NELSON MANDELA UNIVERSITY

FACULTY OF ENGINEERING, THE BUILT ENVIRONMENT AND TECHNOLOGY PROSPECTUS 2026

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NB: Your **student number** must appear on all correspondence.
Correspondence must be directed to **The Registrar**.

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 2026 academic year. Information on syllabus and module outcomes is available on the Nelson Mandela University website.

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VISION AND MISSION

OUR VISION
To be a faculty that advances knowledge and technology, whilst inspiring and empowering creative minds to develop innovative and sustainable solutions.

OUR MISSION
Fostering excellence and innovation through human-centered, life-changing educational experiences that add value in society.

STAFF

OFFICE OF THE DEAN

Executive Dean	Vacant
Deputy Dean	Prof D Pottas BSc (*cum laude*), BScHons (*cum laude*) (PU CHE), MSc, PhD (RAU), MIITPSA
Executive Secretary	Ms C Dale

FACULTY ACADEMIC ADMINISTRATION

Senior Faculty Academic Administration Manager	Ms D Nzioki BA (UPE), BA Hons (NMMU)
Summerstrand North Campus	
Faculty Academic Administration Manager	Mr J Dorothy NDip (HRM) (PET)
Faculty Academic Administration Consultant	Mr J Ah Tow BCom (NMMU), BCom Hons (Bus Man) (NMMU) Ms H Boshoff BEd (FP) *cum laude* (NMMU), BBA (NMMU), MBA (NMU) Ms N Mngonyama NDip Public Admin (WSU), BA Hons Sociology (NMMU), BA Hons Applied Languages (NMU) Ms A Labuschagne NDip PRM (NMMU), BTech PRM (NMMU)
George Campus	
Co-ordinator: Academic Administration	Vacant

SCHOOL OF ARCHITECTURE

Director of School	Mr AG Palframan BBuild (UPE), BArch (UPE), M.EESI (KTH Stockholm), PrArch (SA), MIA
Administrative Assistant	Ms Z Badi NDip Human Resources Management
Administrative Assistant (Design Toolkit)	Ms J Hoon
Senior Lab Technician	Mr A Jorgensen NDip Elect. Eng. MSCE (NMMU)

Department of Architectural Technology and Interior Design

Head of Department	Mr HB Tonga PrArch (SA), MArch, BAS (NMMU)
Secretary	Mrs P Peters
Senior Lecturer	Vacant
Lecturers	Ms C Boatwright Dip (Int Des) (NMMU), BTech (Int Des) (NMMU), MTech (Interior Design) (UJ) Ms H Fouché PrSnr Arch Tech (SA), BTech (Arch Tech) (PET), MSc (BE) (NMMU) Mr HB Tonga PrArch (SA), MArch, BAS (NMMU) Mr JA Vosloo BBuild (UPE), BArch (UPE) Ms L Vosloo PrSnr Arch Tech (SACAP), BTech (Arch Tech) (PET) Mr R Malefane PrArch (SA), MArch (NMU), BTech (Arch Tech Applied Design) (NMMU)
Programme Coordinators	Mr HB Tonga PrArch (SA), MArch, BAS (NMMU) Mrs L Smit BHE (Int Des) (UP)
Associate Lecturer	Ms M Tsosane BTech (ArchTech) (NMMU), MSc Built Env. (NMU) PrSnrArchTech (SACAP)

Department of Architecture

Head of Department	Dr J Basson BAS (NMMU), MArch (Prof) (NMMU), MSc Construction Management) (NMU) PhD CM (NMU)
Secretary	Ms L Smith
Associate Professor	Prof M Minguizzi B Arch (Iuav, Venice), M Arch (Iuav, Venice), PhD (Iuav, Venice), OAPPC.Ra (Italy)
Senior Lecturers	Mr J Andrews BBdgA (UPE), MArch (Prof) (NMMU) Mr JBW Bradley BBuild (UPE), BArch (UPE), PrArch (SA) Mr G Eckley BBdgA (UPE) BArch (UPE) Mr C Johnson-Goddard BBdgA (UPE) March MCPID (UCT) Mrs R Kotzé M-Tech Arch, (Prof) TUT
Lecturer	Mr M Mbulawa ND: Building (WSU); BAS (NMMU), MArch (NMU) Ms K Harmse BAS (NMMU), MArch (Prof) (NMMU) Mr S Vilakazi BAS (NMMU), MArch(Prof) NMU

