Marine Engineering) is specifically designed to build the necessary knowledge, understanding, attributes and skills required for further learning towards:

- Becoming a competent practicing Class 1 Chief Engineer at a management level aboard a vessel
- Preparation for careers in Marine Engineering and/or Naval Architecture, and areas that potentially benefit from high level Marine Engineering and Naval Architecture knowledge and technological skills.

ADMISSION REQUIREMENTS

National Senior Certificate:

- Minimum NSC statutory requirements for degree entry must be met.
- An applicant with NSC Grade 12 Mathematics or Technical Mathematics requires a minimum Applicant Score of 370.
- NSC achievement rating of at least 60% for Mathematics or Technical Mathematics.
- NSC achievement rating of at least 50% for Physical Sciences or Technical Science.
- Alternatively: A Higher Certificate in Mechatronics Engineering qualification with an average of 60% or above and a minimum of 60% for Mathematics 1001 (MAT1001)

National Certificate (Vocational)

- Minimum National Certificate (Vocational) Level 4 statutory requirements for degree entry must be met.
- English, Afrikaans or isiXhosa (first additional language) on at least a level 5 (60-69%)
- NC(V) achievement rating of at least a 5 (60-69%) for Mathematics.
- NC(V) achievement rating of at least a 5 (60-69%) for Physical Sciences.
- Enrolment in related engineering NCV programmes.

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for

Period	Total Credits Passed	Outcome
		final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

Where applicable within a particular academic year, the Pass-on link will be applied as per University policy.

STATUTORY AND OTHER REQUIREMENTS

Age requirement:

Be no older than 21 years of age at the time of registration. However, mature students and students already at sea may apply, provided that they have evidence of a cadet berth sponsorship, in writing, via their employer/sponsor. Generally accepted by Shipping Companies is 18 – 25 years of Age. Applicants exceeding this limit will have significantly reduced chances of employment.

SAMSA Requirements:

- Pass a South African Maritime Safety Authority (SAMSA) eyesight test (colour & vision) and medical examination for seafarers, advised to do test prior to registration.
- In addition, a Tuberculosis screening (chest x-ray) has to be completed.
- Candidates should not have a criminal record. If not ascertained, this will be picked up when applying for various visas, some of which directly prohibit employment.

Obtaining the qualification:

The qualification shall be awarded on completion of the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* to a student should he/she comply with the requirements as stipulated in the General Prospectus. The following module shall be regarded as the major module: Marine Engineering Capstone Project (EMEC302).

DURATION

The qualification shall extend over at least three years of full-time study.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Mathematics IA	Semester 1	MATV101	14
	Physics IA	Semester 1	PHYV101	14
	Engineering Drawing	Semester 1	EDRV101	14
	Professional Communication Language IA	Semester 1	LELV111	14
	Professional Communication Computers IA	Semester 1	LECV101	14
	Mathematics IB	Semester 2	MATV102	14
	Physics IB	Semester 2	PHYV102	14
	Marine Engineering Knowledge I	Semester 2	EMAR102	14
	Naval Architecture I	Semester 2	EMNA102	14
	Marine Law I	Semester 2	JMML102	14
	Credits First Year			140
		Presented	Module Code	Credit Value
Second Year				
Compulsory module:				
	Mathematics II	Semester 1	MATV211	14
	Strength of Materials IIA	Semester 1	MSMV211	14
	Statics and Dynamics II	Semester 1	MSDV201	14
	Marine Engineering Knowledge II	Semester 1	EMAR201	14
	Fluid Mechanics IIA	Semester 1	MFMV201	14
	Thermodynamics II	Semester 2	MTDV202	14
	Strength of Materials IIB	Semester 2	MSMV202	14
	Naval Architecture II	Semester 2	EMNA202	14
	Mechanical Design II	Semester 2	MMDV212	14
	Marine Electrical Systems II	Semester 2	EMES202	14
	Credits Second Year			140
		Presented	Module Code	Credit Value
Third Year				
Compulsory module:				
	Thermodynamics III	Semester 1	MTDV301	14
	Marine Electrical Systems III	Semester 1	EMES301	14
	Marine Research and Project Management III	Semester 1	EMRP301	14
	Marine Automation and Programming IIIA	Semester 1	EMAP301	14
	Naval Architecture III	Semester 2	EMNA302	14
	Mechanical Design III	Semester 1	MMDV301	14
	Marine Engineering Knowledge III	Semester 2	EMAR302	14
	Marine Advanced Automation IIIB	Semester 2	EMAA302	14

		Presented	Module Code	Credit Value
	Marine Engineering Capstone Project III	Semester 2	EMEC302	28
	Credits Third Year			140
	Total Credits			420

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites	Co-requisites
Mathematics IB	MATV102	MATV101	
Physics IB	PHYV102	PHYV101	
Mathematics II	MATV211	MATV102	
Strength of Materials IIA	MSMV201	MATV101 and PHYV102	
Statics and Dynamics IIA	MSDV201	MATV102 and PHYV102	
Marine Engineering Knowledge II	EMAR201	EMAR102	
Fluid Mechanics IIA	MFMV201	PHYV101 and MATV101 and LECV101	
Thermodynamics IIB	MTDV202	PHYV101 and PHYV102	
Naval Architecture II	EMNA202	EMNA102	
Mechanical Design II	MMDV212	MSMV211 Only for Mechanical EDRV101 and MMPV201 and MEMV201 Only for Marine EDRV101 and EMNA102 and EMAR102	
Marine Electrical System II	EMES202	PHYV102	
Thermodynamics IIIA	MTDV301	MTDV202	
Marine Electrical Systems III	EMES301	EMES202	
Marine Research and Project Management III	EMRPV301	LELV111 and LECV101 and MMDV202	
Marine Automation and Programming III	EMAP301	EMES202	
Naval Architecture III	EMNA301	EMNA202	
Mechanical Design IIIA	MMDV311	Only for	Only for

Module	Code	Pre-requisites	Co-requisites
		Mechanical MMDV212 and MSMV202 and MMPV201 Only for Marine MMDV212 and EMAR201 and EMNA102	Mechanical MSMV301 Only for Marine EMNA202
Marine Engineering Knowledge III	EMAR302	EMAR201	
Marine Advanced Automation IIIB	EMAA302	EMAP301	
Marine Engineering Capstone Project III	EMEP302	EMAP301 and EMAR201 and EMNA202 and EMRP301 and MMDV311	

7.8 BACHELOR OF ENGINEERING TECHNOLOGY IN MECHANICAL ENGINEERING

Qualification code:	71040
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	99582
Total NQF Credits for qualification:	420

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The purpose of Bachelor of Engineering Technology in Mechanical Engineering (BEng Tech (Mechanical)) is to enable the graduate to obtain the necessary knowledge, understanding, abilities and skills required towards becoming a competent, practicing Mechanical Engineering Technologist.

The BEng Tech (Mechanical) provides graduates with a sound knowledge base in the Mechanical Engineering discipline and the ability to apply the knowledge, skills and values to register professionally. This qualification also equips graduates to undertake more specialised postgraduate studies and provides inter alia:

- The required preparation for careers in the discipline of Mechanical Engineering itself and areas that potentially benefit from engineering skills and to contribute to the economy and national development;
- The educational base required for registration as a Candidate Professional Engineering Technologist with the Engineering Council of South Africa (ECSA);
- Entry to NQF level 8 programmes such as the Bachelor of Engineering Technology Honours in Mechanical Engineering or the Postgraduate Diploma in Mechanical Engineering, both of which will allow progression to Masters and then Doctoral programmes.

Qualification Objectives

The graduate attributes of the programme will ensure that students who complete this programme will be able to:

- Apply engineering principles to systematically diagnose and solve *broadly-defined* engineering problems.
- Apply knowledge of mathematics, natural science and engineering sciences to define and applied engineering procedures, processes, systems and methodologies to solve *broadly-defined* engineering problems.
- Perform procedural and non-procedural design of *broadly-defined* components, systems, works, products or processes to meet desired needs normally within applicable standards, codes of practice and legislation.
- Conduct investigations of *broadly-defined* problems through locating, searching and selecting relevant data from codes, data bases and literature, designing and conducting experiments, analysing and interpreting results to provide valid conclusions.
- Use appropriate techniques, resources, and modern engineering tools, including information technology, prediction and modelling, for the solution of *broadly-defined* engineering problems, with an understanding of the limitations, restrictions, premises, assumptions and constraints.
- Communicate effectively, both orally and in writing, with engineering audiences and the affected parties.
- Demonstrate knowledge and understanding of the impact of engineering activity on the society, economy, industrial and physical environment, and address issues by analysis and evaluation.
- Demonstrate knowledge and understanding of engineering management principles and apply these to one's own work, as a member and leader in a team and to manage projects.
- Engage in independent and life-long learning through well-developed learning skills.
- Comprehend and apply ethical principles and commit to professional ethics, responsibilities and norms of engineering technology practice.

ADMISSION REQUIREMENTS

National Senior Certificate:

- Minimum NSC statutory requirements for degree entry must be met.
- An applicant with NSC Grade 12 Mathematics or Technical Mathematics requires a minimum Applicant Score of 370.
- NSC achievement rating of at least 60% for Mathematics or Technical Mathematics.
- NSC achievement rating of at least 50% for Physical Sciences or Technical Science.

National Certificate (Vocational):

- Minimum NC(V) Level 4 statutory requirements for degree entry must be met.
- English, Afrikaans or isiXhosa (first additional language) on at least a level 5 (60-69%).
- NC(V) achievement rating of at least a 5 (60-69%) for Mathematics.
- NC(V) achievement rating of at least a 5 (60-69%) for Physical Sciences
- Enrolment in related engineering NCV programmes.

Higher Certificates:

A Higher Certificate in Mechatronics with an average of 60% or above and a minimum of 60% for Mathematics.

Other

- The requirements with regards to the language of learning and teaching at Nelson Mandela University must be met.
- Adults from engineering-related jobs/occupations and fields of activity with appropriate prior learning may also apply for admission.

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.

Period	Total Credits Passed	Outcome
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be awarded on completion of the modules prescribed by Senate.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* to a student should he/she comply with the requirements as stipulated in the General Prospectus. The following module shall be regarded as the major module: Capstone Project Mechanical IIIB (MCPV302)

DURATION

The qualification shall extend over at least three years of full-time study.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Engineering Drawing I	Semester 1	EDRV101	14
Mathematics IA	Semester 1	MATV101	14
Physics IA	Semester 1	PHYV101	14
Professional Communication Computers IA	Semester 1	LECV101	14
Professional Communication Language IA	Semester 1	LELV111	14
Engineering Materials I	Semester 2	MEMV102	14
Engineering Programming Mechanical I	Semester 2	MEPV102	14
Engineering Skills I	Semester 2	CESV102	14
Mathematics IB	Semester 2	MATV102	14
Physics IB	Semester 2	PHYV102	14

		Presented	Module Code	Credit Value
Credits First Year		Minimum		140
		Presented	Module Code	Credit Value
Second Year				
Compulsory module:				
	Fluid Mechanics IIA	Semester 1	MFMV201	14
	Manufacturing Processes II	Semester 1	MMPV201	14
	Mathematics II	Semester 1	MATV211	14
	Statics and Dynamics II	Semester 1	MSDV201	14
	Strength of Materials IIA	Semester 1	MSMV211	14
	Dynamics and Controls II	Semester 2	MDCV202	14
	Fluid Mechanics IIB	Semester 2	MFMV202	14
	Mechanical Design II	Semester 2	MMDV212	14
	Strength of Materials IIB	Semester 2	MSMV202	14
	Thermodynamics II	Semester 2	MTDV202	14
Credits Second Year		Minimum		140
		Presented	Module Code	Credit Value
Third Year				
Compulsory module:				
	Hydraulic Machines III	Semester 1	MHMOV301	14
	Mechanical Design III	Semester 1	MMDV311	14
	Research and Project Management III	Semester 1	MRPV301	14
	Strength of Materials III	Semester 1	MSMV311	14
	Thermodynamics III	Semester 1	MTDV301	14
	Applied Strength of Materials III	Semester 2	MAMV302	14
	Capstone Project Mechanical III (<i>Major</i>)	Semester 2	MCPV302	42
	Corporate Citizenship for Engineering III	Semester 2	CCCV302	14
Credits Third Year		Minimum		140
Total Credits				420

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites	Co-requisites
Mathematics IB	MATV102	MATV101	
Physics IB	PHYV102	PHYV101	
Engineering Materials I	MEMV102	PHYV101	

Module	Code	Pre-requisites	Co-requisites
Engineering Programming Mechanical I	MEPV102	MATV101	
Mathematics II	MATV211	MATV102	
Strength of Materials IIA	MSMV211	MATV101 and PHYV102	
Statics and Dynamics II	MSDV201	MATV102 and PHYV102	
Manufacturing Processes II	MMPV201	CESV102	
Fluid Mechanics IIA	MFMV201	PHYV101 and MATV101 and LECV101	
Thermodynamics II	MTDV202	PHYV102 and MATV101	
Dynamics and Controls II	MDCV202	MSDV201 and MSMV211	
Mechanical Design II	MMDV212	MSMV211 Only for Mechanical EDRV101 and MMPV201 and MEMV201 Only for Marine EDRV101 and EMNA102 and EMAR102	
Strength of Materials IIB	MSMV202	MSMV211	
Fluid Mechanics IIB	MFMV202	MFMV201	
Thermodynamics III	MTDV301	MTDV202	
Strength of Materials III	MSMV311	MSMV202	
Research and Project Management IIIA	MRPV301	LELV111 and LECV101 and MMDV212	
Mechanical Design III	MMDV311	Only for Mechanical MMDV212 and MSMV202 and MMPV201 Only for Marine MMDV212 and EMAR201 and EMNA102	Only for Mechanical MSMV301 Only for Marine EMNA202
Hydraulic Machines III	MHMV301	MFMV202	
Applied Strength of Materials III	MAMV302	MSMV311	
Capstone Project Mechanical III B	MCPV302	MRPV301 and MSMV311 and MMDV311	

7.9 BACHELOR OF HUMAN SETTLEMENT DEVELOPMENT

Qualification code:	71000
Offering:	Full-time North Campus (01)
Aligned NQF Level:	8
SAQA ID:	90561
Total NQF Credits for qualification:	494

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

- Minimum NSC statutory requirements for degree entry must be met.
- An applicant with NSC Grade 12 Mathematics or Technical Mathematics requires a minimum Applicant Score of 370.
- An applicants with NSC Grade 12 Mathematical Literacy requires a minimum Applicant Score of 385.
- NSC achievement rating of at least 50% for Mathematics or Technical Mathematics or 70% for Mathematical Literacy.

Recommended NSC Subjects

- Accounting
- Business Studies
- Civil Technology
- Consumer Studies
- Economics
- Engineering Graphics & Design
- Geography
- Physical Sciences

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.

Period	Total Credits Passed	Outcome
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career options.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by successfully completing the modules prescribed by Senate. In addition, candidates must complete four months of work-integrated

learning during recess periods in the course of their studies and submit reports for approval by the Programme Co-ordinator.

Awarding the qualification cum laude:

The qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus.

Site of delivery:

This qualification will be offered at the Missionvale Campus of the university.

DURATION

The qualification shall extend over at least four years of full-time study or at least six years of part-time study.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Human Settlement Management			
Basic Principles and Theory of Human Settlement Development and Management	Semester 1	HSM101	15
Theory of Land Use Planning and Management	Semester 2	HSM102	15
Public Administration			
Constitutional Framework for Public Administration	Semester 1	SPA112	6
Regional, Metropolitan and Local Administration	Semester 2	SPA113	6
Administration for Development	Semester 2	SPA114	6
Economics			
Introduction to Micro-economics	Semester 1	ECC101	12
Introduction to Macro-economics	Semester 2	ECC102	12
Computer Sciences			
Computer Literacy	Semester 2	ITVL102	6
Accounting			
Accounting (Special) 101	Semester 1	RSS101	10
Accounting (Special) 102	Semester 2	RSS102	5
Sociology			
Social and Environmental Issues	Semester 1	SSS261	10
Political Studies			
Political Issues, theories and concepts	Semester 1	SLP111	6
Law			
Local Government Law	Semester 2	JLG101	12
Credits First Year	Minimum		121

	Presented	Module Code	Credit Value	
Second Year				
Compulsory module:				
	Human Settlement Management			
	Land Use Management and Environment	Semester 1	HSM201	10
	Communities and Human Resources	Semester 1	HSM202	10
	Housing Finance and Administration	Semester 2	HSM203	10
	Public Administration			
	Public Policy Process, Procedures and Methods	Semester 1	SPA221	10
	Public Financing and Control	Semester 2	SPA222	10
	Law			
	Commercial Law	Semester 1	JHA131	12
	Sociology			
	Sociology of Development	Semester 2	SSS323	15
	House Design and Services			
	House Design and Related Building Standards	Semester 1	HDS201	10
	Services and Layouts of Residential Developments	Semester 2	HDS202	10
	Business Management			
	Introduction to Business Management and Entrepreneurship	Semester 1	EB121	12
	Introduction to the Business Functions	Semester 2	EB122	12
	Credits Second Year	Minimum		121
	Presented	Module Code	Credit Value	
Third Year				
Compulsory module:				
	Human Settlement Management			
	Development Management Theory	Semester 1	HSM301	10
	Human Settlement Policies and Implementation	Semester 2	HSM302	10
	Social Housing Facilitation and Management	Semester 2	HSM303	10
	Public Administration			
	Local Government and Administration	Semester 1	SPA312	15
	Local and Regional Resource Management	Semester 2	SPA313	15
	Public Management Techniques	Semester 1	SPA314	15
	Project Management	Semester 2	SPA315	15
	House Construction and Maintenance			
	House Construction and Maintenance	Semester 1	HCM301	12
	Construction Management (Special)			

		Presented	Module Code	Credit Value
	Introduction to the Built Environment and Construction Management (Special)	Semester 1	CMS301	10
	Construction Contracts	Semester 2	CMS302	10
	Credits Third Year	Minimum		122
		Presented	Module Code	Credit Value
Fourth Year				
Compulsory module:				
	Human Settlement Management			
	Sustainable Human Settlement and Urban Infrastructure Management (<i>Major</i>)	Semester 1	HSM401	10
	Economic Development and Environmental Impact Management (<i>Major</i>)	Semester 2	HSM402	10
	Advanced Project Management Applications (<i>Major</i>)	Semester 1	HSM403	10
	Integrated Development Management			
	IDP Theory, Policies and Practice (<i>Major</i>)	Semester 1	IDM401	10
	GIS for Human Settlement Managers (<i>Major</i>)	Semester 2	IDM402	10
	Property Development and Management			
	Property Development and Management	Semester 1	HDM401	10
	Property Investment and Finance	Semester 2	HDM402	10
	Property Economics and Valuation	Semester 2	HDM403	10
	Law			
	Statutory Law relating to Human Settlements	Semester 1	JSL101	10
	Statistics			
	Statistical Methods for Behavioural Sciences	Semester 1	WSA111	7
	Research Methodology and Treatise			
	Research Methodology and Proposal	Semester 1	HSR401	10
	Research Project and Treatise (preferably linked to a Practical Project/Case study)	Semester 2	HSR402	23
	Credits Fourth Year	Minimum		130
	Total Credits			494

7.10 BACHELOR OF INFORMATION TECHNOLOGY

Qualification code:	72001
Offering:	Full-time North Campus (01)
Aligned NQF Level:	8
SAQA ID:	100653
Total NQF Credits for qualification:	360/362

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The purpose of this qualification is to develop Information Technology Professionals that are able to identify opportunities for the design of software and IT solutions that improve both industry and society. This is accomplished through the use of their technical skills in data process modelling, system evaluation as well as consultancy and project management skills.

ADMISSION REQUIREMENTS

- Minimum NSC statutory requirements for degree entry must be met.
- An applicant with NSC Grade 12 Mathematics or Technical Mathematics requires a minimum Applicant Score of 370.
- NSC achievement rating of at least 50% for Mathematics or Technical Mathematics.

RE-ADMISSION REQUIREMENTS

Re-admission to the programme in a following academic year is subject to:

- candidates passing a minimum of 60 credits per academic year;
- candidates passing specified, pre-requisite modules.

STATUTORY AND OTHER REQUIREMENTS

A maximum of 60 credits in the curriculum may be substituted subject to approval from the School Management Committee and the requirements of the NATED 151.

DURATION

The qualification shall extend over a minimum of three years of full-time study. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Mathematics Special A 101	Semester 1	MATS101	8
Mathematics Special B 101	Semester 2	MATB111	8
Business Statistics	Semester 2	STAV102	12
Introduction to Information Technology	Semester 1	IITF101	14
Information Technology Practice	Semester 2	IITP102	14
Operating System Fundamentals	Semester 1	IOSF101	14

		Presented	Module Code	Credit Value
	Communication Network Fundamentals	Semester 2	ICNF102	14
	Programming Fundamentals 1A	Semester 1	WRAV101	8
	Programming Fundamentals 1B	Semester 2	WRAV102	8
	IT Professional Practice	Year	ITPP100	20
	Credits First Year			120
		Presented	Module Code	Credit Value
Second Year				
Compulsory module:				
	Applied Data Analytics	Semester 1	IADA201	12
	Requirements Engineering	Semester 1	IREQ201	10
	Database Design and Development	Semester 1	IDBD201	20
	Interaction Design and Process Modelling	Semester 2	IDPM202	15
	Web Applications Development	Semester 2	IWDV202	15
	Network Management	Semester 1	INWM201	15
	Network Optimisation and Security	Semester 2	INOS202	15
Electives (Select one of the following options)				
	Manufacturing Option			
	Introduction to Manufacturing	Semester 1	IMNF201	10
	Introduction to Automation	Semester 2	IAUT202	10
	Health Informatics Option			
	Health Care Systems, Policies and Regulations	Semester 1	VHPR201	10
	Population-based health care	Semester 2	VPHC102	8
	Maritime Option			
	Introduction to the Maritime Environment	Semester 1	IMEV201	10
	Maritime Information Systems	Semester 2	IMIS202	10
	Credits Second Year			120/122
		Presented	Module Code	Credit Value
Third Year				
Compulsory module:				
	Re-usable Design and Development (<i>Major</i>)	Semester 1	IRUD301	15
	Mobile Development	Semester 1	IMOB301	10
	Multi-platform and Cloud Systems	Semester 1	IMPS301	10
	Integrated Enterprise Systems (<i>Major</i>)	Semester 1	IENT301	10
	IT Management and Governance	Semester 2	ITMG302	15
	Emerging Technologies	Semester 2	IEMT302	15
	Project (<i>Major</i>)	Semester 2	ITPV302	30
Electives (continue with choice made in second year)				
	Manufacturing & Maritime Option			

		Presented	Module Code	Credit Value
	Applied Programming	Semester 1	IAPP301	15
	Health Informatics Option			
	Management in Health Care	Year	VMHC300	15
	Credits Third Year			120
	Total Credits			360/362

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites	Co-requisites
Information Technology Practice	IITP102	IITF101	
Communication Network Fundamentals	ICNF102	IOSF101	
Requirements Engineering	IREQ201	IITP102 and ITPP100	
Database Design & Development	IDBD201	IITP102 and WRAV102	
Module	Code	Pre-requisites	Co-requisites
Interaction Design & Process Modelling	IDPM202	IREQ201 and IDBD201	
Web Applications Development	IWDV202	IREQ201 and IDBD201	
Network Management	INWM201	ICNF102	
Network Optimization and Security	INOS202	INWM201	
Re-usable Design and Development	IRUD301	IDPM202	
Mobile Development	IMOB301	IDPM202	
Multi-platform & Cloud Systems	IMPS301	IDPM202 and IWDV202	IMOB301
Integrated Enterprise Systems	IENT301	IDPM202 and IWDV202	IMPS301
IT Management & Governance	ITMG302	IENT301	
Emerging Technologies	IEMT302	INOS202 and ITPP102	IENT301
IT Project 3	ITPV302	IENT301 and IRUD301 and INOS202	
Applied Programming	IAPP301	IADA201 and IDBD201	
Mathematics Special B 101	MATB111	MATS101	
Programming Fundamentals 1B	WRAV102	WRAV101	

Applied Data Analytics#	IADA201	STAV102 and WRAV102	
Maritime Information Systems	IMIS202	IMEV201	

7.11 BACHELOR OF SCIENCE IN CONSTRUCTION ECONOMICS (NO NEW INTAKE)

Qualification code:	47002
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	87266
Total NQF Credits for qualification:	364

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Admission Points Score of 36.
- Minimum NSC requirements for degree entry must be met.
- English, Afrikaans or isiXhosa (home language or first additional language) on at least level 3 (40-49%).
- NSC achievement rating of at least 4 (50-59%) for Mathematics.
- Applicants with an Admission Points Score between 26 and 35 may be referred to write the Access Assessment Battery before a decision is made on whether or not to admit the applicant to the course.
- Admission is subject to departmental selection.

Recommended NSC subjects

- Engineering Graphics and Design
- Physical Sciences

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.

Period	Total Credits Passed	Outcome
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

STATUTORY AND OTHER REQUIREMENTS*Obtaining the qualification:*

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following modules shall be regarded as the major modules:

Quantities 301

Building Economics 301

Quantity Surveying 301

DURATION

The qualification shall extend over at least three years of full-time study. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2015.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2020.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Introduction to Micro-economics (Special)	Semester 1	ECS101	7
Introduction to Macro-economics (Special)	Semester 2	ECS102	7
Commercial Law 121	Semester 1	JHA121	12
Commercial Law (Building Disciplines)	Semester 2	JHY101	6
Building Science (Environment and Services) 1A	Semester 1	KES111	7
Building Science (Environment and Services) 1B	Semester 2	KES112	7
Basic Surveying 1A	Semester 1	KLS110	6
Building Science (Materials and Methods) 1A	Semester 1	KMM111	7
Building Science (Materials and Methods) 1B	Semester 2	KMM112	7
Information Technology for Building Disciplines 101	Year	QIT101	2
Quantities 101	Year	QQH101	16
Quantity Surveying 101	Year	QQS101	12
Computing Fundamentals 1.1	Semester 1	WRFC101	8
Computing Fundamentals 1.2	Semester 2	WRFC102	8
Credits First Year			112

	Presented	Module Code	Credit Value
Second Year			
Compulsory modules:			
Introduction to Business Management and Entrepreneurship	Semester 1	EB101	12
Introduction to the Business Functions	Semester 2	EB102	12
Building Science (Environment and Services) 2A	Semester 1	KES211	7
Building Science (Environment and Services) 2B	Semester 2	KES212	7
Building Science (Materials and Methods) 2A	Semester 1	KMM211	7
Building Science (Materials and Methods) 2B	Semester 2	KMM212	7
Building Economics 201	Year	QBE201	20
Information Technology for Building Disciplines 201	Year	QIT201	2
Quantities 201	Year	QQH201	16
Quantity Surveying 201	Year	QQS201	12
Accounting (Special) 101	Semester 1	RS101	10
Accounting (Special) 102	Semester 2	RS102	5
Credits Second Year			117
	Presented	Module Code	Credit Value
Third Year			
Compulsory modules:			
Marketing Management	Semester 1	EBM201	14
Logistics and Purchasing Management	Semester 2	EBM202	14
Building Science (Environment and Services) 3A	Semester 1	KES311	7
Building Science (Environment and Services) 3B	Semester 2	KES312	7
Building Science (Materials and Methods) 3A	Semester 1	KMM311	7
Building Science (Materials and Methods) 3B	Semester 2	KMM312	7
Mathematics for Accounting	Semester 1	MACC101	12
Building Economics 301 (<i>Major</i>)	Year	QBE301	22
Information Technology for Building Disciplines 301	Year	QIT301	4
Quantities 301 (<i>Major</i>)	Year	QQH301	16
Quantity Surveying 301 (<i>Major</i>)	Year	QQS301	13
Business Statistics 102	Semester 2	STAE102	12
Credits Third Year			135
Total Credits			364

**7.12 BACHELOR OF SCIENCE IN CONSTRUCTION ECONOMICS
(NO NEW INTAKE)**

Qualification code:	72020
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	87266
Total NQF Credits for qualification:	364

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The purpose of the qualification is, in one or more sub-fields within the physical, mathematical, computer, life, earth, and environmental sciences:

- To produce science graduates who have: a systematic and coherent body of knowledge and an understanding of underlying concepts and principles; the ability to access and evaluate scientific information including knowing how scientific knowledge is created; a high level of cognitive and other generic skills including problem-solving, written and spoken communication and computer literacy; and competence in applying knowledge through basic research methods and practice.
- To provide every graduate with a sufficient depth of knowledge and skills that give opportunities for continued personal intellectual growth, including postgraduate study, for gainful economic activity in a range of careers, and for rewarding and constructive contributions to society.
- To provide society with science graduates who demonstrate initiative and responsibility, who are professional and ethical in their roles within the economy and society, and who are able to be intellectual leaders within their society.
- To produce graduates in all scientific fields, in order to increase, widen and transform the leadership base in South Africa, both for innovation and science-based economic and research development, and for the education of future generations of scientists, technologists, engineers and other professional people.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Admission Points Score of 36.
- Minimum NSC requirements for degree entry must be met.
- English, Afrikaans or isiXhosa (home language or first additional language) on at least level 3 (40-49%).
- NSC achievement rating of at least 4 (50-59%) for Mathematics.
- Applicants with an Admission Points Score between 26 and 35 may be referred to write the Access Assessment Battery before a decision is made on whether or not to admit the applicant to the course.
- Admission is subject to departmental selection.

Recommended NSC subjects

Engineering Graphics and Design

Physical Sciences

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at

Period	Total Credits Passed	Outcome
		least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following modules shall be regarded as the major modules:

Quantities 3

Building Economics 3

Quantity Surveying 3

DURATION

The qualification shall extend over at least three years of full-time study. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2016.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2021.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Introduction to Micro-economics (Special) I	Semester 1	ECSV101	7
Introduction to Macro-economics (Special) I	Semester 2	ECSV102	7
Commercial Law I	Semester 1	JHA131	12
Commercial Law (Building Disciplines) I	Semester 2	JHYV102	6
Building Science (Environment and Services) 1A	Semester 1	KESV101	7
Building Science (Environment and Services)	Semester 2	KESV102	7

	1B			
	Basic Surveying I	Semester 1	KLSV101	6
	Building Science (Materials and Methods) 1A	Semester 1	KMMV101	7
	Building Science (Materials and Methods) 1B	Semester 2	KMMV102	7
	Information Technology for Building Disciplines I	Year	QITV100	2
	Quantities I	Year	QQHV100	16
	Quantity Surveying I	Year	QQSV100	12
	Computing Fundamentals 1.1	Semester 1	WRFV101	8
	Computing Fundamentals 1.2	Semester 2	WRFV102	8
	Credits First Year			112
		Presented	Module Code	Credit Value
Second Year				
Compulsory modules:				
	Introduction to Business Management and Entrepreneurship I	Semester 1	EB121	12
	Introduction to the Business Functions	Semester 2	EB122	12
	Building Science (Environment and Services) 2A	Semester 1	KESV201	7
	Building Science (Environment and Services) 2B	Semester 2	KESV202	7
	Building Science (Materials and Methods) 2A	Semester 1	KMMV201	7
	Building Science (Materials and Methods) 2B	Semester 2	KMMV202	7
	Building Economics 2	Year	QBEV200	20
	Information Technology for Building Disciplines 2	Year	QITV200	2
	Quantities 2	Year	QQHV200	16
	Quantity Surveying 2	Year	QQSV200	12
	Accounting (Special) 101	Semester 1	RSS101	10
	Accounting (Special) 102	Semester 2	RSS102	5
	Credits Second Year			117
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Marketing Management 2	Semester 1	EBMV201	14
	Logistics and Purchasing Management 2	Semester 2	EBMV202	14
	Building Science (Environment and Services) 3A	Semester 1	KESV301	7
	Building Science (Environment and Services) 3B	Semester 2	KESV302	7
	Building Science (Materials and Methods) 3A	Semester 1	KMMV301	7
	Building Science (Materials and Methods) 3B	Semester 2	KMMV302	7

	Mathematics for Accounting	Semester 1	MACV101	12
	Building Economics 3 (<i>Major</i>)	Year	QBEV300	22
	Information Technology for Building Disciplines 3	Year	QITV300	4
	Quantities 3 (<i>Major</i>)	Year	QQHV300	16
	Quantity Surveying 3 (<i>Major</i>)	Year	QQSV300	13
	Business Statistics 102	Semester 2	STAV102	12
	Credits Third Year			135
	Total Credits			364

7.13 BACHELOR OF SCIENCE IN CONSTRUCTION ECONOMICS: QUANTITY SURVEYING WITH FINANCIAL AND BUSINESS MANAGEMENT

Qualification code:	72021
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	87266
Total NQF Credits for qualification:	368

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The purpose of the qualification is, in one or more sub-fields within the physical, mathematical, computer, life, earth, and environmental sciences:

- To produce science graduates who have: a systematic and coherent body of knowledge and an understanding of underlying concepts and principles; the ability to access and evaluate scientific information including knowing how scientific knowledge is created; a high level of cognitive and other generic skills including problem-solving, written and spoken communication and computer literacy; and competence in applying knowledge through basic research methods and practice.
- To provide every graduate with a sufficient depth of knowledge and skills that give opportunities for continued personal intellectual growth, including postgraduate study, for gainful economic activity in a range of careers, and for rewarding and constructive contributions to society.
- To provide society with science graduates who demonstrate initiative and responsibility, who are professional and ethical in their roles within the economy and society, and who are able to be intellectual leaders within their society.
- To produce graduates in all scientific fields, in order to increase, widen and transform the leadership base in South Africa, both for innovation and science-based economic and research development, and for the education of future generations of scientists, technologists, engineers and other professional people.

ADMISSION REQUIREMENTS

- Minimum NSC statutory requirements for degree entry must be met.
- An applicant with NSC Grade 12 Mathematics requires a minimum Applicant Score of 370.
- NSC achievement rating of at least 55% for Mathematics.

- Admission is subject to Departmental selection

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-	400 credits and more	Students are allowed to continue.

Period	Total Credits Passed	Outcome
year programme)	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if students comply with the requirements as stipulated in the General Prospectus. The following modules shall be regarded as the major modules:

- Quantities 3
- Building Economics 3
- Quantity Surveying 3

DURATION

The qualification shall extend over at least three years of full-time study. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Quantities 1	QQHV110	Year	20
Quantity Surveying 1	QQSV110	Year	15
Building Drawings 1	QB DV101	Semester 1	10
Building Science (Environment & Services) 1A	KESV101	Semester 1	7
Building Science (Environment & Services) 1B	KESV102	Semester 2	7
Building Science (Materials & Methods) 1A	KMMV101	Semester 1	7
Building Science (Materials & Methods) 1B	KMMV102	Semester 2	7
Computing Fundamentals 1.1	WRFV101	Semester 1	8
Computing Fundamentals 1.2	WRFV102	Semester 2	8
Introduction to Micro-economics (Special)	ECSV101	Semester 1	7

		Presented	Module Code	Credit Value
	Introduction to Macro-economics (Special)	ECSV102	Semester 2	7
	Commercial Law 1	JHA131	Semester 1	12
	Commercial Law (Building) 1	JHYV102	Semester 2	6
	Credits First Year			121
		Presented	Module Code	Credit Value
Second Year				
Compulsory modules:				
	Quantities 2	QQHV210	Year	18
	Quantity Surveying 2	QQSV210	Year	15
	Building Economics 2	QBEV210	Year	18
	Building Science (Environment & Services) 2A	KESV201	Semester 1	7
	Building Science (Environment & Services) 2B	KESV202	Semester 2	7
	Building Science (Materials & Methods) 2A	KMMV201	Semester 1	7
	Building Science (Materials & Methods) 2B	KMMV202	Semester 2	7
	Accounting (Special) 101	RSS101	Semester 1	10
	Accounting (Special) 102	RSS102	Semester 2	5
	Business Management 101	EBCV101	Semester 1	7
	Business Management 102	EBCV102	Semester 2	7
	Mathematics for Accounting	MACV101	Semester 1	12
	Credits Second Year			120
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Quantities 3 (<i>Major</i>)	QQHV310	Year	20
	Quantity Surveying 3 (<i>Major</i>)	QQSV310	Year	15
	Building Economics 3 (<i>Major</i>)	QBEV310	Year	26
	Building Science (Environment & Services) 3A	KESV301	Semester 1	7
	Building Science (Environment & Services) 3B	KESV302	Semester 2	7
	Building Science (Materials & Methods) 3A	KMMV301	Semester 1	7
	Building Science (Materials & Methods) 3B	KMMV302	Semester 2	7
	Marketing Management 2	EBMV201	Semester 1	14
	Business Management: Financial Management 301	EBMV301	Semester 1	24
	Credits Third Year			127
	Total Credits			368

**7.14 BACHELOR OF SCIENCE IN CONSTRUCTION STUDIES
(NO NEW INTAKE)**

Qualification code:	45603
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	87268
Total NQF Credits for qualification:	383

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The purpose of Bachelor of Science in Construction Studies is to develop an appreciation and understanding of the management of the physical construction process within the built environment and includes the co-ordination, administration and management of resources. The purpose of the programme embraces the necessary knowledge, understanding, abilities, and skills required to manage moderately complex to complex construction projects or manufacturing processes related to the construction industry at operational and middle management level.

The programme in Construction Studies at this level equips students with a fundamental knowledge of economics, law, management science and technology, design processes as well as financial and cost factors influencing construction as positioned within the built environment. Furthermore, it equips graduates with the ability to apply that knowledge, skills, and values to manage resources within defined performance constraints, within or across functions in a construction or related manufacturing organisation, within an encompassing political, economic, social, technological, environmental, and legal (PESTEL) framework, regionally, nationally, or internationally.

ADMISSION REQUIREMENTS

- Minimum NSC statutory requirements for degree entry must be met.
- An applicant with NSC Grade 12 Mathematics requires a minimum Applicant Score of 370.
- NSC achievement rating of at least 55% for Mathematics.

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in

Period	Total Credits Passed	Outcome
		second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.
After five years (four-year programme)	400 credits and more	Students are allowed to continue.
	360-399	Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-359 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.
After six years (four-year programme)		Only final-year students would be considered by applying individual consideration.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

STATUTORY AND OTHER REQUIREMENTS

Study Excursions:

Candidates are required to attend two study excursions, each of one week's duration, the first during the second to third year of study and the second during the Honours year of study.

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate. Before the qualification of Bachelor of Science in Construction Studies is awarded, candidates must be in possession of a valid First Aid certificate issued by a recognised First Aid organisation. Candidates shall make their own arrangements to obtain a First Aid certificate in their own time and to complete the necessary examinations.

Awarding the qualification cum laude:

Unless Senate decides otherwise the qualification shall be awarded *cum laude* if candidates comply with the requirements of the general rule concerned, provided that:

The following shall be regarded as the major modules:

- Construction Management 3
- Building Science (Materials and Methods) 3
- Building Science (Environment and Services) 3
- Building Science (Structures) 3
- Production Analysis 3
- Building Economics 201

DURATION

The qualification shall extend over at least three years of full-time study. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
	Appropriate Construction IV	Year	DAC4010	20
	Geometric Drawing 101	Semester 1	AM101	8
	Mechanics and Thermodynamics	Semester 1	FBB101	7
	Electricity, Optics and Atomics	Semester 2	FBB102	7
	Building Science (Structures) 1A	Semester 1	KBS111	7
	Building Science (Structures) 1B	Semester 2	KBS112	7
	Building Science (Environment and Services) 1A	Semester 1	KES111	7
	Building Science (Environment and Services) 1B	Semester 2	KES112	7
	Basic Surveying 1A	Semester 1	KLS110	6
	Basic Surveying 1B	Semester 2	KLS120	6
	Building Science (Materials and Methods) 1A	Semester 1	KMM111	7
	Building Science (Materials and Methods) 1B	Semester 2	KMM112	7

	Production Analysis 101	Year	KPA101	16
	Mathematics (Special) A	Semester 1	MATA101	8
	Mathematics (Special) B	Semester 2	MATA102	8
	Information Technology for Building Disciplines 101	Year	QIT101	2
	Computing Fundamentals 1.1	Semester 1	WRFC101	8
	Computing Fundamentals 1.2	Semester 2	WRFC102	8
	Credits First Year			126
		Presented	Module Code	Credit Value
Second Year				
Compulsory modules:				
	Business Management 101 (for CM students only)	Semester 1	EBC101	7
	Business Management 102 (for CM students only)	Semester 2	EBC102	7
	Introduction to Micro-economics (Special)	Semester 1	ECS101	7
	Introduction to Macro-economics (Special)	Semester 2	ECS102	7
	Organisational Behaviour Special	Semester 1	EZGS201	12
	Building Science (Structures) 2A	Semester 1	KBS211	7
	Building Science (Structures) 2B	Semester 2	KBS212	7
	Building Science (Environment and Services) 2A	Semester 1	KES211	7
	Building Science (Environment and Services) 2B	Semester 2	KES212	7
	History of the Construction Industry 101	Semester 2	KH101	4
	Building Science (Materials and Methods) 2A	Semester 1	KMM211	7
	Building Science (Materials and Methods) 2B	Semester 2	KMM212	7
	Production Analysis 201	Year	KPA201	16
	Mathematics for Accountancy	Semester 1	MACC101	12
	Information Technology for Building Disciplines 201	Year	QIT201	2
	Business Statistics 102	Semester 2	STAE102	12
	Credits Second Year			128
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Construction Management 3A (<i>Major</i>)	Semester 1	KBM311	12
	Construction Management 3B (<i>Major</i>)	Semester 2	KBM312	12
	Building Science (Structures) 3A (<i>Major</i>)	Semester 1	KBS311	7

	Building Science (Structures) 3B (<i>Major</i>)	Semester 2	KBS312	7
	Building Science (Environment and Services) 3A (<i>Major</i>)	Semester 1	KES311	7
	Building Science (Environment and Services) 3B (<i>Major</i>)	Semester 2	KES312	7
	Building Science (Materials and Methods) 3A (<i>Major</i>)	Semester 1	KMM311	7
	Building Science (Materials and Methods) 3B (<i>Major</i>)	Semester 2	KMM312	7
	Production Analysis 3A (<i>Major</i>)	Semester 1	KPA311	12
	Production Analysis 3B (<i>Major</i>)	Semester 2	KPA312	12
	Building Economics 201 (<i>Major</i>)	Year	QBE201	20
	Information Technology for Building Disciplines	Year	QIT301	4
	Accounting (Special) 101	Semester 1	RS101	10
	Accounting (Special) 102	Semester 2	RS102	5
	Credits Third Year			129
	Total Credits			383

7.15 BACHELOR OF SCIENCE IN CONSTRUCTION STUDIES

Qualification code:	71050
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	110939
Total NQF Credits for qualification:	365

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The purpose of Bachelor of Science in Construction Studies is to develop an appreciation and understanding of the management of the physical construction process within the built environment and includes the co-ordination, administration and management of resources. The purpose of the programme embraces the necessary knowledge, understanding, abilities, and skills required to manage moderately complex to complex construction projects or manufacturing processes related to the construction industry at operational and middle management level.

The programme in Construction Studies at this level equips students with a fundamental knowledge of economics, law, management science and technology, design processes as well as financial and cost factors influencing construction as positioned within the built environment. Furthermore, it equips graduates with the ability to apply that knowledge, skills, and values to manage resources within defined performance constraints, within or across functions in a construction or related manufacturing organisation, within an encompassing political, economic, social, technological, environmental, and legal (PESTEL) framework, regionally, nationally, or internationally.

ADMISSION REQUIREMENTS

- Minimum NSC statutory requirements for degree entry must be met.
- An applicant with NSC Grade 12 Mathematics requires a minimum Applicant Score of 370.
- NSC achievement rating of at least 55% for Mathematics.

RE-ADMISSION REQUIREMENTS

Period	Total Credits Passed	Outcome
After one year	72 credits and more	Students are allowed to continue.
	40 -71 credits	Conditions may be set.
	Less than 40 credits	Re-admission denied.*
After two years	120 credits and more	Students are allowed to continue.
	100 - 119 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 100 credits	Re-admission denied.*
After three years	192 credits and more	Students are allowed to continue.
	144-191 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	Less than 144 credits	Re-admission denied.*
After four years	280 credits and more	Students are allowed to continue.
	240-279 credits	Year modules: Progress will be reviewed at end of first semester; students may be requested to cancel registration should progress be deemed unsatisfactory. Semester modules: Students will be allowed to register for first semester only; must pass at least 80% of registered credits to continue in second semester.
	0-239 credits	Re-admission denied.* Apply individual consideration for final-year students who should not be denied re-admission.

Period	Total Credits Passed	Outcome
After five years (three-year programme)		Only final-year students would be considered by applying individual consideration.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

STATUTORY AND OTHER REQUIRMENTS

Study Excursions:

Candidates are required to attend a study excursion of one week's duration during the second to third year of study.

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate. Before the qualification of Bachelor of Science in Construction Studies is awarded, candidates must be in possession of a valid First Aid certificate issued by a recognised First Aid organisation. Candidates shall make their own arrangements to obtain a First Aid certificate in their own time and to complete the necessary examinations.

Awarding the qualification cum laude:

Unless Senate decides otherwise the qualification shall be awarded *cum laude* if candidates comply with the requirements of the general rule concerned, provided that:

The following shall be regarded as the major modules:

- Construction Management 3
- Building Science (Materials and Methods) 3
- Production Analysis 3
- Building Economics 3

DURATION

The qualification shall extend over at least three years of full-time study. Please refer to the section regarding Maximum Period of Study under General Information and Regulations.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Geometric Drawing	Semester 1	AMV101	10
Introduction to Micro/Macro-economics (Special)	Semester 1	ECSV111	14
Mechanics and Thermodynamics	Semester 1	FBBV101	7
Commercial Law (Building Disciplines)	Semester 1	JHYV102	6
Building Science (Structures) 1A	Semester 1	KBSV101	7
Building Science (Structures) 1B	Semester 2	KBSV102	7
Building Science (Environment and Services) 1A	Semester 1	KESV101	7
Building Science (Environment and Services)	Semester 2	KESV102	7

		Presented	Module Code	Credit Value
	1B			
	Basic Surveying	Semester 1	KLSV102	12
	Building Science (Materials and Methods) 1A	Semester 1	KMMV101	7
	Building Science (Materials and Methods) 1B	Semester 2	KMMV102	7
	Production Analysis	Year	KPAV100	20
	Accounting I (Special)	Semester 1	RSS101	10
	Credits First Year			121
		Presented	Module Code	Credit Value
Second Year				
Compulsory modules:				
	Commercial Law	Semester 1	JHAV131	12
	Construction Management	Semester 2	KBMV202	10
	Building Science (Structures) 2A	Semester 1	KBSV201	7
	Building Science (Structures) 2B	Semester 2	KBSV202	7
	Building Science (Environment and Services) 2A	Semester 1	KESV201	7
	Building Science (Environment and Services) 2B	Semester 2	KESV202	7
	Building Science (Materials and Methods) 2A	Semester 1	KMMV201	7
	Building Science (Materials and Methods) 2B	Semester 2	KMMV202	7
	Production Analysis	Year	KPAV200	18
	Mathematics Special A	Semester 1	MATS101	8
	Building Economics II	Year	QBEV210	18
	Business Statistics I	Semester 2	STAV102	12
	Credits Second Year			120
		Presented	Module Code	Credit Value
Third Year				
Compulsory modules:				
	Introduction to Labour Law	Semester 1	JHLV102	12
	Construction Management 3A (<i>Major</i>)	Semester 1	KBMV311	12
	Construction Management 3B (<i>Major</i>)	Semester 2	KBMV312	12
	Building Science (Structures) 3A	Semester 1	KBSV301	7
	Building Science (Structures) 3B	Semester 2	KBSV302	7
	Building Science (Environment and Services) 3A	Semester 1	KESV301	7
	Building Science (Environment and Services) 3B	Semester 2	KESV302	7
	Building Science (Materials and Methods) 3A (<i>Major</i>)	Semester 1	KMMV301	7
	Building Science (Materials and Methods) 3B	Semester 2	KMMV302	7

	Presented	Module Code	Credit Value
(Major)			
Production Analysis 3A (Major)	Semester 1	KPAV311	12
Production Analysis 3B (Major)	Semester 2	KPAV312	12
Research Methodology	Semester 2	KRMV302	10
Building Economics (Major)	Semester 1	QBEV301	12
Credits Third Year			124
Total Credits			365

8 BACHELOR OF TECHNOLOGY DEGREES

8.1 BACHELOR OF TECHNOLOGY (ARCHITECTURAL TECHNOLOGY: APPLIED DESIGN) (NO NEW INTAKE)

Qualification code:	4252
Offering:	Full-time South Campus (A1)
Aligned NQF Level:	7
Total NQF Credits for qualification:	122

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

- National Diploma: Architectural Technology from Nelson Mandela University with an average of 70% for Principles of Architectural Design III (final mark) and 65% as the average of the final marks for Studio Work II and III and Construction and Detailing II and III.
- Applicants who do not qualify in terms of the above requirements are required to write an entrance exam set and evaluated by the Department of Architectural Technology and Interior Design.