SCHOOL OF ENGINEERING

Director of School	Vacant
Emeritus Distinguished Professor	Prof D G Hattingh NDip (Mech Eng) (PET), NH

	Dip (Mech Eng) (PET), MDip Tech (Mech Eng) (PET), PhD (Plymouth), Pr Tech Eng, MSAIMechE
Emeritus Professor	Prof R L Phillips NDip (Mech Eng) (PET), NH Dip (Mech Eng) (PET), M Dip Tech (Mech Eng) (PET), RegEng Tech, DTech (Mech Eng) (NMMU) MSAIMechE
Administrative Professional	Ms Z Joubert NDip (PRM) (NMMU), BTech (PRM) (NMMU), BA Hon (Corp Com) (Mandela Uni)

Department of Electrical Engineering

Head of Department	Mr G V Phillips NDip (PET), BTech (Elec Eng) (PET), MTech Elec Eng (PET), Pr Tech Eng, MSAIEE
Senior Lecturers	Mr F Adlam NDip (PET), NH Dip PSE (PET), MTech Elec Eng (PET), MSAIEE
	Mr A Marks B Eng (Elec) (UP), BTech Ed (Post School) (UJ), MEd (UP)
	Dr K Reddy BSc (Eng) (UKZN), MSc (Eng) (UKZN), PhD (Eng) (UKZN)
Lecturers	Mr I Bambiso NDip (Elec Eng), BTech (Elec Eng) (NMMU), MTech (Elec Eng) (NMMU), Candidate Pr Tech Eng, MSAIEE, MIEEE
	Mr E Chekure Ndip (Elec Eng), BSc Hons (Computing) MEng
	Mr K Majara NDip (Elec Eng) (PET), BTech (Elec Eng) (PET), MTech (NMMU), Candidate Pr Tech Eng, MSAIEE
	Mr A J McGillivray NDip (PET), NH Dip (Elec Eng) (PET), MSAIEE
	Mr A M Wynter NCT (PET), NDT (PET), NH Dip (Elec Eng) LC (PET), BTech (Bus Mgt) (NMMU), Pr Tech Eng
	Vacant
Technicians	Mr R Ehlers NDip (Elec Eng) (PET), MSAIEE
	Mr A Ndimurwimo NDip (NMMU), BTech (Elec Eng) (NMMU), Candidate Pr Tech Eng, MSAIEE
	Ms N C Hlangwani NDip (Elec Eng)
Technical Assistant	Mr N Manene
Administrative Professional	Mrs M Snyders NDip (Tourism) (PE Technikon)

Department of Industrial Engineering

Head of Department	Prof A S Lourens NDip (Prod Mgt) (PET), NH Dip (Prod Mgt) (PET), BTech (Bus Mgt) (PET), MBA (PET), DBA (NMMU), MSAIIE, ASEE

Associate Professors	Prof K van der Merwe NDip (Ind Eng) (PET), NH Dip (Ind Eng) (PET), BTech (Op Mgt) (NMMU), MTech (Ind Eng) (NMMU), DTech (Op Mgt) (NMMU), Pr Tech Eng, MSAIIE, CPIM
Senior Lecturers	Mr C Joubert NDip (Ind Eng) (Tech Pta), BTech (Ind Eng) (NMMU), MSAIIE, Pr Tech Eng, MBA (Mandela Uni)
	Mr A T Murray NDip (Ind Eng) (PET), NH Dip (Ind Eng) (PET), NH Dip (Mgt Prac) (PET), MTech (Ind Eng) (NMMU), Pr Tech Eng, SMSASQ,
Lecturers	Mrs M Dolley-Ryneveld NDip (Ind Eng) (NMMU), BTech (Ind Eng) (NMMU), MBA (NMMU), MSAIIE
	Mr L Horrmann BEng (Mechatronics) (NMMU)
	Ms L Ratshidi BEng (Ind Eng) (SU), MEng (Ind Eng) (SU), MSAIIE, MSAFHE
	Mr J Snyders NDip (Ind Eng) (PET), BTech (Ind Eng) (NMMU), MSAIIE
Laboratory Technician	Mr L Somdaka BSc (Physics & Computer Science) (NMMU)
Administrator	Ms N Truter NDip (PRM) (NMMU)