Note:

It is recommended that students who do not qualify in terms of the above requirements must work for at least one year after qualifying for their diploma before applying to sit for this entrance examination. Only one examination session will be held for each academic year.

Applicants who hold a National Diploma: Architectural Technology **or** a first degree in Architecture from **another accredited tertiary institution** must sit for the entrance examination referred to in point 3 above. The conditions regarding the number of attempts allowed also apply to this category of applicant.

Applicants who do not qualify in terms of the above requirements are required to write an entrance exam set and evaluated by the Department of Architectural Technology and Interior Design.

DURATION

The qualification shall extend over one year of full-time study.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2020.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Applied Design IV	Year	DDE4110	72
Theory of Design IV	Year	DTD4313	14
Structures IV		DST4000	
Structures IV – Module I	Semester 1	DST4011	6
Structures IV – Module I	Semester 2	DST4022	6
Principles of Urban Design IV		DUD4000	
Principles of Urban – Module I	Semester 1	DUD4011	6
Principles of Urban – Module II	Semester 2	DUD4022	6
Advanced Computer Applications IV		DKP4000	
Advanced Computer Applications IV – Module I	Semester 1	DKP4011	6
Advanced Computer Applications IV – Module II	Semester 2	DKP4022	6
Total Credits	Minimum		122

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Prerequisite
DST4022	DST4011
DUD4022	DUD4011
DKP4022	DKP4011
DSW4022	DSW4011
DKD4022	DKD4011

**8.2 BACHELOR OF TECHNOLOGY
(ARCHITECTURAL TECHNOLOGY: TECHNOLOGY)
(NO NEW INTAKE)**

Qualification code:	4253
Offering:	Full-time South Campus (A1)
Aligned NQF Level:	7
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

- National Diploma: Architectural Technology from Nelson Mandela University with an average of 70% for Principles of Architectural Design III (final mark) and 65% as the average of the final marks for Studio Work II and III and Construction and Detailing II and III.
- Applicants who don't qualify in terms of the above requirements are required to write an entrance exam set and evaluated by the Department of Architectural Technology and Interior Design.

Note

It is recommended that students who do not qualify in terms of the above requirements must work for at least one year after qualifying for their diploma before applying to sit for this entrance examination. Only one examination session will be held for each academic year.

Applicants who hold a National Diploma: Architectural Technology **or** a first degree in Architecture from **another accredited tertiary institution** must sit for the entrance examination referred to above.

The conditions regarding the number of attempts allowed also apply to this category of applicant.

STATUTORY AND OTHER REQUIREMENTS

Minimum attendance:

Due to the practical nature of the qualification, students who have not attended a minimum of 80% of normal lectures will be refused permission to sit for the examination unless special leave is granted. **In addition to this, students who have not completed and handed in, on time, a minimum of 80% of their projects for a particular module, or part of a module, will not be allowed to sit for the examination in this module.**

Portfolio examinations/continuous evaluation:

Where continuous evaluation in any form is used as an evaluation method, all tasks etc. submitted for this purpose will be kept at Nelson Mandela University for three years for certification purposes. **Students who wish to keep their original work for employment-seeking purposes should substitute these with ammonia prints or 35mm colour slides directly after assessment has been completed.**

Promotion policy:

Students who fail to achieve 50% for a first-semester module may not continue with the second-semester module.

DURATION

The qualification shall extend over one year of full-time study.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2020.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
		DST4000	
Structures IV			
Structures IV – Module I	Semester 1	DST4011	6
Structures IV – Module II	Semester 2	DST4022	6
		DUD4000	
Principles of Urban Design IV			
Principles of Urban – Module I	Semester 1	DUD4011	6
Principles of Urban Design – Module II	Semester 2	DUD4022	6
		DSW4000	
Studio Work IV			
Studio Work IV – Module I	Semester 1	DSW4011	36
Studio Work IV – Module II	Semester 2	DSW4022	36
		DKD4000	
Construction and Detailing IV			
Construction and Detailing IV – Module I	Semester 1	DKD4011	6
Construction and Detailing IV – Module II	Semester 2	DKD4022	6
		DKP4000	
Advanced Computer Applications IV			
Advanced Computer Applications IV – Module I	Semester 1	DKP4011	6
Advanced Computer Applications IV – Module II	Semester 2	DKP4022	6
Total Credits	Minimum		120

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Prerequisite
DST4022	DST4011
DUD4022	DUD4011
DKP4022	DKP4011
DSW4022	DSW4011
DKD4022	DKD4011

**8.3 BACHELOR OF TECHNOLOGY
(CONSTRUCTION MANAGEMENT)
(NO NEW INTAKE)**

Qualification code:	4281
Offering:	Part-time North Campus (21)
Aligned NQF Level:	7
SAQA ID:	87078
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes.

- The minimum admission requirement is the National Diploma: Building or a qualification deemed equivalent by the department and approved by the Faculty Management Committee (FMC).
- It is further expected of students to comply with the following requirements before being allowed entry to the qualification:
 - a weighted average of 60% in the final year of study in the diploma;
 - the student must obtain at least 60% for the major module (Construction Management III) in the final year of study in the diploma for entry into the Bachelor of Technology qualification.
 - **Alternatively:**
 - Students obtaining between (55% - 59%) in either of the above criteria must submit a detailed breakdown of two years' proven post-diploma experience, under the auspices of a mentor professionally registered with either the SACPCMP, SACQSP, or a relevant Built Environment Professional Body, as well as periods of employment, certified by the relevant company.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for the Bachelor of Technology qualifications.

DURATION

The qualification shall extend over at least one year of full-time study. Studies may also be completed over two academic years in consultation with the Head of the Department.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme will be 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
	Appropriate Construction IV	Year	DAC4010 20
	Building Entrepreneurship IV	Year	DBE4010 20
	Construction Economics IV	Year	DCE4010 20
	Construction Management IV	Year	DCO4010 20
	Construction Law and Procedures IV	Year	DLP4010 20
	Sub-total		100
Select either option A or option B:			
A	Research Methodology IV (2 modules)		BNV4210
	Research Methods and Techniques	Semester 1	BNV4221 10
	Project	Semester 2	BNV4232 10
B	Maintenance Management IV	Year	DMA4010 20
	Total Credits		120

8.4	BACHELOR OF TECHNOLOGY (ENGINEERING: CIVIL SPECIALISING IN TRANSPORTATION ENGINEERING) (NO NEW INTAKE)
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Qualification code:	4333
Offering:	Part-time North Campus (21)
Aligned NQF Level:	7
SAQA ID:	87080
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

THE PURPOSE OF THE LEARNING PROGRAMME

Persons achieving this qualification will be able to independently and competently apply an integration of theory, principles, proven techniques, practical experience and appropriate skills to the solution of open-ended and ill-defined problems in the field of Civil Engineering while operating within the relevant standards and codes. The qualification is intended for engineering practitioners in the Civil Engineering industry. The qualified person will be able to register with the Engineering Council of South Africa (ECSA) as a Candidate Engineering Technologist in the discipline of Civil Engineering. After a period of appropriate industry experience, the qualified person will be able to register with ECSA as a Professional Engineering Technologist.

Qualification Objectives:

- This qualification provides the academic component required to register as a Professional Technologist in training at the Engineering Council of SA.
- The qualification also serves as the academic admission requirement for further postgraduate studies in Civil Engineering at Nelson Mandela University.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

Students must have a 65% average for the National Diploma: Engineering: Civil.

RE-ADMISSION REQUIREMENTS

A student who progresses at a slower rate than that set out in the following table, will be refused registration on the grounds of "poor academic performance".

Semester	Minimum amount of theory and/or project components that needs to be attained
1	2
2	4
3	8
4	12
5	14

STATUTORY AND OTHER REQUIREMENTS*Format of offering:*

This qualification is offered on a block format, which broadly entails short periods of concentrated study at Nelson Mandela University, the so-called contact sessions, alternating with longer periods of self-study away from Nelson Mandela University. Generally, two modules (or one) will be offered per discipline per semester.

Qualification of offerings:

The qualification aims to offer all the modules over a two-year cycle. For each module, the prerequisite knowledge will be documented and made available to prospective students. Students will thus be allowed into a qualification at any point in the cycle of offering of the qualification, but the onus will be on them to ensure that they gain the prerequisite knowledge.

All modules will be offered in the final year of the offering of this qualification in 2022.

The next two-year cycle of offerings will be scheduled as follows:

Sem/Year	Transport	Urban
1 of 2021	CMPM410 - Project Management IV	CMPM410 - Project Management IV
	CUUP410 - Urban Planning & Design IV	CUUP410 - Urban Planning & Design IV
2 of 2021	CTGD410 - Geometric Design IV	CTGD410 - Geometric Design IV
	CEEM410 - Environmental Management for Engineers IV	CEEM410 - Environmental Management for Engineers IV
1 of 2022	CMPM410 - Project Management IV	CMPM410 - Project Management IV
	CUUP410 - Urban Planning & Design IV	CUUP410 - Urban Planning & Design IV
	CTTT410 - Transportation	CTTT410 – Transportation

Sem/Year	Transport	Urban
	Technology IV	Technology IV
	CTTE410 - Traffic Engineering IV	CWRD410 - Reticulation Design & Management IV
2 of 2022	CTGD410 - Geometric Design IV	CTGD410 - Geometric Design IV
	CEEM410 - Environmental Management for Engineers IV	CEEM410 - Environmental Management for Engineers IV
	CTPT410 - Pavement Technology IV	CTPT410 - Pavement Technology IV
	CTTP410 - Transportation Planning IV	CUSW410 - Solid Waste Management IV

The provisional dates for 2021 are as follows:

Semester 1: 2021

Subject	Discipline	Session 1	Session 2	Session 3	Session 4
CMPM410	T, U	08-10 Mar	03-05 May	21 – 23 Jun	19 – 21 Jul
CUUP410	T, U	10-12 Mar	05-07 May	23 – 25 Jun	21 – 23 Jul

Semester 2: 2021

Subject	Discipline	Session 1	Session 2	Session 3	Session 4
CTGD410	T, U	10-11 Aug	13-15 Sept	25-27 Oct	29 Nov-01 Dec
CEEM410	T, U	12-13 Aug	15-17 Sept	27-29 Oct	01-03 Dec

Sem/Year	Transport	Urban
1 of 2021	CMPM410 - Project Management IV	CMPM410 - Project Management IV
	CUUP410 - Urban Planning & Design IV	CUUP410 - Urban Planning & Design IV
2 of 2021	CTGD410 - Geometric Design IV	CTGD410 - Geometric Design IV
	CEEM410 - Environmental Management for Engineers IV	CEEM410 - Environmental Management for Engineers IV

Tests and/or examinations are normally written during session 2, 3 and 4 and the exact dates will be indicated by the respective lecturers.

Important note: In some cases the same day is shared between two modules. In those instances, the first module is scheduled for the morning session and the second module for the afternoon session. Details will be provided to students when deemed necessary.

The specified arrangements and qualifications will be adhered to as far as possible, but unforeseen circumstances, such as non-availability of lecturers or a low student entry, may force unavoidable changes.

Note that in some cases the same day is shared by two subjects. The first subject is scheduled for the morning session and the second subject for the afternoon session.

Evaluation Procedures:

All the B Tech modules are classified as 100% class mark modules with Assessments taking place on a continuous basis. There are no formal examinations in these modules. In general, the evaluation for the theory module of each main module will be based on a minimum of three Assessments, e.g. two tests and one assignment. The project module will be evaluated separately and should have a minimum of two Assessments, e.g. one project and one assignment. The final mark for the main module will be a weighted average of these evaluation components, each carrying a 50% weight.

The weighting of each of these minimum of three evaluation components will be conveyed to students at the beginning of a qualification. In order to pass the main module, a student needs to obtain at least 50% for the final mark of each of the theory and project modules. Should a student not meet the minimum pass requirements for any of the modules of the main module, the result for the main module will be indicated as "Studies not yet completed", even though it is possible to obtain a combined mark of above 50% in such a case.

In the theory component of each main module, a sick test is scheduled at the end of the course if a student, for reasons beyond his/her control, is absent from a scheduled test. A motivational request should be lodged in writing to the Lecturer, with a copy to the Head of Department / B Tech Coordinator, within two weeks after the date of the test. This special evaluation is granted only to those students that missed an opportunity to write a test and contains all the work covered in the course. Due dates for assignments and projects should be strictly adhered to.

Recognition of modules done at other HE institutions:

The Department will recognise modules done at other HE institutions for exemption, according to the General Prospectus of Nelson Mandela University, subject to the following criteria:

- Exemptions will only be considered for the theory modules of any main module, provided that the student has registered at least once for the said module at Nelson Mandela University but has been unsuccessful in passing the module.
- The theory modules to be exempted according to (a) must appear in the curriculums offered by Nelson Mandela University.
- No more than two such B Tech theory modules may be thus exempted.

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for the Bachelor of Technology qualifications.

DURATION

The qualification shall extend over at least two years of part-time study (block format).

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Geometric Design IV (Major)		CTGD410	
Geometric Design IV (Theory)	Semester 2	CTGD4A2	7.5
Geometric Design IV (Project)	Semester 2	CTGD4B2	7.5
Pavement Technology IV (Major)		CTPT410	
Pavement Technology IV (Theory)	Semester 2	CTPT4A2	7.5
Pavement Technology IV (Project)	Semester 2	CTPT4B2	7.5
Transportation Technology IV		CTTT410	
Transportation Technology IV (Theory)	Semester 1	CTTT4A1	7.5
Transportation Technology IV (Project)	Semester 1	CTTT4B1	7.5
Transportation Planning IV (Major)		CTTP410	
Transportation Planning IV (Theory)	Semester 2	CTTP4A2	7.5
Transportation Planning IV (Project)	Semester 2	CTTP4B2	7.5
Traffic Engineering IV (Major)		CTTE410	
Traffic Engineering IV (Theory)	Semester 1	CTTE4A1	7.5
Traffic Engineering IV (Project)	Semester 1	CTTE4B1	7.5
Credits			75
Additional / Elective Modules			
Environmental Management for Engineers IV		CEEM410	
Environmental Management for Engineers IV (Theory)	Semester 2	CEEM4A2	7.5
Environmental Management for Engineers IV (Project)	Semester 2	CEEM4B2	7.5
Project Management IV		CMPM410	
Project Management IV (Theory)	Semester 1	CMPM4A1	7.5
Project Management IV (Project)	Semester 1	CMPM4B1	7.5
Urban Planning & Design IV		CUUP410	
Urban Planning & Design IV (Theory)	Semester 1	CUUP4A1	7.5
Urban Planning & Design IV (Project)	Semester 1	CUUP4B1	7.5
Credits			45
Total Credits			120

8.5

**BACHELOR OF TECHNOLOGY
(ENGINEERING: CIVIL SPECIALISING IN URBAN ENGINEERING)
(NO NEW INTAKE)**

Qualification code:	4335
Offering:	Part-time North Campus (21)
Aligned NQF Level:	7
SAQA ID:	87080
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Persons achieving this qualification will be able to independently and competently apply an integration of theory, principles, proven techniques, practical experience and appropriate skills to the solution of open-ended and ill-defined problems in the field of Civil Engineering while operating within the relevant standards and codes. The qualification is intended for engineering practitioners in the Civil Engineering industry. The qualified person will be able to register with the Engineering Council of South Africa (ECSA) as a Candidate Engineering Technologist in the discipline of Civil Engineering. After a period of appropriate industry experience, the qualified person will be able to register with ECSA as a Professional Engineering Technologist.

Qualification objectives:

- This qualification provides the academic component required to register as a Professional Technologist in training at the Engineering Council of SA. Certain experiential requirements are also set by ECSA. This in turn also leads to international recognition.
- The qualification also serves as the academic admission requirement for further postgraduate studies in Civil Engineering at Nelson Mandela University.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes.

Students must have a 65% average for the National Diploma: Engineering: Civil.

RE-ADMISSION REQUIREMENTS

A student who progresses at a slower rate than that set out in the following table, will be refused registration on the grounds of "poor academic performance".

Semester	Minimum amount of theory and/or project components that needs to be attained
1	2
2	4
3	8
4	12
5	14

STATUTORY AND OTHER REQUIREMENTS

Format of offering:

This qualification is offered on a block format, which broadly entails short periods of concentrated study at Nelson Mandela University, the so-called contact sessions,

alternating with longer periods of self-study away from Nelson Mandela University. Generally, two modules (or one) will be offered per discipline per semester.

Qualification of offerings:

The qualification aims to offer all the modules over a two-year cycle. For each module, the prerequisite knowledge will be documented and made available to prospective students. Students will thus be allowed into a qualification at any point in the cycle of offering of the qualification, but the onus will be on them to ensure that they gain the prerequisite knowledge.

All modules will be offered in the final year of the offering of this qualification in 2022.

The next two-year cycle of offerings will be scheduled as follows:

Sem/Year	Transport	Urban
1 of 2021	CMPM410 - Project Management IV	CMPM410 - Project Management IV
	CUUP410 - Urban Planning & Design IV	CUUP410 - Urban Planning & Design IV
2 of 2021	CTGD410 - Geometric Design IV	CTGD410 - Geometric Design IV
	CEEM410 - Environmental Management for Engineers IV	CEEM410 - Environmental Management for Engineers IV
1 of 2022	CMPM410 - Project Management IV	CMPM410 - Project Management IV
	CUUP410 - Urban Planning & Design IV	CUUP410 - Urban Planning & Design IV
	CTTT410 - Transportation Technology IV	CTTT410 – Transportation Technology IV
	CTTE410 - Traffic Engineering IV	CWRD410 - Reticulation Design & Management IV
2 of 2022	CTGD410 - Geometric Design IV	CTGD410 - Geometric Design IV
	CEEM410 - Environmental Management for Engineers IV	CEEM410 - Environmental Management for Engineers IV
	CTPT410 - Pavement Technology IV	CTPT410 - Pavement Technology IV
	CTTP410 - Transportation Planning IV	CUSW410 - Solid Waste Management IV

The provisional dates for 2021 are as follows:

Semester 1: 2021

Subject	Discipline	Session 1	Session 2	Session 3	Session 4
CMPM410	T, U	08-10 Mar	03-05 May	21 – 23 Jun	19 – 21 Jul
CUUP410	T, U	10-12 Mar	05-07 May	23 – 25 Jun	21 – 23 Jul

Semester 2: 2021

Subject	Discipline	Session 1	Session 2	Session 3	Session 4
CTGD410	T, U	10-11 Aug	13-15 Sept	25-27 Oct	29 Nov-01 Dec
CEEM410	T, U	12-13 Aug	15-17 Sept	27-29 Oct	01-03 Dec

Sem/Year	Transport	Urban
Sem/Year	Transport	Urban
1 of 2021	CMPM410 - Project Management IV	CMPM410 - Project Management IV
	CUUP410 - Urban Planning & Design IV	CUUP410 - Urban Planning & Design IV
2 of 2021	CTGD410 - Geometric Design IV	CTGD410 - Geometric Design IV
	CEEM410 - Environmental Management for Engineers IV	CEEM410 - Environmental Management for Engineers IV

Tests and/or examinations are normally written during session 2, 3 and 4 and the exact dates will be indicated by the respective lecturers.

Important note: In some cases the same day is shared between two modules. In those instances, the first module is scheduled for the morning session and the second module for the afternoon session. Details will be provided to students when deemed necessary.

Evaluation procedures:

All the B Tech modules are classified as 100% class mark modules with Assessments taking place on a continuous basis. There are no formal examinations in these modules. In general, the evaluation for the theory module of each main module will be based on a minimum of three Assessments, e.g. two tests and one assignment. The project module will be evaluated separately and should have a minimum of two Assessments, e.g. one project and one assignment. The final mark for the main module will be a weighted average of these evaluation components, each carrying a 50% weight.

The weighting of each of these minimum of three evaluation components will be conveyed to students at the beginning of a qualification. In order to pass the main module, a student needs to obtain at least 50% for the final mark of each of the theory and project modules. Should a student not meet the minimum pass requirements for any of the modules of the main module, the result for the main module will be indicated as "Studies not yet completed", even though it is possible to obtain a combined mark of above 50% in such a case.

In the theory component of each main module, a sick test is scheduled at the end of the course if a student, for reasons beyond his/her control, is absent from a scheduled test. A motivational request should be lodged in writing to the Lecturer, with a copy to the Head of Department / B Tech Coordinator, within two weeks after the date of the test. This special evaluation is granted only to those students that missed an opportunity to write a test and contains all the work covered in the course. Due dates for assignments and projects should be strictly adhered to.

Recognition of modules done at other HE institutions:

The Department will recognise modules done at other HE institutions for exemption, according to the General Prospectus of Nelson Mandela University, subject to the following criteria:

- Exemptions will only be considered for the theory modules of any main module, provided that the student has registered at least once for the said module at Nelson Mandela University but has been unsuccessful in passing the module.

- The theory modules to be exempted according to (a) must appear in the curriculums offered by Nelson Mandela University.
- No more than two such B Tech theory modules may be thus exempted.

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for the Bachelor of Technology qualifications.

DURATION

The qualification shall extend over at least two years of part-time study (block format).

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Geometric Design IV (Major)		CTGD410	
Geometric Design IV (Theory)	Semester 2	CTGD4A2	7.5
Geometric Design IV (Project)	Semester 2	CTGD4B2	7.5
Pavement Technology IV (Major)		CTPT410	
Pavement Technology IV (Theory)	Semester 2	CTPT4A2	7.5
Pavement Technology IV (Project)	Semester 2	CTPT4B2	7.5
Urban Planning and Design IV		CUUP410	
Urban Planning and Design IV (Theory)	Semester 1	CUUP4A1	7.5
Urban Planning and Design IV (Project)	Semester 1	CUUP4B1	7.5
Solid Waste Management IV		CUSW410	
Solid Waste Management IV	Semester 2	CUSW4A2	7.5
Solid Waste Management IV	Semester 2	CUSW4B2	7.5
Reticulation Design and Management IV		CWRD410	
Water Reticulation Systems IV	Semester 1	CWRD4A1	5
Sewerage Reticulation Systems IV	Semester 1	CWRD4B1	5
Stormwater Reticulation Systems IV	Semester 1	CWRD4C1	5
Credits			75
Additional / Elective Modules			
Transportation Technology IV		CTTT410	
Transportation Technology IV (Theory)	Semester 1	CTTT4A1	7.5

		Presented	Module Code	Credit Value
	Transportation Technology IV (Project)	Semester 1	CTTT4B1	7.5
	Environmental Management for Engineers IV		CEEM410	
	Environmental Management for Engineers IV (Theory)	Semester 2	CEEM4A2	7.5
	Environmental Management for Engineers IV (Project)	Semester 2	CEEM4B2	7.5
	Project Management IV		CMPM410	
	Project Management IV (Theory)	Semester 1	CMPM4A1	7.5
	Project Management IV (Project)	Semester 1	CMPM4B1	7.5
	Credits			45
	Total Credits			120

8.6
**BACHELOR OF TECHNOLOGY
(ENGINEERING: ELECTRICAL)
(NO NEW INTAKE)**

Qualification code:	4365
Offering:	Part-time North Campus (21)
Aligned NQF Level:	7
SAQA ID:	87081
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Persons achieving this qualification will be competent to apply electrical engineering principles, innovative skills, advanced broadly-defined problem-solving techniques and managerial skills professionally in the field of electrical engineering.

Qualification Objectives:

The qualified person must be able to:

- demonstrate a high level of theoretical knowledge for the purpose of applied research and innovative problem solving;
- plan and manage projects with due cognisance of all related codes of practice, professional ethics and the Labour Relations Act;
- demonstrate technical managerial skills required for financial decision making and negotiating;
- demonstrate the high level of theoretical and practical knowledge required to act professionally;
- communicate effectively at high levels;
- register with ECSA as a Candidate Professional Engineering Technologist in the field of Electrical Engineering.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Students must have a 65% average for the National Diploma: Engineering: Electrical; or
- Other and non-South African qualifications will be considered based on SAQA reports and merit and may require the submission of curricula and learning material. These applicants may be required to complete a language proficiency module.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for the Bachelor of Technology qualifications.

Elective module selection:

A total of 2 modules may be taken from another Engineering qualification subject to approval by the relevant Head of Department and provided that the total number of credits for the qualification is adhered to.

Prerequisite modules required for this qualification:

The prerequisite modules reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes.

A student will not be allowed to proceed with the Bachelor of Technology: Engineering: Electrical without first having passed the following listed pre-requisite modules:

- Design Project III
- Mathematics III

The other prerequisite modules will be determined by the sub-discipline of interest.

DURATION

The qualification shall extend over a two-year continuous cycle of part-time study.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
	Industrial Project IV (<i>Major</i>)	Year	EIP4010	36
Select seven of the following modules:				
On offer in 2021:				
	Audio Engineering IV	Semester 1	EAE4011	12
	Computer Networks IV	Semester 1	ECN4011	12

	Presented	Module Code	Credit Value
Electrical Machines IV	Semester 1	EEM4011	12
Engineering Management IV	Semester 2	EMM4112	15
Opto Electronics IV	Semester 2	EOE4012	12
Process Control IV	Semester 2	EPC4012	12
Power Systems IV	Semester 2	EPS4012	12
Protection Technology IV	Semester 1	EPT4011	12
Engineering Mathematics IV	Semester 2	WIS4012	15
On offer in 2022:			
Electronic Communication Systems IV	Semester 1	EES4011	12
High Voltage Engineering IV	Semester 1	EHV4011	12
Micro Systems Design IV	Semester 2	EMD4012	12
Engineering Management IV	Semester 2	EMM4112	15
Microcontroller Systems IV	Semester 1	EMS4011	12
Electrical Protection IV	Semester 1	EPR4011	12
Satellite Communications IV	Semester 2	ESC4112	12
Engineering Mathematics IV	Semester 2	WIS4012	15
Total Credits			120

CURRICULUM SPECIALISATION AREAS

Bachelor of Technology: Engineering: Electrical qualification can be obtained by taking modules within three sub-disciplines of Electrical Engineering, namely, Power Systems, Digital/Industrial Automation Systems and Electronic Communication Systems.

To obtain the Bachelor of Technology: Engineering: Electrical from Nelson Mandela University, specific modules will be recommended, specific combination of modules for the various sub-disciplines are listed below:

POWER SYSTEMS	
Choose the following modules	
Industrial Project IV (<i>Major</i>)	EIP4010
Electrical Machines IV	EEM4011
Engineering Management IV	EMM4112
Power Systems IV	EPS4012
Protection Technology IV	EPT4011
Engineering Mathematics IV	WIS4012
High Voltage Engineering IV	EHV4011
Electrical Protection IV	EPR4011
INDUSTRIAL AUTOMATION SYSTEMS	
Choose the following modules	
Industrial Project IV (<i>Major</i>)	EIP4010

Computer Networks IV	ECN4011
Engineering Management IV	EMM4112
Process Control IV	EPC4012
Engineering Mathematics IV	WIS4012
Micro Systems Design IV	EMD4012
Microcontroller Systems IV	EMS4011
Project Engineering IV	IPE4111
ELECTRONIC COMMUNICATIONS SYSTEMS	
Choose the following modules	
Industrial Project IV (<i>Major</i>)	EIP4010
Audio Engineering IV	EAE4011
Engineering Management IV	EMM4112
Opto Electronics IV	EOE4012
Engineering Mathematics IV	WIS4012
Electronic Communication Systems IV	EES4011
Satellite Communications IV	ESC4112
Microcontroller Systems IV	EMS4011

**8.7 BACHELOR OF TECHNOLOGY
(ENGINEERING: INDUSTRIAL)
(NO NEW INTAKE)**

Qualification code:	4702
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	87082
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Persons achieving this qualification will be able to analyse and solve independently broadly-defined manufacturing and service-related problems through the application of accepted Industrial Engineering techniques. They will be able to assess complex systems and calculate expected system performance. The qualification is intended for engineering practitioners in industry.

The qualified person will be able to register with the Engineering Council of South Africa (ECSA) as a Professional Technologist-in-Training in the field of Industrial Engineering.

Qualification Objectives:

- Analyse, design and improve manufacturing and related services.
- Apply industrial engineering techniques and principles to analyse complex manufacturing and service-related operational problems.

- Develop and recommend alternatives for improving complex manufacturing and service-related operational problems.
- Design and develop complex manufacturing and service-related systems.
- Research related industrial engineering topics in a structured manner.
- Demonstrate theoretical and practical knowledge of specialised industrial engineering techniques.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Students must have a 65% average for the National Diploma; or
- Other and non-South African qualifications will be considered based on SAQA reports and merit and may require the submission of curricula and learning material. These applicants may be required to complete a language proficiency module.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for the Bachelor of Technology qualifications.

DURATION

The qualification shall extend over a two-year continuous cycle of part-time study.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
	Information Systems IV (<i>Major</i>)	Semester 1	IIS4111	15
	Logistics Engineering IV (<i>Major</i>)	Semester 2	ILE4112	15
	Project Engineering IV (<i>Major</i>)	Semester 1	IPE4111	15
	Entrepreneurship IV (<i>Major</i>)	Semester 2	IPP4112	15
	Project Research IV (<i>Major</i>)	Semester 1	IPR4111	15
	Production Technology IV (<i>Major</i>)	Semester 2	IPT4112	15
	Quality Assurance IV (<i>Major</i>)	Semester 2	IQA4112	15
	Systems Dynamics IV (<i>Major</i>)	Semester 1	ISD4111	15
	Total Credits			120

**8.8 BACHELOR OF TECHNOLOGY
(ENGINEERING: MECHANICAL)
(NO NEW INTAKE)**

Qualification code:	4712
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	7
SAQA ID:	87083
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

THE PURPOSE OF THE LEARNING PROGRAMME

Persons achieving this qualification will be able to integrate mechanical engineering principles independently, apply these to determine appropriate ways of approaching activities and establish and use criteria to judge processes and outcomes. This qualification is intended for engineering practitioners in industry.

The qualified person will be able to register with the Engineering Council of South Africa (ECSA) as a Professional Technologist-in-training in the field of Mechanical Engineering.

Qualification Objectives:

- Apply mechanical engineering principles to diagnose and solve engineering problems.
- Apply management principles in an engineering environment.
- Demonstrate knowledge of mechanical engineering in one or more specialised fields.
- Communicate effectively in a technological environment.
- Engage in mechanical engineering design work individually and as part of a team.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes.

- Students must have a 65% average for the National Diploma; or
- Other and non-South African qualifications will be considered based on SAQA reports and merit and may require the submission of curricula and learning material. These applicants may be required to complete a language proficiency module.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for the Bachelor of Technology qualifications.

DURATION

The qualification shall extend over a minimum period of one year. Modules are only offered in the evenings.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Engineering Design Project IV	Year	MDM4110	30
Strengths of Materials IV	Semester 1	MSL4111	15
Stress Analysis IV	Semester 2	MSS4112	15
Thermodynamics IV	Semester 1	MTD4111	15
Refrigeration and Air Conditioning IV	Semester 2	MTR4112	15
Sub-total			90
Select two of the following modules:			
Engineering Management IV or Environmental Engineering IV	Semester 2	EMM4112 or EEN4112	15
Automatic Control IV	Semester 1	MMC4111	15
Mathematics IV	Semester 2	WIS4012	15
Total Credits			120

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites
Strength of Materials IV	MSL4111	MST3111/2
Thermodynamics IV	MTD4111	MTH3111/2 and MTD3111/2 and MHM3211/2
Stress Analysis IV	MSS4112	MST3111/2
Refrigeration and Air Conditioning IV	MTR4112	MTH3111/2 and MTD3111/2 and MHM3211/2
Automatic Control IV	MMC4111	MET1111/2 and WIS3111/2 and MFM3111/2
Engineering Mathematics IV	WIS4012	WIS3111/2

**8.9 BACHELOR OF TECHNOLOGY
(INFORMATION TECHNOLOGY: COMMUNICATION NETWORKS)
(NO NEW INTAKE)**

Qualification code:	4213
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

National Diploma: Information Technology: Communication Networks or any equivalent qualification.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for the Bachelor of Technology qualifications.

A maximum of 24 credits in the curriculum may be substituted subject to approval from the School Management Committee and the requirements of the NATED 151.

DURATION

The qualification shall extend over a minimum of one year of full-time study.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Research Methodology IV	Semester 1	BNV4521	12
Information and Technology Management IV	Semester 1	ITC4001	12
Networks IV	Semester 1	NEW4001	12
Communication Networks IV	Semester 1	WCN4001	12
Advanced Communication Networks IV	Semester 2	WCN4102	12

	Presented	Module Code	Credit Value
Project IV (2 Credits)	Year	WCN4300	24
Sub-total			84
Select three of the following modules:			
Operating Systems IV	Semester 2	BOS4002	12
Computer Security IV	Semester 2	CPS4002	12
Support Services IV	Semester 2	CSO4002	12
Information Security IV	Semester 1	ISC4001	12
Total Credits			120

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites	Co-requisites
Networks IV	NEW4001	WCN3011 and WCN3012 and CCNA 4 and CCNA - Security Certificates	
Communication Networks IV	WCN4001	WCN3011 and WCN3012 and CCNA 4 and CCNA - Security Certificates	
Advanced Communication Networks IV	WCN4102	WCN4001 and NEW4001	
Project IV	WCN4300	WCN3011 and WCN3012	

8.10 BACHELOR OF TECHNOLOGY (INFORMATION TECHNOLOGY: SOFTWARE DEVELOPMENT) (NO NEW INTAKE)

Qualification code:	4206
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

National Diploma: Information Technology: Software Development or any equivalent qualification.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for the Bachelor of Technology qualifications.

A maximum of 24 credits in the curriculum may be substituted subject to approval from the School Management Committee and the requirements of NATED 151.

DURATION

The qualification shall extend over a minimum of one year of full-time study.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Research Methodology IV	Semester 1	BNV4521	12
Information and Technology Management IV	Semester 1	ITC4001	12
Development Software IV	Semester 1	ONT4101	12
Advanced Development Software IV	Semester 2	ONT4202	12
Project IV (2 Credits)	Year	ONT4300	24
Sub-total			72
Select four of the following modules:			
Artificial Intelligence IV	Semester 1	AIN4002	12
Operating Systems IV	Semester 2	BOS4002	12
Information Security IV	Semester 1	ISC4001	12
Knowledge Management IV	Semester 2	KNM4002	12
User Interfaces IV	Semester 2	UIF4002	12
Computer Security IV	Semester 2	CPS4002	12
Total Credits			120

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites	Co-requisites
Development Software IV	ONT4101	ONT3660 and ONT3601	
Advanced Development Software IV	ONT4202	ONT4101	
Project IV	ONT4300	ONT3660 and ONT3601	
Knowledge Management IV	KNM4002	WIH2100	

8.11	BACHELOR OF TECHNOLOGY (INTERIOR DESIGN) (NO NEW INTAKE)
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Qualification code:	4550
Offering:	Full-time South Campus (A1)
Aligned NQF Level:	7
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

Applicants who hold a National Diploma: Interior Design from Nelson Mandela University must achieve a final mark of at least 65% for each of the following modules:

- Interior Design III
- Design Technology III
- Design Theory III
- **OR**
- Applicants who do not qualify in terms of above are required to write an entrance examination set and evaluated by the Department of Architecture and Interior Design in conjunction with the External Moderator(s) for the modules Interior Design IV and Design Technology IV.

NOTE:

- It is recommended that applicants who do not qualify in terms of point above work for at least one year after qualifying for their degree/diploma before applying to sit for this entrance examination.
- Only one examination session will be held for each academic year.
- Applicants who hold a National Diploma: Interior Design *or* a first degree in Architecture/Interior Architecture from another accredited tertiary institution or course must sit for the entrance examination referred to above. The conditions regarding the number of attempts allowed apply equally to this category of applicant.
- Students from other tertiary institutions may be required to follow certain pre-diploma modules as part of their course.

STAUTORY AND OTHER REQUIREMENTS*Minimum attendance:*

Due to the practical nature of the course, students who have not attended a minimum of 80% of normal lectures will be refused permission to sit for the examination unless special leave is granted. **In addition to this, students who have not completed and handed in, on time, a minimum of 80% of their modules for a particular module, or part of a module, will not be allowed to sit for the examination in that module.**

Portfolio examinations/continuous evaluation:

Where continuous evaluation in any form is used as an evaluation method, all tasks, etc. submitted for this purpose will be kept at Nelson Mandela University for three years for certification purposes. **Students who wish to keep their original work for employment-seeking purposes should substitute these with ammonia prints or 35mm colour slides directly after assessment has been completed.**

Promotion policy:

Students who fail to achieve 50% for a first-semester module may not continue with the second-semester module.

DURATION

The qualification shall extend over one year of full-time study. Two years of part-time study is subject to approval by the Head of Department or Programme Leader.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2020.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Design Technology	Year	DDT4100	36
Design Theory	Year	DTE4100	18
Interior Design IV	Year	DID4100	36
Presentation Methods IV		DPM4000	
Advanced 3D Media – Module I	Semester 1	DPM4021	6
Advanced 3D Media – Module II	Semester 2	DPM4032	6
Professional Design Practice IV		DPD4210	
Office Management – Module I	Semester 1	DPD4231	6
Contract Management	Semester 1	DPD4251	6
Office Management – Module II	Semester 2	DPD4242	6
Total Credits	Minimum		120

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Prerequisite
DPM4032	DPM4021
DPD4242	DPD4231

8.12	BACHELOR OF TECHNOLOGY (OPERATIONS MANAGEMENT) (NO NEW INTAKE)
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Qualification code:	4584
Offering:	Part-time North Campus (21)
Aligned NQF Level:	7
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Persons achieving this qualification will acquire dynamic management skills which would ensure smooth operation within manufacturing and service concerns. They will be able to analyse and solve independently complex, open-ended manufacturing and service-related problems through the application of accepted operations management techniques.

Qualification Objectives:

To enable students to acquire dynamic management aspects which would ensure smooth operation within manufacturing service concerns.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Students must have a 65% average for the National Diploma; or
- Other and non-South African qualifications will be considered based on SAQA reports and merit and may require the submission of curricula and learning material. These applicants may be required to complete a language proficiency module.

STATUTORY AND OTHER REQUIREMENTS*Obtaining the qualification:*

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for the Bachelor of Technology qualifications.

DURATION

The qualification shall extend over at least one year of part-time study.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2021.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value	
First Year				
Compulsory modules:				
	Financial Planning And Control III	Semester 2	BFA3112	30
	Introduction To Marketing Management I	Semester 1	BIG1111	24
	Research Methodology	Semester 1	BNR1111	6
	Operations Management IV	Semester 2	BPJ4412	30
	Operations Management Techniques IV	Semester 1	BPM4111	30
	Total Credits			120

8.13	BACHELOR OF TECHNOLOGY (QUALITY) (NO NEW INTAKE)
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Qualification code:	4731
Offering:	Part-time North Campus (21)
Aligned NQF Level:	7
SAQA ID:	87102
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Persons achieving this qualification will acquire dynamic quality management skills which would ensure smooth operation within manufacturing and service concerns. They will be able to analyse and solve independently complex, open-ended manufacturing and service quality and other related problems through the application of accepted quality management techniques.

Qualification Objectives:

To enable students to determine the effectiveness of the quality system, appraising the current quality problem areas or potential areas, as well as to assist in the correction or minimisation of the problem areas concerned. Students will also have the ability to improve product/service quality in cooperation with the respective department in organisations.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Students must have a 65% average for a National Diploma; or

- Mathematics 1 or equivalent is a pre-requisite for students who have not done Mathematics as part of their pre-requisite qualification.
- Other and non-South African qualifications will be considered based on SAQA reports and merit and may require the submission of curricula and learning material. These applicants may be required to complete a language proficiency module.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for the Bachelor of Technology qualifications.

Please note: New intake restricted to the start of each year. The six compulsory modules are contact modules (formal classes) while Project IV is a project done in industry.

DURATION

The qualification shall extend over at least two years of part-time study.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2018.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2021.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
	TQM Improvement and Business Processes III	Semester 1	QIP3111	15
	Quality Management Systems III	Semester 2	QMS3112	15
	Statistical Quality Techniques III	Semester 1	QST3111	15
	Statistical Quality Techniques IV	Semester 2	QST4212	15
	Credits First Year			60
Second Year				
Compulsory modules:				
	Quality Auditing Techniques IV	Semester 2	QAT4112	15
	Quality Planning and Implementation IV	Semester 1	QPI4111	15
	Project IV	Year	QPR4110	30
	Credits Second Year			60
	Total Credits			120

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites	Co-requisites
Statistical Quality Techniques IV	QST4212	QST3111	
Quality Auditing Techniques IV	QAT4112	QMS3112 and QIP3111	

**8.14 BACHELOR OF TECHNOLOGY (QUANTITY SURVEYING)
(NO NEW INTAKE)**

Qualification code:	4261
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	87103
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- The minimum admission requirement is the National Diploma: Building or a qualification deemed equivalent by the department and approved by the Faculty Management Committee (FMC).
- It is further expected of students to comply with the following requirements before being allowed entry to the qualification:
 - a weighted average of 60% in the final year of study in the diploma;
 - the student must obtain at least 60% for the major module (Quantity Surveying III) in the final year of study in the diploma for entry into the specific Bachelor of Technology qualification.
 - **Alternatively:**
 - Students obtaining between (55% - 59%) in either of the above criteria must submit a detailed breakdown of two years' proven post-diploma experience, under the auspices of a mentor professionally registered with either the SACPCMP, SACQSP, or a relevant Built Environment Professional Body, as well as periods of employment, certified by the relevant company.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for the Bachelor of Technology qualifications.

DURATION

The qualification shall extend over at least one year of full-time study. Studies may also be completed over two academic years in consultation with the Head of the Department.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
		BNV4210	
Research Methodology IV			
Research Methods and Techniques	Semester 1	BNV4221	10
Project	Semester 2	BNV4232	10
Building Entrepreneurship IV	Year	DBE4010	20
Construction Economics IV	Year	DCE4010	20
Construction Law and Procedures IV	Year	DLP4010	20
Market Valuation IV	Year	DMV4010	20
Quantity Surveying IV	Year	DQS4010	20
Total Credits			120

9	ADVANCED DIPLOMAS
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9.1	ADVANCED DIPLOMA IN ARCHITECTURAL DESIGN
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Qualification code:	10150
Offering:	Full-time South Campus (A1)
Aligned NQF Level:	7
SAQA ID:	103079
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The Advanced Diploma in Architectural Design builds primarily on the theoretical and design skills of the Diploma of Architectural Technology. The purpose is to produce graduates who are trained according to the standards of best practice in accordance with the requirements of the South African Council for the Architectural Profession, the Commonwealth Association of Architects and the ideals of NMMU's Vision 2020.

ADMISSION REQUIREMENTS:

- Applicants must have graduated with a Diploma in Architectural Technology with an average of 70% for Architectural Design 1, 2 and 3, 65% for theory of architecture 1 and 2, as well as an average of 60% for Studio Work 1, 2, 3 and Construction and Detailing 1, 2, 3.
- Applicants who do not meet these criteria must comply with the following admission requirements
- Applicants who do not qualify in terms of the above requirements are required to write an entrance exam set and evaluated by the Department of Architectural Technology and Interior Design.
- Applicants who have completed their diplomas at another institution must comply with the following selection processes as detailed below:
 - Those applicants who have completed their Diploma in Architectural Technology at another institution will be required to submit their full academic record and a portfolio for assessment by the departmental admissions committee.
 - In addition, applicants must prepare a submission for the Department of Architectural Technology and Interior Design, the requirements of which are available from the department. Selection is based on an applicant's design and technical design ability, academic record, and work experience where applicable. Selection is at the discretion of the Department of Architectural Technology and Interior Design Admissions Committee.

SELECTION PROCEDURE

Selection is based on an applicant's design and technical design ability, academic record, and work experience where applicable. Selection is at the discretion of the Department of Architectural Technology and Interior Design Admissions Committee.

Interviews:

Applications are evaluated by the Admissions Committee and a shortlist compiled of

candidates considered for admission. The candidates may be invited to a selection interview and entrance examination session during the first week of December. Candidates must attend an interview. Candidates who cannot attend will not be considered for selection. The Departmental Admissions Committee will assess the academic results and portfolios submitted

The criteria for selection are as follows:

- the ability to think conceptually and respond to a design problem in an innovative and appropriate manner
- the ability to design buildings of a medium complexity based on accepted parameters and constraints.
- the ability to appraise and define an architectural design problem
- the ability to interpret contextual, environmental, cultural issues and present suitable design interventions
- a thorough knowledge of construction technology as it pertains to design
- a thorough knowledge of advanced computer applications and software utilized in the profession

Portfolios:

The candidates are expected to present a portfolio and design journal which adequately represents the requisite level of competency for admission to the Advanced Diploma Architectural Design. Portfolios and design journals are to be submitted in bound A3 format and be clearly labelled with the applicant's name and contact details.

Decision of the Panel:

Please note that the decisions of the Department of Architectural Technology and Interior Design Admission Committee are final and no correspondence will be entered into with the unsuccessful applicants

Please note that the decisions of the Department of Architectural Technology and Interior Design Admission Committee are final and no correspondence will be entered into with the unsuccessful applicants.

STATUTORY AND OTHER REQUIREMENTS

Upon completion of this qualification, students can register with the South African Council for Architectural Profession (SACAP) as a Candidate Professional Senior Architectural Technologists.

DURATION

The qualification shall be offered over a minimum of one year of full time study.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
	Design	Semester1 and Semester 2	AADA400	40
	History of Architecture and Art	Semester1 and Semester 2	AHAA400	15

		Presented	Module Code	Credit Value
	Architectural Theory	Semester1 and Semester 2	AATA400	15
	Principles of Urban Design	Semester1 and Semester 2	APUA400	20
	Advanced Computer Applications	Semester1 and Semester 2	AACA400	30
	Total Credits			120

9.2 ADVANCED DIPLOMA IN CONSTRUCTION MANAGEMENT

Qualification code:	71520
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	109999
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The study of Construction Management at this level aims to address and equip students with more advanced knowledge in the Construction Management discipline and the ability to apply that knowledge, skills and values to make a meaningful contribution to the economy and national development by ensuring optimal utilization of resources.

ADMISSION REQUIREMENTS

- The minimum admission requirement is the Diploma: Building of 360 NQF credits or a qualification deemed equivalent by the department and approved by the Faculty Management Committee (FMC).
- It is further expected of students to comply with the following requirements before being allowed entry to the qualification:
 - a weighted average of 60% in the final year of study in the diploma;
 - the student must obtain at least 60% for the core module (Construction Management) in the final year of study in the diploma for entry into The Advanced Diploma programme.
- Alternatively:

Students obtaining (55% - 59%) in either of the above criteria must submit a detailed breakdown (as per Annexure A – available on the NMMU website) of two years' proven post-diploma experience, under the auspices of a mentor professionally registered with either the SACPCMP, SACQSP, or a relevant Built Environment Professional Body), as well as periods of employment, certified by the relevant company.

RE-ADMISSION REQUIREMENTS

One Year: A student will only be allowed to register twice for the same module. The maximum study time for the completion of the programme after first registration is 2 years.

Two Years: If a student fails more than 2 core modules in the first year of registration for the programme, the student will not be allowed to continue with the programme. A student will only be allowed to register twice for the same module. The maximum study time for the completion of the programme after first registration is 3 years.

STATUTORY AND OTHER REQUIRMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for the Bachelor of Technology qualifications.

DURATION

The qualification shall extend over at least one year of full-time study. Studies may also be completed over two academic years in consultation with the Head of the Department.

CURRICULUM

		Presented	Module Code	Credit Value
Full-time				
	Construction Management	Year	KBM450	20
	Construction Economics	Year	KCE400	20
	Professional Practice	Semester 1	KPP451	10
	Construction Technology	Year	KCT400	20
	Construction Entrepreneurship	Year	KCN400	20
	Contract Law and Procedures (CM)	Year	KCL400	20
	Safety, Health and Environmental Management	Semester 2	KSH402	10
	Total Credits			120

9.3 ADVANCED DIPLOMA IN INFORMATION TECHNOLOGY

Qualification code:	71511
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	110461
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The study of Information Technology at this level aims to address and equip students with the theoretical knowledge as well as practical skills to design and implement IT solutions to problems. Security is a key element in any IT solution and this qualification will equip the student with the necessary knowledge to secure infrastructure as well as include security in the design and implementation of IT solutions.

ADMISSION REQUIREMENTS

The minimum admission requirement is a NQF level 6, Diploma in Information Technology of 360 NQF credits or a qualification deemed equivalent by the department and approved by the Faculty Management Committee (FMC).

Students must have at least a 60% average for the final year major modules of the Diploma or Bachelor's Degree modules.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules.

A maximum of 24 credits in the curriculum may be substituted subject to approval from the School Management Committee and the requirements of NATED 151.