Department of Marine Engineering

Head of Department	Dr H Theunissen, NDip (Mech Eng), BTech (Mech Eng), MTech (Mech Eng) (PET), PhD (Engineering Management) (UJ), IEng, , Certificate of Naval Architecture, MRINA
Lecturers	Dr J Fernandes NDip (Elec Eng), BTech (Elec Eng) (NMMU), M Eng (Mechatronics), PhD (Mechatronics) (NMU), Candidate Pr Tech Eng, Member: SAIEE & SAIMC
	Mr A August BEng Tech (Marine Eng) (NMU), BEng Tech (Hons) (Mech Eng) (NMU)
	Mr J Sooverijn B Maritime Operations (Hogeschool Rotterdam), Chief Engineer III/2 (Ministry IWM Netherland) NDip Mech Eng (MTS Oostenburg)
Departmental Administrator	Mrs M Brown Dip (Office Admin) (Russell Road College), NDip Management (NMU)

Department of Mechanical Engineering

Head of Department	A Prof H Lombard BSc (UPE), HDE (UPE), BSc (Hons) (UPE), MSc (UPE), PhD (Plymouth), ASAIRAC, Pr.Sci.Nat (SACNASP)
Honorary Professor	Prof M N James BSc (Eng) (Wits), DSc (Eng) (Wits), DTech (Honoris Causa) (NMMU), PhD (Cambridge), C Eng, FIM

Adjunct Professors	Prof J Th M De Hosson BSc (Maths and Physical Science) (Utrecht, Netherlands), PhD (Physics) (Groningen Netherlands)
	Prof A Steuwer MPhil (Physics), PhD (Materials Science) (Cambridge, UK)
Principal Lecturer	Mr K H du Preez NDip (Mech Eng) (PET), NH Dip (Mech Eng) (PET), MDip Tech (Mech Eng) (PET), Pr Tech Eng
Senior Lecturers	Dr W Rall NDip (Mech Eng) (PET), BTech (Mech Eng) (PET), MTech (Mech Eng) (PET), MSAIMechE
	Mr T Stroud NDip (Mech Eng) (PET), NH Dip (Mech Eng) (PET), MBA (NMMU), MTech (Mech Eng) (NMMU), Pr Tech Eng
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	Mr C H Hands BSc (UN), BSc (Hons) (Mech Eng) (UN)
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	Mr R Müller NDip (Mech Eng) (NMMU), BTech (Mech Eng) (NMMU), MTech (Mech Eng) (NMMU)
Research Technologist	Vacant
Senior Laboratory Technician	Mr J de Jongh, ND (Mech Eng) (NMMU), BTech (NMMU), M Eng (NMU)
Laboratory Technician	Mr A Lalla NDip Mech Eng (NMMU), BTech Mech Eng (NMMU)
	Mrs N Koloi NDip Mech Eng (CPUT), BTech Mech Eng (Unisa), MTech (Mech Eng) (NMMU)
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	Mr S Casling
Laboratory Assistants	Mr A Basi
	Ms L Ferreira
Administrative Professional	Mrs M Brown Dip (Office Admin) (Russell Road College), NDip Management (NMU)

Department of Mechatronics

Head of Department	Vacant
Professors	Prof F Smith PrEng, BSc (Physics) (UCT), BSc (Elec Eng) (UCT), MSc (Elec Eng) (UCT), PhD (Elec Eng) (US)
	Prof T I van Niekerk NH Dip (CDP) (PET), BSc (Elec Eng) (UCT), MTech (IT) (PET), DTech (Elec Eng) (PET), PrEng, SAIMC

	Vacant
Lecturers	Ms K Burden MEng (Mechatronics) (NMMU)
	Ms P Khwambala Pr. Eng, SMSAIEE, MSc Electrical (UCT), BSc Electrical (UNIMA)
	Mr S van Aardt (Mechatronics) (NMMU), MEng (Mechatronics) (NMMU)
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Associate Lecturer	Mr. D. R. Brown BEng (Mechatronics) (NMMU)
Laboratory Technician	Ms N C Hlangwani NDip (Elec Eng)
Administrative Professional	Ms Z Joubert NDip (PRM) (NMMU), BTech (PRM) (NMMU), BA Hon (Corp Com) (Mandela Uni)