DURATION

The qualification shall extend over a minimum of one year of full-time study.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
IT Project Management	Semester 1	OPM401	15
IT Management	Semester 1	ITM401	15
Application Security	Semester 2	OAS402	15
Applied Project (Design and Implementation)	Year	ONP400	30
Sub-total			75

	Presented	Module Code	Credit Value
Select any three of the following: electives (please refer to the pre-requisite table below):			
Development Software	Semester 1	ONT401	15
Advanced Development Software	Semester 2	ONT412	15
User Interfaces	Semester 2	UIF402	15
Computer Networks	Semester 1	OCN401	15
Advanced Communication Networks	Semester 2	OAC402	15
Enterprise Networks	Semester 1	OEN401	15
IT Support Services	Semester 1	OSS401	15
Operating Systems	Semester 2	IOS402	15
Information Security	Semester 2	ISC402	15
Total Credits			120

The specified module offerings will be adhered to as far as possible, but unforeseen circumstances, such as non-availability of lecturers or limited interest, may force unavoidable changes. Should this occur the department will work with you to find suitable alternatives.

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites	Co-requisites
Advanced Development Software	ONT412	ONT401	
Advanced Communication Networks	OAC402	OCN401 and OEN401	

9.4 ADVANCED DIPLOMA IN INTERIOR DESIGN

Qualification code:	10570
Offering:	Full-time South Campus (A1)
Aligned NQF Level:	7
SAQA ID:	110789
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The proposed Advanced Diploma in Interior Design will provide students with an advanced knowledge base in the Interior Design profession and the ability to apply this knowledge, skills and attributes as a Candidate Professional Senior Interior Designer.

ADMISSION REQUIREMENTS

All applicants must meet the following minimum requirements:

- Nelson Mandela University applicants must have graduated with a 360 credit National Diploma or a Diploma in Interior Design with a minimum of 65% average for the following modules: Interior Design 3, Design Technology 3 and Contemporary Developments 3. The lowest mark for any of the above-mentioned modules must be 60%.
- Applicants who do not qualify in terms of the above requirements are required to write an entrance exam, set and evaluated by the Department of Architectural Technology & Interior Design after the November portfolio exams. External and internal members of the exam panel will decide if the outcome of the exam is successful.
- Those applicants who have completed their Diploma in Interior Design at another institution will be required to submit their full academic record and a portfolio for assessment by the Departmental Admissions Committee. The lowest mark for any of the above-mentioned modules must be 60%.
- If the applicant did not get a minimum of 65% average for the Design, Technology or Theory modules, the applicant must in addition prepare a submission for the Department of Architectural Technology & Interior Design, the requirements of which are available from the department. Selection is based on an applicant's detailed design ability, academic record and work experience.

SELECTION PROCEDURE:*Portfolios:*

The candidates are expected to present a portfolio and design journal which adequately represents the requisite level of competency for admission to the Advanced Diploma in Interior Design. Portfolios and sketch design journals are to be submitted in bound A3 format and be clearly labelled with the applicant's name and contact details. Portfolios must be submitted by the third week of November.

Interviews:

Applications are evaluated by the Admissions Committee and a shortlist will be compiled of candidates considered for admission. The candidates may be invited to a selection interview and entrance examination session during the first week of December. Candidates must attend an interview. Candidates who cannot attend will not be considered for selection.

The criteria for selection from the portfolio are as follows:

- the ability to think conceptually and respond to a design problem in an innovative and appropriate manner
- the ability to design interiors of a medium complexity based on accepted parameters and constraints
- the ability to appraise and define an interior design problem
- the ability to interpret contextual, environmental, cultural issues and present suitable design interventions
- a thorough knowledge of construction technology as it pertains to design
- a thorough knowledge of advanced computer applications and software utilised in the profession

RE-ADMISSION REQUIREMENTS

Re-admission to the programme is subject to:

- Student must have at least passed two of the modules if they want to continue the following year.
- Student must have worked in the Interior design field for at least 1 year if 4 or more modules have been failed. In this case a new design proposal must be submitted.

STATUTORY AND OTHER REQUIREMENTS

Upon completion of this qualification, students can register with the South African Institute for the Interior Design Profession (IID) as a Professional Interior Designer (PrID)

DURATION

The qualification shall be offered over a minimum of one year of full-time study

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Interior Design	Year	DID400	33
Design Technology	Year	DDT400	32
Interior Design Research Methodology	Year	DTE400	20
3D Presentation Methods	Year	DPM400	20
Architectural Theory	Year	AATA400	15
Total Credits			120

9.5

ADVANCED DIPLOMA IN OPERATIONS MANAGEMENT

Qualification code:	71510
Offering:	Part-time North Campus (21)
Aligned NQF Level:	7
SAQA ID:	99577
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Purpose Statement:

The purpose of this learning programme is designed to build on the knowledge and skills obtained in the Diploma in Operations Management. The Advanced Diploma will provide a deeper level of knowledge, understanding, and skills required towards becoming primarily a competent and efficient operations manager and employee. This learning programme will provide students with a deeper knowledge base in the operations management discipline and the ability to apply that knowledge, skills and values to make a meaningful contribution to the economy and national development by ensuring optimal utilization of resources.

The Advanced Diploma in Operations Management follows the Diploma in Operations Management to ensure a more advanced level of knowledge and skills to enable students to acquire dynamic management aspects which would ensure smooth operation within manufacturing service concerns.

Globally, the possible positions of individuals with this type of qualification include production planners, operations managers, supervisors, a foreman, work study practitioners, quality practitioners and operations analysts.

Qualification Objectives:

Upon completion of this program, Operations Management graduates will be able to:

- Explain the major concepts in the functional areas of accounting, marketing, finance, and management.
- Evaluate the legal, social, and economic environments of business.
- Describe the global environment of business.
- Describe and explain the ethical obligations and responsibilities of business.
- Apply decision-support tools to business decision making.
- Construct and present effective oral and written forms of professional communication.
- Apply knowledge of business concepts and functions in an integrated manner.
- Use specialized knowledge in Operations Management to solve business processes.
- Apply knowledge of fundamental concepts of operations management.
- Apply knowledge of approaches to operational performance improvement.

ADMISSION REQUIREMENTS

- Students must have a 65% average for any relevant National Diploma, Diploma or Degree at the discretion of the Head of Department, or 60% average, with two years relevant post diploma/degree working experience.
- Mathematics I or equivalent at an NQF Level 5.
- Employment in a relevant field is required for the Project module.
- Applicants from non-English speaking countries are required to submit proof of English proficiency before registration. The TOEFL or IELTS tests, available in most countries, are acceptable proof. The minimum TOEFL score required is 230 on the computer-based test, or 570 on the paper-based test. A minimum of a 6.0 on the IELTS is acceptable. If this documentation is not provided before registration, you will be required to undertake an evaluation by the director of the Nelson Mandela University English Language Skills Programme, and depending upon your performance, you may then be required to register for and complete the English Language Skills Programme.
- Other and non-South African qualifications will be considered based on SAQA reports and merit and may require the submission of curricula and learning material. These applicants may be required to complete additional modules to enhance their preparation for this qualification.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for the Advanced Diploma qualifications.

All modules are compulsory and require formal class attendance.

DURATION

The qualification shall extend over at least two years of part-time study.

CURRICULUM (Part-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
	Lean Manufacturing IV	Semester 1	QLMV401	15
	Total Quality Management IV	Semester 1	QTMV401	15
	Business Information Systems IV	Semester 2	OBIV402	15
	Marketing Management IV	Semester 2	OMMV402	15
	Credits First Year			60
Second Year				
Compulsory modules:				
	Operations Management IV	Semester 1	OPEV401	15
	Financial Management IV	Semester 2	OFMV402	15
	Operations Project IV	Year	OPRV400	30
	Credits Second Year			60
	Total Credits			120

9.6 ADVANCED DIPLOMA IN QUALITY MANAGEMENT

Qualification code:	71500
Offering:	Part-time North Campus (21)
Aligned NQF Level:	7
SAQA ID:	101936
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The purpose of this learning programme is to equip the students with knowledge and advanced to skills be able to determine and manage the effectiveness of quality management systems, appraise the current systems and processes, identify problem areas and possess the skills to assist in the minimisation of the problem areas identified. This qualification offers an intensive, focused and applied specialisation which meets the need of a specific niche in the labour market. This programme is suitable for a continuing professional development through the inculcation of a deep and systematic understanding of current thinking, practice, theory and methodology in the area of quality management and systems.

Globally, the possible positions of individuals with this type of qualification include quality practitioners, managers, supervisors and foremen. The study of quality involves the effective application and management of resources including but not limited to human, capital and material resources. Quality management for manufacturing operations is a key fundamental to the competitive edge of Eastern Cape region and is a major contributor to wealth creation and employment. Included in the tasks of quality

managers are the essential components of quality enhancement and assurance, supply chain management, increased productivity, cost reduction and flexibility improvements.

Qualification Objectives:

- Demonstration of the ability to identify, analyse, evaluate, critically reflect on and address solve well-defined and lower-level open-ended manufacturing and service-related problems within the quality management field.
- The ability to identify, analyse, evaluate, critically reflect on and address and solve well-defined and lower-level, open-ended manufacturing and service-related problems within the quality management field.
- The ability to access, process and manage information, in respect of demonstration of the ability to develop appropriate processes of information gathering for a given use within the operations management field and the ability to independently or in a team validate the sources of information and evaluate and manage the information within the quality management field.
- The ability to independently validate the sources of information and evaluate and manage the information to solve well-defined and lower-level open-ended manufacturing and service-related problems within the quality management field.
- Producing and communicating information, in respect of which a learner is able to demonstrate the ability to develop and communicate ideas and opinions using appropriate academic, professional, or occupational discourse.
- Demonstration of the ability to manage processes and solve well-defined and lower-level open-ended manufacturing and service-related problems in unfamiliar contexts within the operations management field, recognising that problem solving is context and system bound, and does not occur in isolation.
- Management of learning, in respect of which a learner is able to demonstrate the ability to identify, evaluate and address his or her learning needs within the quality management field in a self-directed manner, and to facilitate collaborative learning processes.

ADMISSION REQUIREMENTS

- Students must have a 65% average for any relevant National Diploma, Diploma or Degree at the discretion of the Head of Department, or 60% average, with two years relevant post diploma/degree working experience.
- Mathematics I or equivalent at an NQF Level 5.
- Employment in a relevant field is required for the Project module.
- Applicants from non-English speaking countries are required to submit proof of English proficiency before registration. The TOEFL or IELTS tests, available in most countries, are acceptable proof. The minimum TOEFL score required is 230 on the computer-based test, or 570 on the paper-based test. A minimum of a 6.0 on the IELTS is acceptable. If this documentation is not provided before registration, you will be required to undertake an evaluation by the director of the Nelson Mandela University English Language Skills Programme, and depending upon your performance, you may then be required to register for and complete the English Language Skills Programme.
- Other and non-South African qualifications will be considered based on SAQA reports and merit and may require the submission of curricula and learning material. These applicants may be required to complete additional modules to enhance their preparation for this qualification.

RE-ADMISSION REQUIREMENTS

- Re-admission to the programme in a following academic year is subject to:
 - Candidates passing at least 50% of credits per academic year;

- Candidates passing defined pre-requisite modules.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for the Advanced Diploma qualifications.

Please note: New intake restricted at the start of each year. All modules are compulsory and require formal class attendance.

DURATION

The qualification shall extend over at least two years of part-time study.

CURRICULUM (Part-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Lean Manufacturing IV	Semester 1	QLMV401	15
	Total Quality Management IV	Semester 1	QTMV401	15
	Quality Management Systems IV	Semester 2	QMSV402	15
	Statistical Quality Techniques IV (A)	Semester 2	QSTV402	15
	Credits First Year			60
		Presented	Module Code	Credit Value
Second Year				
Compulsory module:				
	Compulsory modules:			
	Statistical Quality Techniques IV (B)	Semester 1	QTTV401	15
	Quality Auditing Techniques IV	Semester 2	QATV402	15
	Project IV	Year	QPRV400	30
	Credits Second Year			60
	Total Credits			120

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Prerequisites	Co-requisites
Statistical Quality Techniques IV(B)	QTTV401	QSTV402	
Quality Auditing Techniques IV	QATV402	QMSV402	

9.7 ADVANCED DIPLOMA IN QUANTITY SURVEYING

Qualification code:	71530
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	111290
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

This qualification will provide students with more advanced knowledge in the Quantity Surveying discipline and the ability to apply that knowledge, skills and values to make a meaningful contribution to the economy and national development by ensuring optimal utilization of resources.

ADMISSION REQUIREMENTS

- The minimum admission requirement is the Diploma: Building of 360 NQF credits or a qualification deemed equivalent by the department and approved by the Faculty Management Committee (FMC).
- It is further expected of students to comply with the following requirements before being allowed entry to the qualification:
 - a weighted average of 60% in the final year of study in the diploma;
 - the student must obtain at least 60% for the core module (Construction Management) in the final year of study in the diploma for entry into the Advanced Diploma programme.
- Alternatively:

Students obtaining (55% - 59%) in either of the above criteria must submit a detailed breakdown (as per Annexure A – available on the NMMU website) of two years' proven post-diploma experience, under the auspices of a mentor professionally registered with either the SACPCMP, SACQSP, or a relevant Built Environment Professional Body), as well as periods of employment, certified by the relevant company.

STATUTORY AND OTHER REQUIRMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for the Bachelor of Technology qualifications.

DURATION

The qualification shall extend over at least one year of full-time study. Studies may also be completed over two academic years in consultation with the Head of the Department.

RE-ADMISSION REQUIREMENTS

One Year: A student will only be allowed to register twice for the same module. The maximum study time for the completion of the programme after first registration is 2 years.

Two Years: If a student fails more than 2 core modules in the first year of registration for the programme, the student will not be allowed to continue with the programme. A student will only be allowed to register twice for the same module. The maximum study time for the completion of the programme after first registration is 3 years.

CURRICULUM

		Presented	Module Code	Credit Value
Full-time				
	Quantity Surveying	Year	QQS450	20
	Property Economics	Year	QPE450	20
	Professional Practice	Semester 1	KPP451	10
	Computer Application in QS	Semester 2	QIT402	10
	Construction Entrepreneurship	Year	KCN400	20
	Contract Law and Procedures	Year	KCL400	20
	Market Valuations	Year	QMV400	20
	Total Credits			120

10 BACHELOR OF HONOURS DEGREES**10.1 BACHELOR OF ARCHITECTURAL STUDIES HONOURS**

Qualification code:	11068
Offering:	Full-time South Campus (A1)
Aligned NQF Level:	8
SAQA ID:	111164
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The qualification provides students with knowledge and skills in the various fields of the discipline of architecture towards post qualification registration in the profession as a Candidate Senior Architectural Technologist. The NQF level 8 qualification also affords a platform towards higher level academic qualifications.

ADMISSION REQUIREMENTS

Applicants must have graduated with a Bachelor of Architectural Studies (BAS) degree with a minimum of 60% for design. Admission to the Bachelor of Architectural Studies Honours programme is limited and selection is based on a portfolio review of applicants' work. Prospective students are therefore required to present a portfolio on application to the programme.

STATUTORY AND OTHER REQUIREMENTS

The qualification is offered as a full-time programme only.

DURATION

The qualification shall extend over one year of full-time study.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory Modules			
Architectural Design and Treatise	Year	AAV400	54
Professional Practice	Year	ABAV402	15
Advanced Construction	Year	ACAV400	15
Architectural Computer Usage	Year	ACU400	12
Architectural Theory and Research Methodology	Year	ATV400	12
Urban Studies	Year	AUSV400	12
Total Credits			120

**10.2 BACHELOR OF ENGINEERING TECHNOLOGY HONOURS
(ELECTRICAL ENGINEERING)**

Qualification code:	73520
Offering:	Full-time North Campus (01)
Aligned NQF Level:	8
SAQA ID:	111235
Total NQF Credits for qualification:	140

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The Bachelor of Engineering Technology Honours in Electrical Engineering serves to consolidate and deepen the student's expertise in Electrical Engineering in preparation for advanced industry and to develop postgraduate research capacity in the methodologies and techniques of Electrical Engineering.

Qualification Objectives:

Graduates from this programme should be able to demonstrate:

- Problem solving competence by identifying, formulating, analysing and solving complex electrical engineering problems creatively and innovatively;
- Competence in the application of scientific and electrical engineering knowledge by applying knowledge of mathematics, natural science and electrical engineering sciences to the conceptualisation of electrical engineering models and to solve complex electrical engineering problems;
- Electrical engineering design competence to perform creative, procedural and non-procedural design and synthesis of components, systems, electrical engineering works, products or processes of a complex nature;
- Competence to conduct investigations, experiments and data analysis of complex electrical engineering problems including engagement with the research literature and use of research methods including design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions;
- Competence to use appropriate and modern electrical engineering methods, skills and tools, including information technology resources, prediction and modelling, for the solution of complex electrical engineering problems, with an understanding of the limitations, restrictions, premises and assumptions;
- Professional and technical communication competence to communicate effectively, both orally and in writing, with electrical engineering audiences and the community at large;
- Knowledge and understanding of the impact of electrical engineering activities on society, economy, industrial and physical environment;
- Knowledge and understanding of electrical engineering management principles;
- Competence to engage in independent and life-long learning through well-developed learning skills; and
- The ability to comprehend and apply ethical principles and commit to professional ethics, responsibilities and norms of electrical engineering practice.

ADMISSION REQUIREMENTS

- The minimum admission requirement is a Bachelor of Engineering Technology in Electrical Engineering degree or an Advanced Diploma in Electrical Engineering;

- Recognition for Prior Learning (RPL) will be applied and granted according to Nelson Mandela University Policy on RPL.

RE-ADMISSION REQUIREMENTS

According to rule G4.7 of the General Prospectus of the university, students who have not completed the degree after two years, must apply for re-admission to the studies for the degree. Should such students be re-admitted, the retention of credits already earned towards the degree shall be subject to departmental approval.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if students comply with the requirements stipulated in the General Prospectus.

DURATION

The qualification shall extend over at least one year of full-time study.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Applied Mathematics	Semester 1	MAPV401	10
Modelling & Simulation	Semester 1	EEMS401	12
Energy Systems	Semester 1	EESY401	14
Electrical Power Systems	Semester 1	EEPS401	12
Advanced Control & Measurement	Semester 1	EACM401	12
Advanced Power Electronics & Drives	Semester 1	EAPE401	12
Engineering Economics	Semester 2	EECO402	10
Electrical Engineering Research	Semester 2	ERDR402	30
Electrical Engineering Design	Semester 2	ERDP402	28
Total Credits			140

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites	Co-requisites
Electrical Engineering Design	ERDP402	EEMS401	

10.3

BACHELOR OF ENGINEERING TECHNOLOGY HONOURS IN MECHANICAL ENGINEERING

Qualification code:	73545
Offering:	Full-time North Campus (01)
Aligned NQF Level:	8
SAQA ID:	111231
Total NQF Credits for qualification:	140

THE PURPOSE OF THE LEARNING PROGRAMME

This programme/qualification has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The Bachelor of Engineering Technology Honours in Mechanical Engineering (BEng Tech Hons (Mechanical)) serves to provide learners with knowledge in selected specialised engineering fields. The knowledge emphasises complex mechanical engineering principles and application in preparation for industry and to develop postgraduate research capacity in the methodologies and techniques of Mechanical Engineering.

Qualification Objectives:

Graduates from this programme should be able to demonstrate:

- Problem solving competence by identifying, formulating, analysing and solving complex mechanical engineering problems creatively and innovatively.
- Competence in the application of scientific and mechanical engineering knowledge by applying knowledge of mathematics, natural science and mechanical engineering sciences to the conceptualisation of mechanical engineering models and to solve complex mechanical engineering problems.
- Mechanical engineering design competence to perform creative, procedural and non-procedural design and synthesis of components, systems, mechanical engineering works, products or processes of a complex nature.
- Competence to conduct investigations, experiments and data analysis of complex mechanical engineering problems including engagement with the research literature and use of research methods including design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions.
- Competence to use appropriate and modern mechanical engineering methods, skills and tools, including information technology resources, prediction and modelling, for the solution of complex mechanical engineering problems, with an understanding of the limitations, restrictions, premises and assumptions.
- Professional and technical communication competence to communicate effectively, both orally and in writing, with mechanical engineering audiences and the community at large.
- Knowledge and understanding of the impact of mechanical engineering activities on society, economy, industrial and physical environment.
- Knowledge and understanding of mechanical engineering management principles.
- Competence to engage in independent and life-long learning through well-developed learning skills; and
- The ability to comprehend and apply ethical principles and commit to professional ethics, responsibilities and norms of mechanical engineering practice.

ADMISSION REQUIREMENTS

- The minimum admission requirement is a Bachelor of Engineering Technology in Mechanical Engineering degree or an Advanced Diploma in Mechanical Engineering.
- Recognition for Prior Learning (RPL) will be applied and granted according to Nelson Mandela University Policy on RPL.

RE-ADMISSION REQUIREMENTS

According to rule G4.7 of the General Prospectus of the university, students who have not completed the degree after two years, must apply for re-admission to the studies for the degree. Should such students be re-admitted, the retention of credits already earned towards the degree shall be subject to departmental approval.

An appeal process is in place for students who have been denied re-admission. Students would also be referred to Student Counselling for assistance and advice on career decisions and study methods.

STATUTORY AND OTHER REQUIREMENTS**Obtaining the qualification:**

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if students comply with the requirements stipulated in the General Prospectus.

DURATION

The qualification shall extend over at least one year of full-time study.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Applied Mathematics	Semester 1	MAPV401	10
Control Systems	Semester 1	MCOS401	12
Energy Systems Engineering	Semester 1	MESE401	12
Integrity of Structures	Semester 1	MINS401	14
Engineering Materials and Science	Semester 1	MEMS401	12
Thermal Systems	Semester 1	METS401	12
Engineering Economics	Semester 2	EECO402	10
Research Project	Semester 2	MREP402	30
Design project	Semester 2	MDEP402	28
Total Credits			140

CURRICULUM MODULE REQUISITES

A student will not be allowed to proceed to the following modules without first having passed the listed pre-requisite modules or, in some cases, be simultaneously registered (at least) for the given co-requisite modules.

Module	Code	Pre-requisites	Co-requisites
Research Project	MREP402	Dependent on subjects passed in semester 1. I.e. at least one of: MINS401 or MEMS401 or MESE401 or METS401	
Design project	MDEP402	Dependent on subjects passed in semester 1. I.e. at least one of: MINS401 or MEMS401 or MESE401 or METS401	

10.4

BACHELOR OF SCIENCE HONOURS IN CONSTRUCTION HEALTH AND SAFETY MANAGEMENT

Qualification code:	73555
Offering:	Full-time North Campus (01)
Aligned NQF Level:	8
SAQA ID:	110081
Total NQF Credits for qualification:	125

THE PURPOSE OF THE LEARNING PROGRAMME

The purpose of the Bachelor of Science Honours in Construction Health and Safety Management is to develop the necessary knowledge, understanding, abilities, and skills required for practicing as a Construction Health and Safety Agent, and a Construction Health and Safety Manager.

ADMISSION REQUIREMENTS

Candidates shall be admitted to study for the postgraduate qualification of Bachelor of Science Honours in Construction Health and Safety Management only if they hold the qualification Bachelor of Science in Construction Studies or a qualification deemed by Senate to be equivalent thereto, or a Bachelor qualification in one of the built environment or engineering disciplines, or if they otherwise qualify for admission in the opinion of Senate.

SELECTION PROCEDURE

Candidates may be required to undertake a selection procedure which may include written evaluations and / or an interview. If deemed necessary, candidates may be required to complete certain prescribed supplementary modules prior to commencing with the Bachelor of Science Honours in Construction Health and Safety Management qualification.

STATUTORY AND OTHER REQUIRMENTS*Treatise:*

A treatise of between 12000 and 15000 words on an approved topic shall be required. A date in April for the submission of research proposals shall be determined by the Department. Candidates who have not progressed satisfactorily by the end of the first semester, shall not be permitted to continue with the treatise in the second semester. The candidate must submit a final draft of the treatise by not later than a date in December determined by the Department.

Three bound copies of the treatise must be submitted by not later than a date in January determined by the Department. The treatise (KTR400) and the modules Construction Health & Safety Management 4 (KHS401 and KHS402) must be completed concurrently.

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for Honours' qualifications.

DURATION

The qualification, which is partially offered on a modular basis, shall extend over a period of 42 full-time academic weeks, commencing during the 2nd half of January and ending during early December the following year. The Department of Construction Management may permit candidates to spread the qualification over two calendar years, if cogent reasons exist.

RE-ADMISSION

A student will only be allowed to register twice for the same module. The maximum study time for the completion of the programme after first registration is 2 years.

CURRICULUM

		Presented	Module Code	Credit Value
Full-time				
Compulsory modules:				
	Construction Health & Safety Management 4A	Semester 1	KHS401	15
	Construction Health & Safety Management 4B	Semester 2	KHS402	15
	Construction Environmental Management 4	Semester 1	KEM401	10
	Construction Risk Management 4	Semester 2	KRM412	10
	Design Management 4	Semester 1	KDM401	10
	Project Management 4	Semester 2	KBP422	10
	+Professional Practice for Construction	Semester 1	KPP421	10

		Presented	Module Code	Credit Value
	Management A			
	+Professional Practice for Construction Management B	Semester 2	KPP422	10
	Construction Health and Safety Management Treatise 4	Year	KTR400	35
	Total Credits			125

10.5 BACHELOR OF SCIENCE HONOURS IN CONSTRUCTION MANAGEMENT (NO NEW INTAKE)

Qualification code:	45601
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	87261
Total NQF Credits for qualification:	242

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The qualification of Bachelor of Science Honours in Construction Management is specifically designed to build the necessary knowledge, understanding, abilities and skills required towards becoming a competent professional Construction Manager, in alignment with the requirements set out by the South African Council for the Project and Construction Management Professions (SACPCMP), and the Chartered Institute of Building (CIOB). The degree is a 'gateway' qualification for construction project management, which is the management of projects from conception to completion on behalf of a client, including design delivery, integration of design and construction, and the overseeing of construction. Therefore, those completing the degree may register as candidate Construction Managers or Construction Project Managers.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

Candidates shall be admitted to the study for the postgraduate qualification of Bachelor of Science Honours in Construction Management only if they hold the qualification Bachelor of Science (Construction Studies) or a qualification deemed by Senate to be equivalent thereto, or a Bachelor's qualification in one of the engineering or construction disciplines, or if they otherwise qualify for admission in the opinion of Senate.

SELECTION PROCEDURE

Candidates may be required to undertake a selection procedure which may include written evaluations and/or an interview. If deemed necessary, candidates may be required to complete certain prescribed supplementary modules prior to commencing with the Bachelor of Science Honours in Construction Management qualification

STATUTORY AND OTHER REQUIREMENTS*Treatise:*

A treatise of between 12000 and 15000 words on an approved topic shall be required. A date in April for the submission of research proposals shall be determined by the Department. Candidates who have not progressed satisfactorily by the end of the first semester, shall not be permitted to continue with the treatise in the second semester. The candidate must submit a final draft of the treatise by not later than a date in November determined by the Department.

Three bound copies of the treatise must be submitted by not later than a date in January determined by the Department. The treatise (KRS401) and the modules Construction Management 4 (KBM441 and KBM442) must be completed concurrently.

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for Honours' qualifications.

DURATION

The qualification, which is partially offered on a modular basis, shall extend over a period of 42 full-time academic weeks, commencing during the 2nd half of January and ending during early February the following year. The Department of Construction Management may permit candidates to spread the qualification over two calendar years, if cogent reasons exist.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme will be 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Commercial Law 121	Semester 1	JHA121	12
Introduction to Labour Law 102	Semester 1	JHL102	12
Company Law 121	Semester 2	JHM121	12
Commercial Law (Building Disciplines) 101	Semester 2	JHY101	6
Construction Management 4A (<i>Major</i>)	Semester 1	KBM441	40
Construction Management 4B (<i>Major</i>)	Semester 2	KBM442	40
Project Management 4	Semester 2	KBP412	18
Building Science (Materials and Methods) 4A	Semester 1	KMM415	12
Building Science (Materials and Methods) 4B	Semester 2	KMM416	12
Professional Practice for Construction Management 401	Semester 1	KPP401	9
Professional Practice for Construction			

		Presented	Module Code	Credit Value
	Management 402	Semester 2	KPP402	9
	Construction Management Treatise 4 (<i>Major</i>)	Year	KRS401	36
	Building Economics Special 301	Semester 1	QBES301	8
	Property Economics 401	Year	QPE401	16
	Total Credits			242

10.6 BACHELOR OF SCIENCE HONOURS IN CONSTRUCTION MANAGEMENT

Qualification code:	73540
Offering:	Full-time North Campus (01)
Aligned NQF Level:	8
SAQA ID:	110826
Total NQF Credits for qualification:	126

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The qualification of Bachelor of Science Honours in Construction Management is specifically designed to build the necessary knowledge, understanding, abilities and skills required towards becoming a competent professional Construction Manager, in alignment with the requirements set out by the South African Council for the Project and Construction Management Professions (SACPCMP), and the Chartered Institute of Building (CIOB). The degree is a 'gateway' qualification for construction project management, which is the management of projects, on behalf of a client, from conception to completion including design delivery, integration of design and construction, and the overseeing of construction. Therefore, those completing the degree may register as candidate Construction Managers or Construction Project Managers with the SACPCMP.

ADMISSION REQUIREMENTS

Candidates shall be admitted to study for the postgraduate qualification Bachelor of Science Honours in Construction Management only if they hold the qualification Bachelor of Science (Construction Studies) or a qualification deemed by Senate to be equivalent thereto, or a Bachelor's qualification in one of the engineering or construction disciplines, or if they otherwise qualify for admission in the opinion of Senate.

RE-ADMISSIONS

A student will only be allowed to register twice for the same module. The maximum study time for the completion of the programme after first registration is 2 years.

SELECTION PROCEDURE

Candidates may be required to undertake a selection procedure which may include written evaluations and/or an interview. If deemed necessary, candidates may be required to complete certain prescribed supplementary modules prior to commencing with the Bachelor of Science Honours in Construction Management qualification

STATUTORY AND OTHER REQUIRMENTS*Treatise:*

A treatise of between 12000 and 15000 words on an approved topic shall be required. A date in April for the submission of research proposals shall be determined by the Department. Candidates who have not progressed satisfactorily by the end of the first semester, shall not be permitted to continue with the treatise in the second semester. The candidate must submit the final treatise by no later than a date in December determined by the Department.

Three bound copies of the treatise must be submitted by a date in January determined by the Department. The treatise (KRS401) and the modules Construction Management 4 (KBM441 and KBM442) must be completed concurrently.

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if candidates comply with the relevant General Rules for Honours' qualifications.

DURATION

The qualification, which is partially offered on a modular basis, shall extend over a period of 42 full-time academic weeks, commencing during the 2nd half of January and ending during early December. The Department of Construction Management may permit candidates to spread the qualification over two calendar years, if cogent reasons exist.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Construction Management 4A	Semester 1	KBMV401	15
Construction Management 4B	Semester 2	KBMV402	15
Project Management 4	Semester 2	KBPV422	10
Building Science (Materials and Methods) 4	Semester 1	KMMV401	14
Professional Practice for Construction Management A	Semester 1	KPPV401	10
Professional Practice for Construction Management B	Semester 2	KPPV402	10
Construction Management Treatise 4	Year	KRSV400	36
Property Economics 4	Year	QPEV400	16
Total Credits			126

**10.7 BACHELOR OF SCIENCE HONOURS IN QUANTITY SURVEYING
(NO NEW INTAKE)**

Qualification code:	47003
Offering:	Full-time North Campus (01)
Aligned NQF Level:	8
SAQA ID:	87262
Total NQF Credits for qualification:	186

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

- Meet the prerequisites for statutory registration with the South African Council for the Quantity Surveying Profession as a Professional Quantity Surveyor (PrQS) or Candidate Quantity Surveyor (Candidate QS) in terms of Sections 18.(1)(a) and (b) of the Quantity Surveying Profession Act 2000 (No 49 Of 2000).
- Provide learners with vocational knowledge, skills and competencies appropriate to the vocation of quantity surveying in the construction and property industries.
- Equip learners with a foundation for further intellectual development and opportunities for gainful employment and rewarding contributions to society.
- Enhance the body of knowledge pertaining to quantity surveying in South Africa through the pursuance of research-based enquiry and dissemination of information via dynamic post-graduate courses.
- Provide the built environment professions with graduates who possess contextually specific as well as problem-solving and research skills.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Bachelor of Science in Construction Economics or a qualification deemed equivalent and approved by Senate, and
- A weighted average of at least 60% for major modules at third year level.

SELECTION PROCEDURE

Places are limited and all applicants are subject to selection based on academic performance.

STATUTORY AND OTHER REQUIREMENTS

Treatise:

A treatise of between 12000 and 15000 words on an approved topic shall be required. Candidates must submit a research topic for approval by the end of the first term of the academic year. The candidate must submit one draft copy of the completed treatise by not later than the date determined by the Department. Two final copies of the treatise must be submitted for the purpose of examination by the end of November. Two bound copies of the treatise must be submitted by not later than a date in January determined by the Department.

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if students comply with the requirements stipulated in the General Prospectus. The following shall be regarded as the major modules:

- Quantities 401
- Quantity Surveying 401
- Building Economics 401
- Property Economics 401

DURATION

The qualification shall extend over at least one year of full-time study. The qualification can also be completed over two academic years in consultation with the Head of Department.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2015.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2020.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory modules:			
Professional Practice 501	Semester 1	AC501	9
Professional Practice 502	Semester 2	AC502	9
Business Management: Financial Management 301	Semester 1	EBM301	24
Business Management: General and Strategic Management 302	Semester 2	EBM302	24
	Presented	Module Code	Credit Value
Building Economics 401 (<i>Major</i>)	Year	QBE401	30
Information Technology for Building Disciplines 401	Year	QIT401	4
Property Economics 401 (<i>Major</i>)	Year	QPE401	16
Quantities 401 (<i>Major</i>)	Year	QQH401	24
Quantity Surveying 401 (<i>Major</i>)	Year	QQS401	10
Treatise 401	Year	QRS401	36
Total Credits			186

**10.8 BACHELOR OF SCIENCE HONOURS IN QUANTITY SURVEYING
(NO NEW INTAKE)**

Qualification code:	73003
Offering:	Full-time North Campus (01)
Aligned NQF Level:	8
SAQA ID:	87262
Total NQF Credits for qualification:	186

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

- Meet the prerequisites for statutory registration with the South African Council for the Quantity Surveying Profession as a Professional Quantity Surveyor (PrQS) or Candidate Quantity Surveyor (Candidate QS) in terms of Sections 18.(1)(a) and (b) of the Quantity Surveying Profession Act 2000 (No 49 of 2000).
- Provide learners with vocational knowledge, skills and competencies appropriate to the vocation of quantity surveying in the construction and property industries.
- Equip learners with a foundation for further intellectual development and opportunities for gainful employment and rewarding contributions to society.
- Enhance the body of knowledge pertaining to quantity surveying in South Africa through the pursuance of research-based enquiry and dissemination of information via dynamic post-graduate courses.
- Provide the built environment professions with graduates who possess contextually specific as well as problem-solving and research skills.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Bachelor of Science in Construction Economics or a qualification deemed equivalent and approved by Senate, and
- A weighted average of at least 60% for major modules at third year level.

SELECTION PROCEDURE

Places are limited and all applicants are subject to selection based on academic performance.

STATUTORY AND OTHER REQUIREMENTS

Treatise:

A treatise of between 12000 and 15000 words on an approved topic shall be required. Candidates must submit a research topic for approval by the end of the first term of the academic year. The candidate must submit one draft copy of the completed treatise by not later than 31 August. Three final copies of the treatise must be submitted for the purpose of examination by the end of November.

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if students comply with the requirements stipulated in the General Prospectus. The following shall be regarded as the major modules:

- Quantities 4

- Quantity Surveying 4
- Building Economics 4
- Property Economics 4

DURATION

The qualification shall extend over at least one year of full-time study. The qualification can also be completed over two academic years in consultation with the Head of Department.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2016.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2021.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Professional Practice 501	Semester 1	ACV501	9
	Professional Practice 502	Semester 2	ACV502	9
	Business Management: Financial Management 301	Semester 1	EBMV301	24
	Business Management: General and Strategic Management 302	Semester 2	EBMV302	24
	Building Economics 4 (<i>Major</i>)	Year	QBEV400	30
	Information Technology Building Discipline 4	Year	QITV400	4
	Property Economics 4 (<i>Major</i>)	Year	QPEV400	16
	Quantities 4 (<i>Major</i>)	Year	QQHV400	24
	Quantity Surveying 4 (<i>Major</i>)	Year	QQSV400	10
	Treatise 4	Year	QRSV400	36
	Total Credits			186

10.9 BACHELOR OF SCIENCE HONOURS IN QUANTITY SURVEYING

Qualification code:	73004
Offering:	Full-time North Campus (01)
Aligned NQF Level:	8
SAQA ID:	87262
Total NQF Credits for qualification:	151

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

- Meet the prerequisites for statutory registration with the South African Council for the Quantity Surveying Profession as a Professional Quantity Surveyor (PrQS) or Candidate Quantity Surveyor (Candidate QS) in terms of Sections 18.(1)(a) and (b) of the Quantity Surveying Profession Act 2000 (No 49 of 2000).
- Provide learners with vocational knowledge, skills and competencies appropriate to the vocation of quantity surveying in the construction and property industries.
- Equip learners with a foundation for further intellectual development and opportunities for gainful employment and rewarding contributions to society.
- Enhance the body of knowledge pertaining to quantity surveying in South Africa through the pursuance of research-based enquiry and dissemination of information via dynamic post-graduate courses.
- Provide the built environment professions with graduates who possess contextually specific as well as problem-solving and research skills.
- Produce learners who are prepared for and understand the principles of life-long learning, critical citizenship, lateral, critical and creative thinking and a wide range of issues which are crucial to the welfare of society.

ADMISSION REQUIREMENTS

- Bachelor of Science in Construction Economics or a qualification deemed equivalent and approved by Senate, and
- A weighted average of at least 60% for major modules at third year level.

SELECTION PROCEDURE

Places are limited and all applicants are subject to selection based on academic performance.

STATUTORY AND OTHER REQUIREMENTS*Treatise:*

Candidates must submit a research proposal for approval by the Department. Candidates who do not pass the research proposal submission will not be permitted to continue with the Treatise Module. Subsequently, a treatise (based on the proposal) of between 12000 and 15000 words must be submitted at the end of the module.

Obtaining the qualification:

The qualification shall be obtained by completing the modules prescribed by Senate.

Awarding the qualification cum laude:

Unless Senate decides otherwise, the qualification shall be awarded *cum laude* if students comply with the requirements stipulated in the General Prospectus. The following shall be regarded as the major modules:

- Quantities 4

- Quantity Surveying 4
- Building Economics 4
- Property Economics 4

DURATION

The qualification shall extend over at least one year of full-time study. The qualification can also be completed over two academic years in consultation with the Head of Department.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Quantities 4 (<i>Major</i>)	Year	QQHV410	20
	Quantity Surveying 4 (<i>Major</i>)	Year	QGSV400	10
	Building Economics 4 (<i>Major</i>)	Year	QBEV410	25
	Property Economics 4 (<i>Major</i>)	Year	QPEV400	16
	Professional Practice 4	Year	QPPV410	20
	Business Management: General and Strategic Management 302	Semester 2	EBMV302	24
	Treatise 4	Year	QRSV400	36
	Total Credits			151

11 MASTER OF TECHNOLOGY DEGREES**11.1 MASTER OF TECHNOLOGY (CONSTRUCTION MANAGEMENT) (RESEARCH) (NO NEW INTAKE)**

Qualification code:	5281
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes.

- Unless Senate decides otherwise, candidates shall be registered for the Master of Technology qualification if they have obtained the Bachelor of Technology:

Construction Management; or have obtained an equivalent qualification in a related field approved by Senate.

- The qualification is research-based and candidates are required to do a dissertation.
- Candidates are required to do a recognised module in “Research Methodology” before registration of the research proposal.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee

DURATION

Full-time:	Minimum period – 1 year	Maximum period – 3 years
Part-time:	Minimum period – 1 year	Maximum period – 4 years

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2016.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Dissertation	Year	MCM500	120

12	MASTERS DEGREES
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12.1	MASTER OF ARCHITECTURE (RESEARCH) (NO NEW INTAKE)
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Qualification code:	15070
Offering:	Full-time South Campus (A1) OR Part-time South Campus (A2)
Aligned NQF Level:	9
SAQA ID:	87164
Total NQF Credits for qualification:	180

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Unless stipulated otherwise hereinafter, or unless the context indicates otherwise, the general rules for all qualifications shall also apply to Masters' degrees.

ADMISSION REQUIREMENTS

Candidates shall be admitted to the studies for the degree of Master of Architecture (Research) only if they hold the degree of Master of Architecture (Professional) (MArch(Prof)), or if they are granted permission by Senate.

OBTAINING THE DEGREE

The degree shall be awarded to a person who has been a candidate for the degree for at least one year, who has completed a dissertation on an approved topic, and who has passed:

- an oral examination on the dissertation and/or any other prescribed topic in the field of Architecture in a case where the research for the dissertation was carried out independently, **or**
- a written examination on the dissertation and/or any other prescribed topic in the field of Architecture in a case where the research for the dissertation consisted of a building project or building system prepared by the candidate as leader of a team of related specialists.

DURATION

The qualification shall extend over a minimum of one year of full-time or two years of part-time study.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Research project and dissertation	Year	AV500	180

**12.2 MASTER OF ARCHITECTURE (PROFESSIONAL)
(RESEARCH)
(NO NEW INTAKE)**

Qualification code:	43002
Offering:	Full-time South Campus (A1)
Aligned NQF Level:	8
Total NQF Credits for qualification:	257

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Unless stipulated otherwise hereinafter, or unless the context indicates otherwise, the general rules for all qualifications shall also apply to Masters' degrees.

ADMISSION REQUIREMENTS

Candidates must have obtained a degree of Bachelor of Architectural Studies or an equivalent undergraduate degree.

Admission into the MArch (Prof) is limited and by application. Applicants must submit an application to the University on the prescribed Nelson Mandela University form, by the date stipulated by the University. In addition, applicants must prepare a submission of portfolio for the Department of Architecture, the requirements of which are available from the department.

SELECTION PROCEDURE

Selection is based on an applicant's

- design ability,
- academic record, and
- work experience.

Selection is at the discretion of the Department of Architecture Admissions Committee and may include an interview and portfolio examination

Interviews and portfolios:

Applications are evaluated by the Admissions Committee and a shortlist compiled of candidates considered for admission. The candidates may be invited to a selection interview and entrance examination session during the fourth term of the academic year.

Candidates must attend an interview. Candidates who cannot attend will not be considered for selection. International applicants may apply with a digital portfolio of works and interviewed over internet or video conferencing facility.

Portfolios:

The candidates are expected to present a portfolio and design journal which adequately represents the requisite level of competency for admission to the Master's programme. Portfolios and design journals are to be submitted in a bound A3 format and be clearly labelled with the applicant's name and contact details.

Decision of the selection panel:

Please note that the decisions of the Department of Architecture Admission Committee are final and no correspondence will be entered into with the unsuccessful applicants.

STATUTORY AND OTHER REQUIREMENTS*Obtaining the degree:*

The degree shall be obtained by completing the modules prescribed by Senate. Unless Senate decides otherwise, the degree shall be awarded *Cum Laude* if candidates comply with the requirements of rule G1.6.14, provided that:

- Treatise AA523;
 - Architectural Theory and Research AT513, and
 - Urban Design and Urban Design Research ATA503.
- shall be regarded as exit-level modules.

Examinations and promotions:

The following modules shall be examined only at the end of the second semester:

- Design AA403
- Architectural Theory and Sociology AT413
- Architectural Theory and Research AT513
- Urban Studies AUS 403 and AUS503
- Architectural Computer Usage ACU403

The modules Treatise AA523 and Urban Design and Urban Design Research ATA503 shall be examined either at the end of the first semester or at the end of the second semester. The Head of the Department of Architecture shall determine when the modules shall be examined.

No supplementary exams or re-marks are permitted in Design AA403 and Treatise AA523 and Urban Design and Urban Design Research ATA503.

Candidates shall be admitted into the second year of study for the degree of M Arch (Prof) only if they have obtained credit for the module Design AA403.

Senate may allow candidates who have failed to qualify for admission to a following year of study, to take modules prescribed for such following year of study, provided that:

- The Head of the Department of Architecture shall determine which modules may be taken.
- The modules Treatise AA523 and Architectural Theory and Research AT513 may not be taken.

DURATION

The qualification shall extend over two years of full-time study.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2019.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2021.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Design	Year	AA403	48

	Architectural Theory and Sociology	Year	AT413	12
	Architectural Computer Usage	Year	ACU403	10
	Property Economics for Architects	Year	QPEA401	16
	Urban Studies	Year	AUS403	12
	Advanced Construction	Semester 1	AGK401	6
	Commercial Law 1C (attendance module)	Semester 1	JHC101	12
	Professional Practice for Architects	Semester 2	ABA402	7
	Commercial Law (Building Disciplines) (attendance module)	Semester 2	JHZ101	6
	Credits First Year			129
		Presented	Module Code	Credit Value
Second Year				
Compulsory module:				
	Architectural Theory and Research	Year	AT513	12
	Treatise	Year	AA523	60
	Urban Studies	Year	AUS503	12
	Urban Design and Urban Design Research	Year	ATA503	30
	Professional Practice for Architects	Semester 1	ABA501	7
	Professional Practice for Architects	Semester 2	ABA502	7
	Credits Second Year			128

12.3 MASTER OF ARCHITECTURE (PROFESSIONAL)

Qualification code:	15073
Offering:	Full-time South Campus (A1)
Aligned NQF Level:	9
SAQA ID:	110084
Total NQF Credits for qualification:	180

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

This programme has been approved in terms of the new Higher Education Qualifications Sub-Framework (HEQSF).

The qualification provides students with knowledge and skills in the various fields of the discipline of architecture towards post qualification registration in the profession as a Candidate Professional Architect. The NQF level 9 qualification also affords a platform towards higher level academic qualifications.

ADMISSION REQUIREMENTS

Candidates must have obtained a degree of Bachelor of Architectural Studies or an Applicant must have graduated with a Bachelor of Architectural Studies Honours (BAS Honours) degree with design.

SELECTION PROCEDURE

Admission to the Master of Architecture (Professional) programme is limited and selection is based on a portfolio review of applicants' work. Prospective students are therefore required to present a portfolio on application to the programme.

DURATION

The qualification shall extend over one year of full-time study.

	Presented	Module Code	Credit Value
First Year			
Compulsory Modules			
Design Treatise	Year	AAV500	100
Architectural Theory	Year	ATV500	20
Urban Studies	Year	ATAV500	20
Professional Practice	Year	ABAV501	20
Advanced Construction	Year	ACAV501	20

12.4	MASTER OF ENGINEERING (CIVIL) (RESEARCH)
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Qualification code:	75057
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	97130
Total NQF Credits for qualification:	180

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

- Students must have a 65% average for the Bachelor of Technology: Engineering: Civil or equivalent.
- The research proposal should preferably be aligned with the faculty research themes.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 1 year	Maximum period – 3 years
Part-time:	Minimum period – 1 year	Maximum period – 4 years

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Dissertation	Year	CRE500	180

12.5	MASTER OF ENGINEERING (ELECTRICAL) (RESEARCH)
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Qualification code:	75058
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	97130
Total NQF Credits for qualification:	180

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Prepares a candidate for professional practice, enhances in-depth knowledge and understanding of the principles, specialist and contextual knowledge, cultivates a critical awareness of developments at the forefront and develops the capacity to conduct research in the field of Electrical engineering.

Qualification objectives:

In their dissertations, students must prove that they understand a particular problem in the industry and are able to set it out logically, are able to arrive at logical conclusions or a diagnosis, and are then able to make proposals for the improvement/elimination of the problem. The dissertation must comply with the normal requirements and rules with regard to scope, quality and layout.

ADMISSION REQUIREMENTS

- Students must have a 65% average for the Bachelor of Technology: Engineering: Electrical or equivalent.
- The research proposal should preferably be aligned with the faculty research themes.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-to-day basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 1 year	Maximum period – 3 years
Part-time:	Minimum period – 1 year	Maximum period – 4 years

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Dissertation	Year	EMT500	180

12.6	MASTER OF ENGINEERING (INDUSTRIAL) (RESEARCH)
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Qualification code:	75060
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	97130
Total NQF Credits for qualification:	180

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The qualification aims to develop intellectual and professional skills and provides the student with the opportunity to demonstrate evidence of independent and original scientific work. This qualification will further provide the student with the opportunity to display competence in the application of relevant research methodologies, and the appropriate written and/or oral communication of the research process and the associated findings.

The purpose of this master's programme is to provide students who want to move into postgraduate studies (including students from related disciplines who want to specialise in this field) with the problem solving, innovation and research skills and practice to address the issues and challenges related to Industrial Engineering.

Qualification Objectives:

Students must prove that they understand a particular problem in industry and can set it out logically, are able to arrive at coherent conclusions or diagnosis, and are able to make proposals for the improvement/elimination of the problem. The dissertation must comply with the normal general technical requirements and rules with regard to scope, quality and layout.