REGISTERED ENTITIES

eNtsa

eNtsa Management Committee Members

Director	Mr A B Young MEng (Mech Eng) (NMMU), Pr Tech Eng, SAIMechE
Director: uYilo E-mobility Programme	Dr A De Vries (PhD Polymer Science)
Director: Engineering	Dr I N Wedderburn DTech (Mech Eng) (NMMU), MSAIMechE
Engineering Engagement Director	Mr J V de Klerk MEng (Mech Eng) (NMMU)
Deputy Director: Operations	Mrs L Lindsay BTech (Management) (PE Tech)
Deputy Director: Project Planning & Engineering Works	Mr D J Erasmus MTech (Mech Eng)
uYilo Programme Manager	Ms E Foli BSocSci (UCT), MBA (NMMU)
Operations Manager	Ms N J Marupen NDip (PRM), BTech (PRM) (NMMU), PDBA (NMU)

eNtsa Team

Senior Works Manager	Mr A J Opperman MTech (Mech Eng) (NMMU)
Group Specialist	Mr A Lakhani MEng Mechatronics (NMMU), Pr Eng (ECSA)
Receptionist	Mrs A van Heerden
Project Engineer	Mrs A Viviers BTech (Mech Eng) (NMMU), Eng Tech Candidate (ECSA)
Project Engineer	Mr B Tembo MEng (Mech Eng) (NMU)
Project Engineering: Research & Innovation	Ms C Louis MEng (Mech Eng) (NMU) Mr M Nel MEng (Mech Eng) NMU)
Project Engineer: EV Systems & LTE	Mr C Nkuna BEng Hons (Mechatronics) (Nanjing Vocational Univ of Industry Technology)
Project Engineer: Advanced Design & Modelling	Mr D Thomas BEng (Mech Eng) (NMU)
Group Specialist: Research & Innovation	Dr D Bernard PhD (Mech Eng) (NMU)

Project Engineer: Marine Robotics	Mr E Liebenberg MEng (Mechatronics) (NMU)
Project Engineer: Automation & Controls	Mr G Momberg BEng (Mechatronics) (NMU)
	Mr H Nel NDip (Mech Eng) (NMU)
Group Specialist: Advanced Design & Modelling	Mr H van der Merwe MEng (Mechatronics) (NMMU)
Technician: Supplier Development	Ms J Dhlamini NDip (Mech Eng) (NMU)
Laboratory Technician	Mr J Allers NDip (Mech Eng), MEng (NMMU)
Senior Coordinator: Marketing & Brand	Ms K A Tommy BTech (PRM) (NMMU), PRP (PRISA)
Engagement Coordinator: Supplier Development	Mrs K Felkers BA Admin (NMU)
Senior Project Engineer: Supplier Development	Mr L Ganess BTech (Mech Eng) (NMMU)
Group Specialist: Materials	Ms L Matthews MSc Materials Engineering (UCT)
Junior Technician: Materials	Mr L Vorster AdvDip (Analytical Chemistry) (NMU)
Training Academy Assistant	Ms L Mashalaba AdvDip (Public Admin & Management) (NMU)
Principal Engineer	Mr L G von Wielligh MTech (Mech Eng)
Laboratory Assistant	Mr M Koopman
Junior Technician	Mr M Mdondolo Dip (Analytical Chemistry) (NMU)
Quality Assurance Technician	Ms M Magwnetshu NDip (Analytical Chemistry) (WSU)
Senior Technician	Mr R Mabeo PGDip Industrial Physics (TUT)
Toolmaker	Mr R Johnson
Quality Assurance Assistant	Ms S August AdvDip (Analytical Chemistry) (NMMU)
Technician	Ms C Brauns AdvDip (Analytical Chemistry) (NMU) Mr W Menyuku AdvDip Quality Management (NMU) Ms V Mkhwanazi MTech (Mech Eng) Physical Metallurgy (UJ) Mr Z Nkosi NDip (Mech Eng) (NMU)
Senior Project Engineer: EV System & LTE	Mr V M Mnyande BEng (Mechatronics) (NMMU)
uYilo Programme Coordinator	Mrs V Mostert Bachelor of Social Science (UCT), PDBA (NMU)
Senior Engineer	Dr W Pentz MTech (Mech Eng) (NMMU), PhD (Mech Eng) (NMU)
Group Specialist	Dr X van Niekerk PhD Chemistry (NMMU)
Facilities & Logistics Assistant	Mr X B Kotishini
uYilo Skills Development Manager	Ms Z Bunyula MSc (Maritime Education & Training) (University in Malmö)
Research Leader Battery Storage: uYilo	Prof E Ferg DTech (PE Technikon)