ADMISSION REQUIREMENTS

- Students must have a 65% average for the Bachelor of Technology: Engineering: Industrial or equivalent.
- The research proposal should preferably be aligned with the faculty research themes.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-

time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 1 year	Maximum period – 3 years
Part-time:	Minimum period – 1 year	Maximum period – 4 years

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Dissertation	Year	MIE500	180

12.7	MASTER OF ENGINEERING (MECHANICAL) (RESEARCH)
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Qualification code:	75059
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	97130
Total NQF Credits for qualification:	180

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

This programme aims to develop the knowledge and skills of a Bachelor's/honours-level graduate in Mechanical Engineering to Masters level through advanced research. It provides an opportunity for candidates from different Engineering backgrounds to develop key Mechanical Engineering knowledge and skills required for their professional development. There is a growing need for an advanced mechanical engineering programme from our industry partners and this programme has been specifically developed to meet this need and to encourage students into further learning. This course provides opportunities for research in a selected engineering field and addresses literature review skills, project planning, data analysis and presentation with a focus to critically discuss literature, and use data to support an argument.

Qualification Objectives:

In their dissertations students must prove that they understand a particular problem in mechanical engineering and are able to set it out logically, are able to arrive at logical conclusions or a diagnosis, and are then able to make proposals for their improvement/the elimination of the problem. The dissertation must comply with the normal requirements and rules with regard to scope, quality and layout.

ADMISSION REQUIREMENTS

- Students must have a 65% average for the Bachelor of Technology: Engineering: Mechanical or equivalent.
- The research proposal should preferably be aligned with the faculty research themes.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 1 year	Maximum period – 3 years
Part-time:	Minimum period – 1 year	Maximum period – 4 years

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Dissertation	Year	EMV500	180

12.8	MASTER OF ENGINEERING IN MECHATRONICS (RESEARCH) (NO NEW INTAKE)
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Qualification code:	75001
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	63989
Total NQF Credits for qualification:	180

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Candidates shall be admitted to the study for the qualification of Master of Engineering in Mechatronics only if they hold the qualification of Bachelor of Engineering or Bachelor of Science in Engineering or a qualification deemed by Senate to be equivalent thereto, or if they otherwise qualify for admission in the opinion of Senate.
- Candidates who have completed Bachelor of Technology in a relevant field may be eligible, at the discretion of the Faculty Management Committee. Additional coursework may, however, be prescribed.
- All candidates shall be subject to selection criteria as laid down by the department.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is

unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 1 year	Maximum period – 3 years
Part-time:	Minimum period – 1 year	Maximum period – 4 years

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2015.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2020.

CURRICULUM

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Dissertation	Year	EMP500	180

12.9	MASTER OF ENGINEERING IN MECHATRONICS (RESEARCH)
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Qualification code:	75055
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	63989
Total NQF Credits for qualification:	180

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The purpose of the qualification is to prepare students for further advanced research in Mechatronics, Electronics, or Mechanical Engineering.

The students must show evidence that:

- They can produce research objectives and scope, and show that the focus of the research remained consistent with the initial objectives.
- They are capable of independent scientific and technical investigation and interpretation of the results.
- They can perform a comprehensive a literature review that is relevant to the research undertaken. The type of reference sources and comprehensiveness must be suitable for a MEng in engineering study.
- The core contribution was developed or designed according to applicable standards.
- A set of experiments was developed by which the quality of the contribution is tested.

- A scientific analysis of the results was performed, leading to a comprehensive conclusion.
- The presentation of the work was done in a scientific way as needed for post-graduate studies

ADMISSION REQUIREMENTS

- Candidates shall be admitted to the study for the qualification of Master of Engineering in Mechatronics only if they hold the qualification of Bachelor of Engineering or Bachelor of Science in Engineering or a qualification deemed by Senate to be equivalent thereto, or if they otherwise qualify for admission in the opinion of Senate.
- Candidates who have completed Bachelor of Technology in a relevant field may be eligible, at the discretion of the Faculty Management Committee. Additional coursework may, however, be prescribed.

SELECTION PROCEDURE

All candidates shall be subject to selection criteria as laid down by the Department.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 1 year	Maximum period – 3 years
Part-time:	Minimum period – 1 year	Maximum period – 4 years

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Dissertation	Year	EMPV500	180

12.10

MASTER OF INFORMATION TECHNOLOGY (RESEARCH)

Qualification code:	75052
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	97142
Total NQF Credits for qualification:	180

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The purpose of this degree is to provide the student an opportunity to develop competence with research methods through the application of theory and the research process to an information technology problem domain. It also to provide the opportunity for the student to make a contribution to the theory and practice of information technology through reporting on their research.

Qualification Objectives:

- To provide students with the opportunity to practice research skills in order to prepare themselves for their role as technologists.
- To provide students with the opportunity to correlate theory with actual information technology practice.
- To afford students the opportunity to make contributions to both the theory and practice of information technology through the products of their research.

ADMISSION REQUIREMENTS

- Bachelor of Technology: Information Technology with an average of at least 60% and including credits for the modules Research Methodology IV and Project IV.
OR
- An equivalent M + 4 qualification in an Information Technology-related area with an average of at least 60%. The suitability of the qualification is subject to the discretion of the Faculty Management Committee.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 1 year	Maximum period – 3 years
Part-time:	Minimum period – 1 year	Maximum period – 4 years

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Dissertation	Year	ICT500	180

12.11	MASTER OF OPERATIONS MANAGEMENT (RESEARCH)
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Qualification code:	75053
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	9
Total NQF Credits for qualification:	180

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The qualification aims to develop intellectual and professional skills and provides the student with the opportunity to demonstrate evidence of independent and original scientific work. This qualification will further provide the student with the opportunity to display competence in the application of relevant research methodologies, and the appropriate written and/or oral communication of the research process and the associated findings.

The purpose of this master's programme is to provide students who want to move into postgraduate studies (including students from related disciplines who want to specialise in this field) with the problem solving, innovation and research skills and practice to address the issues and challenges related to Operations Management.

ADMISSION REQUIREMENTS

- Students must have a 65% average for the Bachelor of Technology: Operations Management or equivalent.
- The research proposal should preferably be aligned with the faculty research themes.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 1 year	Maximum period – 3 years
Part-time:	Minimum period – 1 year	Maximum period – 4 years

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Dissertation	Year	MDT500	180

12.12	MASTER OF PHILOSOPHY IN INFORMATION TECHNOLOGY GOVERNANCE (COURSE WORK AND RESEARCH)
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Qualification code:	75050
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	97665
Total NQF Credits for qualification:	180

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The purpose of the MPhil in IT Governance is to equip and prepare graduates with advanced knowledge and research skills to contribute to the governance and assurance of information technology and related information and information systems as a critical asset of a modern-day enterprise.

ADMISSION REQUIREMENTS

A relevant 120-credit NQF Level 8 learning programme with an information technology (IT), information systems (IS) or auditing focus with at least three years of relevant industry experience.

SELECTION PROCEDURE

If applications exceed 25 candidates, selection will be done on a first come first served basis.

RE-ADMISSION REQUIREMENTS

Students (only part-time allowed) must pass at least two modules per year to acquire re-admission in the following year.

DURATION

The qualification shall extend over a minimum of two years or a maximum of four years of part-time study.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Information Technology Management	Trimester 1	RITM501	15
	Information Technology Risk Management	Trimester 1	RTRM503	15
	Information Security Management	Trimester 2	RISV502	15
	Information Technology Service Management	Trimester 2	RTSM502	15
	Information Systems Assurance	Trimester 3	RISA501	15
	Information Technology Law	Trimester 3	JILT503	15
	Credits First Year			90

		Presented	Module Code	Credit Value
Second Year				
Select one of the following:				
	Research Treatise: IS Auditing	Every year	RRIS500	90
	Research Treatise: IT Law	Every year	JRTV500	
	Research Treatise: IT Management	Every year	RRTI500	
	Total Credits			180

12.13	MASTER OF SCIENCE IN CONSTRUCTION ECONOMICS (RESEARCH) (NO NEW INATKE)
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Qualification code:	47101
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	9
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

Candidates shall be admitted to the study for the qualification of Master of Science in Construction Economics only if they hold the qualification of Bachelor of Science Honours in Quantity Surveying or a qualification deemed by Senate to be equivalent thereto.

STATUTORY AND OTHER REQUIREMENTS

Obtaining the qualification:

The qualification shall be awarded to a person who has been a candidate for the qualification for at least one year and who has completed a dissertation on an approved topic, and who has passed:

- an oral examination on a prescribed topic in the field of Quantity Surveying in a case where the research for the dissertation was carried out independently; or
- a written examination on the module of the dissertation and/or any other prescribed topic in the field of Quantity Surveying in a case where the research for the dissertation consisted of a building project or building-system prepared by the candidate as leader of a team of related specialists.
- Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 1 year	Maximum period – 3 years
Part-time:	Minimum period – 1 year	Maximum period – 4 years

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2015.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2020.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Dissertation	Year	Q505	120

12.14	MASTER OF SCIENCE IN CONSTRUCTION ECONOMICS (RESEARCH)
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Qualification code:	75010
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	91827
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

This qualification will enable the learner after completion:

- To provide students with a basic training in research methods and procedures appropriate to construction economics.
- To produce students for the economy with the capacity to work in teams which must carry out research in the construction field.
- To provide a rigorous and theoretically informed approach to the research study of construction economics that will serve the students throughout their subsequent careers, and will equip them either for senior management positions or for further research in Doctor of Philosophy (PhD) leading to academic careers.

ADMISSION REQUIREMENTS

Candidates shall be admitted to the study for the qualification of Master of Science in Construction Economics only if they hold the qualification of Bachelor of Science Honours in Quantity Surveying or a qualification deemed by Senate to be equivalent thereto.

STATUTORY AND OTHER REQUIREMENTS*Obtaining the qualification:*

The qualification shall be awarded to a person who has been a candidate for the qualification for at least one year and who has completed a dissertation on an approved topic, and who has passed:

- an oral examination on a prescribed topic in the field of Quantity Surveying in a case where the research for the dissertation was carried out independently; or
- a written examination on the module of the dissertation and/or any other prescribed topic in the field of Quantity Surveying in a case where the research for the dissertation consisted of a building project or building-system prepared by the candidate as leader of a team of related specialists.
- Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 1 year	Maximum period – 3 years
Part-time:	Minimum period – 1 year	Maximum period – 4 years

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Dissertation	Year	QV500	120

12.15	MASTER OF SCIENCE IN CONSTRUCTION MANAGEMENT (RESEARCH) (NO NEW INTAKE)
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Qualification code:	47600
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	87178
Total NQF Credits for qualification:	120

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Candidates shall be admitted to the study for the qualification of Master of Science in Construction Management only if they hold the qualification of Bachelor of Science Honours in Construction Management, or

- a qualification deemed by Senate to be equivalent thereto, or
- if they hold at least a four-year Bachelor of Science qualification in one of the engineering or building disciplines and have had at least two years' appropriate postgraduate practical experience, or
- if they otherwise qualify for admission in the opinion of Senate.

SELECTION PROCEDURE

All students shall be subject to a selection process as laid down by the department and approved at the Faculty Management Committee.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-to-day basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 1 year	Maximum period – 3 years
Part-time:	Minimum period – 1 year	Maximum period – 4 years

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2015.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2020.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Dissertation	Year	KRA505	120

12.16	MASTER OF SCIENCE IN CONSTRUCTION MANAGEMENT (RESEARCH)
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Qualification code:	75011
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	87178
Total NQF Credits for qualification:	180

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

To enable students to address a relatively complex research problem, attain a level of research competence, and achieve a degree of specialisation in an area of expertise. The dissertation produced must provide evidence of a level of independent and original thought, and problem-solving; make a contribution to scientific knowledge, and provide insight into the subject.

ADMISSION REQUIREMENTS

- Candidates shall be admitted to the study for the qualification of Master of Science in Construction Management only if they hold the qualification of Bachelor of Science Honours in Construction Management, or
- a qualification deemed by Senate to be equivalent thereto, or
- if they hold at least a four-year Bachelor of Science qualification in one of the engineering or building disciplines and have had at least two years' appropriate postgraduate practical experience, or
- if they otherwise qualify for admission in the opinion of Senate.

SELECTION PROCEDURE

All students shall be subject to a selection process as laid down by the department and approved at the Faculty Management Committee.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 1 year	Maximum period – 3 years
Part-time:	Minimum period – 1 year	Maximum period – 4 years

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Dissertation	Year	KRAV500	180

12.17

**MASTER OF SCIENCE IN THE BUILT ENVIRONMENT
(CONSTRUCTION HEALTH AND SAFETY MANAGEMENT)
(COURSE WORK)
(NO NEW INTAKE)**

Qualification code:	47654
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
Total NQF Credits for qualification:	225

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

Unless Senate decides otherwise, candidates shall be in possession of one the following minimum qualifications in order to qualify for admission:

- a Bachelor of Science Honours qualification in Quantity Surveying or Construction Management;
- a Master of Architecture (Professional) qualification;
- a four-year Bachelor's qualification in a building discipline;
- a Bachelor of Technology qualification in Quantity Surveying, Construction Management or Architecture obtained from a technikon or technical university, together with a minimum of five years of relevant working experience;
- a professional diploma in Quantity Surveying (RQS or ARICS), Construction Management or Architecture, together with a minimum of seven years' relevant working experience.

SELECTION PROCEDURE

All students shall be subject to a selection process as laid down by the department and approved at the Faculty Management Committee, if completing an entrance essay.

STATUTORY AND OTHER REQUIREMENTS

Integrated Assessment:

In all modules, assessment is continuous and supplemented by end-of-semester and/or year-end examinations. Assignments are submitted for evaluation within the overall qualification. A mark of at least 50% for the assignment is a prerequisite for admission to the examination in any module. Re-assessments will be scheduled at the end of the block following the block in which the examination was written. No more than two re-assessments will be permitted in the qualification.

Obtaining the qualification:

The qualification shall be obtained on completion of a course work programme (prescribed and elective modules), a supervised research programme and the submission of a treatise for examination.

DURATION

The qualification shall extend over a minimum of two years or a maximum of four years of part-time study.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2015.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2020.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Accounting and Project Finance	Block offering	KAF510	15
	Health and Safety		KHS510	15
	Corporate Strategy		QCS510	15
	Management Information System for Construction and IT Applications		QIT510	15
	Research Methodology		QRT510	15
	Credits First Year			75
Second Year				
Compulsory module:				
	Environmental Management	Block offering	KEM510	15
	Health and Safety Management (B)		KHS511	15
	Risk Management		KRM510	15
	Treatise		KRT510	75
	Design Management		QDM510	15
Select one of the following modules or any other module approved by the programme director:				
	Project Strategy and PMBOK	Block offering	KPS510	15
	Human Resources		QHR510	15
	Credits Second Year			150
	Total Credits			225

**12.18 MASTER OF SCIENCE IN THE BUILT ENVIRONMENT
(CONSTRUCTION HEALTH AND SAFETY MANAGEMENT)
(COURSE WORK)**

Qualification code:	75024
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
Total NQF Credits for qualification:	225

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

- To provide understanding of the management skills and techniques necessary to deliver sophisticated projects in an increasingly competitive economic environment of South Africa and elsewhere within time, budget and risk requirements of construction clients.
- To develop analytical and methodological skills that are critical for management, decision-making and problem-solving roles.
- To prepare candidates for advancement in construction consultancy in professional project management, facilities management, property economics and valuation or construction management, or careers in public service or research, or in preparation for further academic training.

ADMISSION REQUIREMENTS

Unless Senate decides otherwise, applicants must be in possession of a postgraduate Built Environment qualification that includes a Research Methodology module. A minimum average of 60% must have been obtained in the qualification. Applicants will also be required to submit an entrance essay for which a minimum of 60 % must be achieved.

SELECTION PROCEDURE

All students shall be subject to a selection process as laid down by the department and approved at the Faculty Management Committee, if completing an entrance essay.

STATUTORY AND OTHER REQUIREMENTS

Integrated Assessment:

In all modules, assessment is continuous and supplemented by end-of-semester and/or year-end examinations. Assignments are submitted for evaluation within the overall qualification. A mark of at least 50% for the assignment is a prerequisite for admission to the examination in any module. Re-assessments will be scheduled at the end of the block following the block in which the examination was written. No more than two re-assessments will be permitted in the qualification.

Obtaining the qualification:

The qualification shall be obtained on completion of a course work programme (prescribed and elective modules), a supervised research programme and the submission of a treatise for examination.

DURATION

The qualification shall extend over a minimum of two years or a maximum of four years of part-time study.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Accounting and Project Finance	Block offering	KAFV502	15
Health and Safety		KHSV502	15
Corporate Strategy		QCSV502	15
Management Information System for Construction and IT Applications		QITV502	15
Research Methodology		QRTV502	15
Credits First Year			75
Second Year			
Compulsory module:			
Environmental Management	Block offering	KEMV502	15
Health and Safety Management (B)		KHSV500	15
Risk Management		KRMV502	15
Treatise		KRTV510	75
Design Management		QDMV500	15
Select one of the following modules or any other module approved by the programme director:			
Project Strategy and PMBOK	Block offering	KPSV502	15
Human Resources		QHRV501	15
Credits Second Year			150
Total Credits			225

**12.19 MASTER OF SCIENCE IN THE BUILT ENVIRONMENT
(CONSTRUCTION MANAGEMENT)
(COURSE WORK)
(NO NEW INTAKE)**

Qualification code:	47653
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
Total NQF Credits for qualification:	225

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

Unless Senate decides otherwise, candidates shall be in possession of one the following minimum qualifications in order to qualify for admission:

- a Bachelor of Science Honours qualification in Quantity Surveying or Construction Management;
- a Master of Architecture (Professional) qualification;
- a four-year Bachelor's qualification in a building discipline;
- a Bachelor of Technology qualification in Quantity Surveying, Construction Management or Architecture obtained from a technikon or technical university, together with a minimum of five years of relevant working experience;
- a professional diploma in Quantity Surveying (RQS or ARICS), Construction Management or Architecture, together with a minimum of seven years' relevant working experience.

SELECTION PROCEDURE

All students shall be subject to a selection process as laid down by the department and approved at the Faculty Management Committee, if completing an entrance essay.

STATUTORY AND OTHER REQUIREMENTS

Integrated Assessment:

In all modules, assessment is continuous and supplemented by end-of-semester and/or year-end examinations. Assignments are submitted for evaluation within the overall qualification. A mark of at least 50% for the assignment is a prerequisite for admission to the examination in any module. Re-assessments will be scheduled at the end of the block following the block in which the examination was written. No more than two re-assessments will be permitted in the qualification.

Obtaining the qualification:

The qualification shall be obtained on completion of a course work programme (prescribed and elective modules), a supervised research programme and the submission of a treatise for examination.

DURATION

The qualification shall extend over a minimum of two years or a maximum of four years of part-time study.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2015.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2020.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Accounting and Project Finance	Block offering	KAF510	15
	Health and Safety A		KHS510	15
	Corporate Strategy		QCS510	15
	Management Information System for Construction and IT Applications		QIT510	15
	Research Methodology		QRT510	15
	Credits First Year			75
Second Year				
Compulsory module:				
	Construction Marketing	Block offering	KCM510	15
	International Construction		KPM510	15
	Risk Management		KRM510	15
	Treatise		KRT510	75
	Human Resources Management (including Leadership and Communication)		QHR510	15
Select one of the following modules or any other module approved by the programme director:				
	Environmental Management	Block offering	KEM510	15
	Project Strategy and PMBOK		KPS510	15
	Total Quality Management		KTQ510	15
	Construction Contracts and Procurement		QLL510	15
	Credits Second Year			150
	Total Credits			225

**12.20 MASTER OF SCIENCE IN THE BUILT ENVIRONMENT
(CONSTRUCTION MANAGEMENT)
(COURSE WORK)**

Qualification code:	75023
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
Total NQF Credits for qualification:	225

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

- To provide understanding of the management skills and techniques necessary to deliver sophisticated projects in an increasingly competitive economic environment of South Africa and elsewhere within time, budget and risk requirements of construction clients.
- To develop analytical and methodological skills that are critical for management, decision-making and problem-solving roles.
- To prepare candidates for advancement in construction consultancy in professional project management, facilities management, property economics and valuation or construction management, or careers in public service or research, or in preparation for further academic training.

ADMISSION REQUIREMENTS

Unless Senate decides otherwise, applicants must be in possession of a postgraduate Built Environment qualification that includes a Research Methodology module. A minimum average of 60% must have been obtained in the qualification. Applicants will also be required to submit an entrance essay for which a minimum of 60 % must be achieved.

SELECTION PROCEDURE

All students shall be subject to a selection process as laid down by the department and approved at the Faculty Management Committee, if completing an entrance essay.

STATUTORY AND OTHER REQUIREMENTS

Integrated Assessment:

In all modules, assessment is continuous and supplemented by end-of-semester and/or year-end examinations. Assignments are submitted for evaluation within the overall qualification. A mark of at least 50% for the assignment is a prerequisite for admission to the examination in any module. Re-assessments will be scheduled at the end of the block following the block in which the examination was written. No more than two re-assessments will be permitted in the qualification.

Obtaining the qualification:

The qualification shall be obtained on completion of a course work programme (prescribed and elective modules), a supervised research programme and the submission of a treatise for examination.

DURATION

The qualification shall extend over a minimum of two years or a maximum of four years of part-time study.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Accounting and Project Finance	Block offering	KAFV502	15
	Health and Safety A		KHSV502	15
	Corporate Strategy		QCSV502	15
	Management Information System for Construction and IT Applications		QITV502	15
	Research Methodology		QRTV502	15
	Credits First Year			75
Second Year				
Compulsory module:				
	Construction Marketing	Block offering	KCMV502	15
	International Construction		KPMV502	15
	Risk Management		KRMV502	15
	Treatise		KRTV510	75
	Human Resources Management (including Leadership and Communication)		QHRV501	15
Select one of the following modules or any other module approved by the programme director:				
	Environmental Management	Block offering	KEMV502	15
	Project Strategy and PMBOK		KPSV502	15
	Total Quality Management		KTQV502	15
	Construction Contracts and Procurement		QLLV502	15
	Credits Second Year			150
	Total Credits			225

**12.21 MASTER OF SCIENCE IN THE BUILT ENVIRONMENT
(FACILITIES MANAGEMENT)
(COURSE WORK)
(NO NEW INTAKE)**

Qualification code:	47650
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
Total NQF Credits for qualification:	210

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

Unless Senate decides otherwise, candidates shall be in possession of one the following minimum qualifications in order to qualify for admission:

- a Bachelor of Science Honours qualification in Quantity Surveying or Construction Management;
- a Master of Architecture (Professional) qualification;
- a four-year Bachelor's qualification in a building discipline;
- a Bachelor of Technology qualification in Quantity Surveying, Construction Management or Architecture obtained from a technikon or technical university, together with a minimum of five years of relevant working experience;
- a professional diploma in Quantity Surveying (RQS or ARICS), Construction Management or Architecture, together with a minimum of seven years' relevant working experience.

SELECTION PROCEDURE

All students shall be subject to a selection process as laid down by the department and approved at the Faculty Management Committee, if completing an entrance essay.

STATUTORY AND OTHER REQUIREMENTS

Integrated Assessment:

In all modules, assessment is continuous and supplemented by end-of-semester and/or year-end examinations. Assignments are submitted for evaluation within the overall qualification. A mark of at least 50% for the assignment is a prerequisite for admission to the examination in any module. Re-assessments will be scheduled at the end of the block following the block in which the examination was written. No more than two re-assessments will be permitted in the qualification.

Obtaining the qualification:

The qualification shall be obtained on completion of a course work programme (prescribed and elective modules), a supervised research programme and the submission of a treatise for examination.

DURATION

The qualification shall extend over a minimum of two years or a maximum of four years of part-time study.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2015.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2020.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Accounting and Project Finance	Block offering	KAF510	15
	Corporate Strategy		QCS510	15
	Management Information System for Construction and IT Applications		QIT510	15
	Research Methodology		QRT510	15
	Strategic Asset and Facilities Management		QSM510	15
	Credits First Year			75
Second Year				
Compulsory module:				
	Building Energy Analysis and Management	Block offering	KBE510	15
	Facilities Operations Management		QFM510	15
	Property Investment and Portfolio Analysis		QPI510	15
	Treatise		QRS510	75
Select one of the following modules or any other module approved by the programme director:				
	Facilities Management: Contracts and Procurement	Block offering	QFC510	15
	Human Resources Management		QHR510	15
	Credits Second Year			135
	Total Credits			210

**12.22 MASTER OF SCIENCE IN THE BUILT ENVIRONMENT
(FACILITIES MANAGEMENT)
(COURSE WORK)**

Qualification code:	75020
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
Total NQF Credits for qualification:	210

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

- To provide understanding of the management skills and techniques necessary to deliver sophisticated projects in an increasingly competitive economic environment of South Africa and elsewhere within time, budget and risk requirements of construction clients.
- To develop analytical and methodological skills that are critical for management, decision-making and problem-solving roles.
- To prepare candidates for advancement in construction consultancy in professional project management, facilities management, property economics and valuation or construction management, or careers in public service or research, or in preparation for further academic training.

ADMISSION REQUIREMENTS

Unless Senate decides otherwise, applicants must be in possession of a postgraduate Built Environment qualification that includes a Research Methodology module. A minimum average of 60% must have been obtained in the qualification. Applicants will also be required to submit an entrance essay for which a minimum of 60 % must be achieved.

SELECTION PROCEDURE

All students shall be subject to a selection process as laid down by the department and approved at the Faculty Management Committee, if completing an entrance essay.

STATUTORY AND OTHER REQUIREMENTS

Integrated Assessment:

In all modules, assessment is continuous and supplemented by end-of-semester and/or year-end examinations. Assignments are submitted for evaluation within the overall qualification. A mark of at least 50% for the assignment is a prerequisite for admission to the examination in any module. Re-assessments will be scheduled at the end of the block following the block in which the examination was written. No more than two re-assessments will be permitted in the qualification.

Obtaining the qualification:

The qualification shall be obtained on completion of a course work programme (prescribed and elective modules), a supervised research programme and the submission of a treatise for examination.

DURATION

The qualification shall extend over a minimum of two years or a maximum of four years of part-time study.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Accounting and Project Finance	Block offering	KAFV502	15
	Corporate Strategy		QCSV502	15
	Management Information System for Construction and IT Applications		QITV502	15
	Research Methodology		QRTV502	15
	Strategic Asset and Facilities Management		QSMV502	15
	Credits First Year			75
		Presented	Module Code	Credit Value
Second Year				
Compulsory module:				
	Building Energy Analysis and Management	Block offering	KBEV502	15
	Facilities Operations Management		QFMV502	15
	Property Investment and Portfolio Analysis		QPIV501	15
	Treatise		QRSV510	75
Select one of the following modules or any other module approved by the programme director:				
	Facilities Management: Contracts and Procurement	Block offering	QFCV502	15
	Human Resources Management		QHRV501	15
	Credits Second Year			135
	Total Credits			210

12.23	MASTER OF SCIENCE IN THE BUILT ENVIRONMENT (PROJECT MANAGEMENT) (COURSE WORK) (NO NEW INTAKE)
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Qualification code:	47652
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
Total NQF Credits for qualification:	225

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

Unless Senate decides otherwise, candidates shall be in possession of one the following minimum qualifications in order to qualify for admission:

- a Bachelor of Science Honours qualification in Quantity Surveying or Construction Management;
- a Master of Architecture (Professional) qualification;
- a four-year Bachelor's qualification in a building discipline;
- a Bachelor of Technology qualification in Quantity Surveying, Construction Management or Architecture obtained from a technikon or technical university, together with a minimum of five years of relevant working experience;
- a professional diploma in Quantity Surveying (RQS or ARICS), Construction Management or Architecture, together with a minimum of seven years' relevant working experience.

SELECTION PROCEDURE

All students shall be subject to a selection process as laid down by the department and approved at the Faculty Management Committee, if completing an entrance essay.

STATUTORY AND OTHER REQUIREMENTS

Integrated Assessment:

In all modules, assessment is continuous and supplemented by end-of-semester and/or year-end examinations. Assignments are submitted for evaluation within the overall qualification. A mark of at least 50% for the assignment is a prerequisite for admission to the examination in any module. Re-assessments will be scheduled at the end of the block following the block in which the examination was written. No more than two re-assessments will be permitted in the qualification.

Obtaining the qualification:

The qualification shall be obtained on completion of a course work programme (prescribed and elective modules), a supervised research programme and the submission of a treatise for examination.

DURATION

The qualification shall extend over a minimum of two years or a maximum of four years of part-time study.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2015.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2020.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
First Year			
Compulsory module:			
Accounting and Project Finance	Block offering	KAF510	15
Business and Construction Economics		QBE510	15
Corporate Strategy		QCS510	15

	Management Information System for Construction & IT Applications		QIT510	15
	Research Methodology		QRT510	15
	Credits First Year			75
Second Year				
Compulsory module:				
	Management Science and Project Control	Block offering	KMS510	15
	Project Strategy and PMBOK		KPS510	15
	Treatise		KRT510	75
	Design Management		QDM510	15
	Human Resources Management		QHR510	15
Select one of the following modules or any other module approved by the programme director:				
	Capital Equipment Purchasing	Block offering	KEP510	15
	International Construction		KPM510	15
	Technology Management		KTM510	15
	Construction Contracts & Procurement		QLL510	15
	Credits Second Year			150
	Total Credits			225

**12.24 MASTER OF SCIENCE IN THE BUILT ENVIRONMENT
(PROJECT MANAGEMENT)
(COURSE WORK)**

Qualification code:	75022
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
Total NQF Credits for qualification:	225

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

- To provide understanding of the management skills and techniques necessary to deliver sophisticated projects in an increasingly competitive economic environment of South Africa and elsewhere within time, budget and risk requirements of construction clients.
- To develop analytical and methodological skills that are critical for management, decision-making and problem-solving roles.
- To prepare candidates for advancement in construction consultancy in professional project management, facilities management, property economics and valuation or construction management, or careers in public service or research, or in preparation for further academic training.

ADMISSION REQUIREMENTS

Unless Senate decides otherwise, applicants must be in possession of a postgraduate Built Environment qualification that includes a Research Methodology module. A minimum average of 60% must have been obtained in the qualification. Applicants will also be required to submit an entrance essay for which a minimum of 60 % must be achieved.

SELECTION PROCEDURE

All students shall be subject to a selection process as laid down by the department and approved at the Faculty Management Committee, if completing an entrance essay.

STATUTORY AND OTHER REQUIREMENTS*Integrated Assessment:*

In all modules, assessment is continuous and supplemented by end-of-semester and/or year-end examinations. Assignments are submitted for evaluation within the overall qualification. A mark of at least 50% for the assignment is a prerequisite for admission to the examination in any module. Re-assessments will be scheduled at the end of the block following the block in which the examination was written. No more than two re-assessments will be permitted in the qualification.

Obtaining the qualification:

The qualification shall be obtained on completion of a course work programme (prescribed and elective modules), a supervised research programme and the submission of a treatise for examination.

DURATION

The qualification shall extend over a minimum of two years or a maximum of four years of part-time study.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Accounting and Project Finance	Block offering	KAFV502	15
	Business and Construction Economics		QBEV502	15
	Corporate Strategy		QCSV502	15
	Management Information System for Construction & IT Applications		QITV502	15
	Research Methodology		QRTV502	15
	Credits First Year			75
		Presented	Module Code	Credit Value
Second Year				
Compulsory module:				
	Management Science and Project Control	Block offering	KMSV502	15
	Project Strategy and PMBOK		KPSV502	15
	Treatise		KRTV501	75
	Design Management		QDMV500	15

	Human Resources Management		QHRV501	15
Select one of the following modules or any other module approved by the programme director:				
	Capital Equipment Purchasing	Block offering	KEPV502	15
	International Construction		KPMV502	15
	Technology Management		KTMV502	15
	Construction Contracts & Procurement		QLLV502	15
	Credits Second Year			150
	Total Credits			225

12.25	MASTER OF SCIENCE IN THE BUILT ENVIRONMENT (PROPERTY ECONOMICS AND VALUATION) (COURSE WORK) (NO NEW INTAKE)
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Qualification code:	47651
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
Total NQF Credits for qualification:	210

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

Unless Senate decides otherwise, candidates shall be in possession of one the following minimum qualifications in order to qualify for admission:

- a Bachelor of Science Honours qualification in Quantity Surveying or Construction Management;
- a Master of Architecture (Professional) qualification;
- a four-year Bachelor's qualification in a building discipline;
- a Bachelor of Technology qualification in Quantity Surveying, Construction Management or Architecture obtained from a technikon or technical university, together with a minimum of five years of relevant working experience;
- a professional diploma in Quantity Surveying (RQS or ARICS), Construction Management or Architecture, together with a minimum of seven years' relevant working experience.

SELECTION PROCEDURE

All students shall be subject to a selection process as laid down by the department and approved at the Faculty Management Committee, if completing an entrance essay.

STATUTORY AND OTHER REQUIREMENTS

Integrated Assessment:

In all modules, assessment is continuous and supplemented by end-of-semester and/or year-end examinations. Assignments are submitted for evaluation within the overall qualification. A mark of at least 50% for the assignment is a prerequisite for admission to the examination in any module. Re-assessments will be scheduled at the

end of the block following the block in which the examination was written. No more than two re-assessments will be permitted in the qualification.

Obtaining the qualification:

The qualification shall be obtained on completion of a course work programme (prescribed and elective modules), a supervised research programme and the submission of a treatise for examination.

DURATION

The qualification shall extend over at least two years of part-time study.

The qualification shall extend over a minimum of two years or a maximum of four years of part-time study.

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2015.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2020.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Accounting and Project Finance	Block offering	KAF510	15
	Corporate Strategy		QCS510	15
	Management Information System for Construction and IT Applications		QIT510	15
	Research Methodology		QRT510	15
	Strategic Asset and Facilities Management		QSM510	15
	Credits First Year			75
Second Year				
Compulsory module:				
	Property Development Planning and Appraisal	Block offering	QPD510	15
	Property Investment and Portfolio Analysis		QPI510	15
	Property Valuation		QPV510	15
	Treatise		QRS510	75
Select one of the following modules or any other module approved by the programme director:				
	Construction Marketing	Block offering	KCM510	15
	Property Legal and Institutional Framework		QLF510	15
	Credits Second Year			135
	Total Credits			210

12.26	MASTER OF SCIENCE IN THE BUILT ENVIRONMENT (PROPERTY ECONOMICS AND VALUATION) (COURSE WORK)
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Qualification code:	75021
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
Total NQF Credits for qualification:	210

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

- To provide understanding of the management skills and techniques necessary to deliver sophisticated projects in an increasingly competitive economic environment of South Africa and elsewhere within time, budget and risk requirements of construction clients.
- To develop analytical and methodological skills that are critical for management, decision-making and problem-solving roles.
- To prepare candidates for advancement in construction consultancy in professional project management, facilities management, property economics and valuation or construction management, or careers in public service or research, or in preparation for further academic training.

ADMISSION REQUIREMENTS

Unless Senate decides otherwise, applicants must be in possession of a postgraduate Built Environment qualification that includes a Research Methodology module. A minimum average of 60% must have been obtained in the qualification. Applicants will also be required to submit an entrance essay for which a minimum of 60 % must be achieved.

SELECTION PROCEDURE

All students shall be subject to a selection process as laid down by the department and approved at the Faculty Management Committee, if completing an entrance essay.

STATUTORY AND OTHER REQUIREMENTS

Integrated Assessment:

In all modules, assessment is continuous and supplemented by end-of-semester and/or year-end examinations. Assignments are submitted for evaluation within the overall qualification. A mark of at least 50% for the assignment is a prerequisite for admission to the examination in any module. Re-assessments will be scheduled at the end of the block following the block in which the examination was written. No more than two re-assessments will be permitted in the qualification.

Obtaining the qualification:

The qualification shall be obtained on completion of a course work programme (prescribed and elective modules), a supervised research programme and the submission of a treatise for examination.

DURATION

The qualification shall extend over a minimum of two years or a maximum of four years of part-time study.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Accounting and Project Finance	Block offering	KAFV502	15
	Corporate Strategy		QCSV502	15
	Management Information System for Construction and IT Applications		QITV502	15
	Research Methodology		QRTV502	15
	Strategic Asset and Facilities Management		QSMV502	15
	Credits First Year			75
Second Year				
Compulsory module:				
	Property Development Planning and Appraisal	Block offering	QPDV502	15
	Property Investment and Portfolio Analysis		QPIV501	15
	Property Valuation		QPVV501	15
	Treatise		QRSV510	75
Select one of the following modules or any other module approved by the programme director:				
	Construction Marketing	Block offering	KCMV502	15
	Property Legal and Institutional Framework		QLFV502	15
	Credits Second Year			135
	Total Credits			210

13	DOCTORAL DEGREES
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13.1	DOCTOR OF ENGINEERING (RESEARCH)
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Qualification code:	76007
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	10
SAQA ID:	97035
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

To enable students to obtain an advanced level of research competence by solving a particular problem in industry through original and creative thinking.

Qualification Objectives:

To enable students to attain an advanced level of research competence. The thesis produced by a student must provide proof of original and creative thinking and problem solving and make a real contribution to the solving of a particular problem in the industry to which their research applies.

ADMISSION REQUIREMENTS

- Master of Engineering (Electrical) or an equivalent qualification.
- A detailed CV must be presented in the case of equivalent qualifications.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-to-day basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 2 year	Maximum period – 4 years
Part-time:	Minimum period – 2 year	Maximum period – 6 years

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
Compulsory module:				
	Thesis	Year	EDT600	360

13.2	DOCTOR OF ENGINEERING (RESEARCH)
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Qualification code:	76009
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	10
SAQA ID:	97035
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

Qualification Objectives:

To enable students to attain an advanced level of research competence. The thesis produced by a student must provide proof of original and creative thinking and problem-solving and make a real contribution to the solving of a particular problem in the industry to which their research applies.

ADMISSION REQUIREMENTS

Master of Technology: Engineering: Mechanical or Master of Engineering (Mechanical) (Research) or an equivalent qualification.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 2 year	Maximum period – 4 years
Part-time:	Minimum period – 2 year	Maximum period – 6 years

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
Compulsory module:				
	Thesis	Year	EMV600	360

13.3	DOCTOR OF PHILOSOPHY IN ARCHITECTURE (RESEARCH)
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Qualification code:	16505
Offering:	Full-time South Campus (A1) OR Part-time South Campus (A2)
Aligned NQF Level:	10
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

Candidates shall be admitted to the study for the degree of Doctor of Architecture (Research) only if they hold the degree of Master of Architecture (Professional) with seven years' appropriate postgraduate practical experience, or the degree of Master of Architecture, or if they are granted permission by Senate.

STATUTORY AND OTHER REQUIREMENTS

Unless stipulated otherwise hereinafter, or unless the context indicates otherwise, the general rules for all qualifications shall also apply to Doctors' degrees.

Obtaining the degree:

The degree shall be obtained by:

- complying with the requirements set out in the General Rules for Doctors' Degrees, **or**
- presenting a thesis which complies with the requirements set out in the General Rules for Doctors' Degrees, based on the candidates' research publications and/or completed building designs, and which shows that they are authorities in their field.

DURATION

The qualification shall extend over a minimum of two years or a maximum of four years of full-time study, or 6 years of part-time study.

On recommendation of the promoter/supervisor, the Faculty Postgraduate Studies Committee may, where circumstances allow, approve the extension of the prescribed maximum study period; or refuse permission for the continued registration of a candidate on the grounds of unsatisfactory academic progress.

If, in any year, a candidate registers for a research degree after 30 April, the period of registration for that academic year shall not be taken into account.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
Compulsory module:				
Discipline: Architecture				
	Research project and thesis	Year	ARCH600	360

13.4	DOCTOR OF PHILOSOPHY IN CONSTRUCTION ECONOMICS (RESEARCH) (NO NEW INTAKE)
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Qualification code:	47201
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	10
Total NQF Credits for qualification:	240

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

Candidates shall be admitted to the study for the qualification of Doctor of Philosophy in Construction Economics only if they hold the qualification of Bachelor of Science Honours in Quantity Surveying with seven years' appropriate postgraduate practical experience, or if they hold the qualification of Master of Science in Construction Economics, or if they hold a Master's qualification in a related discipline.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 2 year	Maximum period – 4 years
Part-time:	Minimum period – 2 year	Maximum period – 6 years

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2015.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
Compulsory module:				
	Thesis	Year	Q605	240

13.5	DOCTOR OF PHILOSOPHY IN CONSTRUCTION ECONOMICS (RESEARCH)
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Qualification code:	76004
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	10
SAQA ID:	91828
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

The primary purpose of the Doctor of Philosophy in Construction Economics is to provide Postgraduate candidates with opportunities for supervision in advanced, original, highly-specialised, scientific study, thereby making a contribution to the international body of knowledge in construction economics and its related fields and demonstrating competence in documenting the research in accordance with pre-requisite, internationally accepted standards of excellence.

ADMISSION REQUIREMENTS

Candidates shall be admitted to the study for the qualification of Doctor of Philosophy in Construction Economics only if they hold the qualification of Bachelor of Science Honours in Quantity Surveying with seven years' appropriate postgraduate practical experience, or if they hold the qualification of Master of Science in Construction Economics, or if they hold a Master's qualification in a related discipline.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 2 year	Maximum period – 4 years
Part-time:	Minimum period – 2 year	Maximum period – 6 years

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
Compulsory module:				
	Thesis	Year	QV600	360

**13.6 DOCTOR OF PHILOSOPHY IN CONSTRUCTION MANAGEMENT
(RESEARCH)
(NO NEW INTAKE)**

Qualification code:	47700
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	10
Total NQF Credits for qualification:	240

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

One of the following:

- BScHons in Construction Management with seven years' appropriate postgraduate experience;
- MSc in Construction Management or a qualification deemed by Senate to be equivalent thereto;
- A Master's degree in a related discipline; or
- If they otherwise qualify for admission in the opinion of Senate; and
- Students shall be subject to a selection process as laid down by the department and approved at Faculty Management Committee, if completing an entrance essay.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 2 year	Maximum period – 4 years
Part-time:	Minimum period – 2 year	Maximum period – 6 years

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2015.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Full-time)

	Presented	Module Code	Credit Value
Compulsory module:			
Thesis	Year	KRA605	240

13.7	DOCTOR OF PHILOSOPHY IN CONSTRUCTION MANAGEMENT (RESEARCH)
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Qualification code:	76003
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	10
SAQA ID:	87151
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

To enable students to address a highly complex research problem, attain an advanced level of research competence, and achieve a high degree of specialisation in an area of expertise. The thesis produced must provide evidence of a high level of independent and original thought, and problem-solving; make a significant contribution to scientific knowledge, provide in depth insight into the subject, and include the development of a framework or validated model.

ADMISSION REQUIREMENTS

One of the following:

- BScHons in Construction Management with seven years' appropriate postgraduate experience;
- MSc in Construction Management or a qualification deemed by Senate to be equivalent thereto;
- A Master's degree in a related discipline; or
- If they otherwise qualify for admission in the opinion of Senate; and
- Students shall be subject to a selection process as laid down by the department and approved at Faculty Management Committee, if completing an entrance essay.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-to-day basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 2 year	Maximum period – 4 years
Part-time:	Minimum period – 2 year	Maximum period – 6 years

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
Compulsory module:				
	Thesis	Year	KRAV600	360

13.8	DOCTOR OF PHILOSOPHY IN ENGINEERING (MECHANICAL) (RESEARCH)
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Qualification code:	76010
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	10
SAQA ID:	80026
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

This programme aims to develop the knowledge and skills of a Masters level graduate in Mechanical Engineering to do a DOCTOR OF PHILOSOPHY IN ENGINEERING (MECHANICAL) through advanced research. It provides an opportunity for candidates from different Engineering backgrounds to develop key Mechanical Engineering knowledge and skills required for their professional development. There is a growing need for an advanced mechanical engineering programme from our industry partners and this programme has been specifically developed to meet this need and to encourage students into further learning. This course provides opportunities for research in a selected engineering field through original and creative thinking and problem-solving thereby making a real contribution to the solving of a particular problem with a focus to critically discuss literature, and use data to support an argument.

Qualification Objectives:

To enable students to attain an advanced level of research competence. The thesis produced by a student must provide proof of original and creative thinking and problem-solving and make a real contribution to the solving of a particular problem in the industry to which their research applies.

ADMISSION REQUIREMENTS

A Mechanical Engineering qualification at the Master's level or a Master's qualification deemed by Senate to be equivalent thereto.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 2 year	Maximum period – 4 years
Part-time:	Minimum period – 2 year	Maximum period – 6 years

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
Compulsory module:				
	Thesis	Year	EMM600	360

13.9	DOCTOR OF PHILOSOPHY IN ENGINEERING (MECHATRONICS) (RESEARCH)
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Qualification code:	76002
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	10
SAQA ID:	80026
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

- Students pursuing the PhD in Mechatronics should seek to advance the state of knowledge in their particular domain by gathering substantial data, evaluating theory and generating original arguments regarding a significant engineering or scientific problem. A doctoral thesis is a substantial project.
- The doctorate typically provides training for an academic career. It requires a candidate to develop a sophisticated conceptual framework, undertake independent research at the most advanced academic levels, read and interpret published debates in the field (and other related fields) and produce a thesis that makes a contribution to knowledge in a particular field.

ADMISSION REQUIREMENTS

- A Master's qualification in Engineering, or a Master's qualification deemed by Senate to be equivalent thereto.
- Students must have, in the opinion of Senate, attained through practical experience or otherwise a level of competence which is adequate for the purpose of studies for the degree of Doctor of Philosophy in Engineering (Mechatronics). Recognition of prior learning (RPL) may also be applied.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 2 year	Maximum period – 4 years
Part-time:	Minimum period – 2 year	Maximum period – 6 years

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
Compulsory module:				
	Thesis	Year	EMP600	360

13.10	DOCTOR OF PHILOSOPHY IN INFORMATION TECHNOLOGY (RESEARCH) (NO NEW INTAKE)			
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Qualification code:	76001
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	10
Total NQF Credits for qualification:	240

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

- The purpose of this degree is to provide the student an opportunity to demonstrate their competence with research methods through the application of theory and the research process. It also to provide the opportunity for the student to make an original contribution to the theory and practice of information technology through reporting on their research findings.

ADMISSION REQUIREMENTS

The admission requirements reflected below were applicable up to the final year of admission for this qualification and are only retained for record purposes:

- Master of Technology: Information Technology with a pass mark of at least 65%.
- Alternatively a suitably equivalent qualification, which is subject to the discretion of the Faculty Management Committee.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 2 year	Maximum period – 4 years
Part-time:	Minimum period – 2 year	Maximum period – 6 years

FINAL YEAR FOR ADMISSION

The final year for new admission into this programme was 2015.

COMPLETION OF QUALIFICATION

The final year for all students to comply with all requirements for this qualification is 2022.

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
Compulsory module:				
	Thesis	Year	IT600	240

13.11	DOCTOR OF PHILOSOPHY IN INFORMATION TECHNOLOGY (RESEARCH)
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Qualification code:	76005
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	10
SAQA ID:	97035
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

- The purpose of this degree is to provide the student an opportunity to demonstrate their competence with research methods through the application of theory and the research process. It also to provide the opportunity for the student to make an original contribution to the theory and practice of information technology through reporting on their research findings.

ADMISSION REQUIREMENTS

- Master of Technology: Information Technology with a pass mark of at least 65%.
- Alternatively, a suitably equivalent qualification, which is subject to the discretion of the Faculty Management Committee.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 2 year	Maximum period – 4 years
Part-time:	Minimum period – 2 year	Maximum period – 6 years

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
Compulsory module:				
	Thesis	Year	ITV600	360

13.12	DOCTOR OF PHILOSOPHY (OPERATIONS MANAGEMENT) (RESEARCH)
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Qualification code:	76008
Offering:	Full-time North Campus (01) OR Part-time North Campus (21)
Aligned NQF Level:	10
Total NQF Credits for qualification:	360

THE PURPOSE OF THE LEARNING PROGRAMME

This programme has been approved in terms of the new Higher Education Qualification Sub-Framework (HEQSF).

- The main purpose of this qualification is to enable students to attain an advanced level of research competence.
- The thesis produced by a student must provide proof of original and creative thinking and problem-solving and make a significant and original academic contribution in the discipline or field to which their research applies. Emphasis is placed on self-directed reading and scientific scrutiny.

ADMISSION REQUIREMENTS

Master of Operations Management or equivalent qualification.

STATUTORY AND OTHER REQUIREMENTS

Students may only register as full-time candidates if they are available on a day-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will be automatically be defined as a part-time student for the purpose of postgraduate studies. Changes to the status of a candidate from part-time to full-time or vice versa need to be approved by the Chairperson of the Faculty Postgraduate Studies Committee.

DURATION

Full-time:	Minimum period – 2 year	Maximum period – 4 years
Part-time:	Minimum period – 2 year	Maximum period – 6 years

CURRICULUM (Full-time)

		Presented	Module Code	Credit Value
Compulsory module:				
	Thesis	Year	MDT600	360

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