Advanced Mechatronics Technology Centre (AMTC)

Director	Mr K H du Preez NDip (Mech Eng) (PET), NH Dip (Mech Eng) (PET), MDip Tech (Mech Eng) (PET), Pr Tech Eng, MSAIMechE
MerSETA Project Manager	Ms M Naidoo BCom (Econ and BM) (UPE)
AMTC SLP Programmes and Operations Manager	Ms S Pandie
Administrative Assistant	Ms Ameerah Norkee

STEM in Action

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

SCHOOL OF THE BUILT ENVIRONMENT AND CIVIL ENGINEERING

Director of School	Mr W Draai NDip (Bldg Surv) (PET), NH Dip (Bldg Surv) (PET), MDP (UNISA), MSc (BE) (NMMU) MAQS
Secretary	Ms N Sam NDip (Office Mgt and Tech) (PET)
Laboratory Technician	Mr J P van der Mescht NDip Building) (NMMU), BTech (QS) (NMMU), BTech (CM) (NMMU)
Administrative Assistant	Ms J Holmes

Department of Civil Engineering

Head of Department	Mrs YM Madyibi NDip (Civil Eng) (WSU), BTech (Civil Eng) (NMMU), MSc (BE) CHSM (NMU)
Professor	Prof S Ekolu PhD (Toronto), MSc (Leeds), BSc (Eng) , QMSA, MCSSA, SAICE, PrEng
Senior Lecturer	JV van der Merwe ND (CT), NHD (Civ Eng) (Tech Pta), MDip Tech (Water Eng) (Tech Pta), PrTechEng
Lecturers	Mr S N N Mazomba BSc Hons (Structures) (UP), NDip Civil Eng (DUT), BTech (Structures) (DUT)
	Mr DG Stuart BTech (Sur) (DUT), MBE (Sur) (DUT)
	Mrs B van der Wat BEng (RAU), M Eng Civil (SU) Pr Eng

Associate Lecturer	Ms C Accone BTech Civil Eng (CPUT)
Senior Laboratory Technician	Mrs L Rozani NDip (WSU) BTech Civil Eng (WSU), Pr Eng Tech
Administrative Professional	Ms L T Pienaar NDip (HRM), BTech (HRM) (NMMU) PG Dip Business Admin (NMU)

Department of Building and Human Settlement Development

Head of Department	Dr E Ayesu-Koranteng ND (Bldg), BTech (CM), B Tech (QS), MSc (BE) PM (NMMU), MCIOB, GradSaiosh, TechIOSH, MAQS, PhD (CM) (Mandela Uni)
Professor	Prof S L Mbanga B Admin (UNISA), PGCert in Housing Policy Management (Wits), MPA *Cum Laude* (NMMU), PhD (Admin) (NMMU) SAAPAM, GISSA, SAPI, AAPS, SAMEA
Senior Lecturer	Dr E Ayesu-Koranteng NDip (Bldg), BTech (CM), BTech (QS), MSc (BE) PM (NMMU), MCIOB, GradSaiosh, TechIOSH, MAQS, PhD (CM) (Mandela Uni)
	Dr N Wessels BSc TRP (Wits), M Env Mgt (Stellenbosch) *Cum Laude,* PhD Conservation Ecology (Stellenbosch); SACPLAN
	Mr W Draai NDip (Bldg Surv) (PET), NH Dip (Bldg Surv) (PET), MDP (UNISA), MSc (BE) (NMMU) MAQS
Senior Lecturer	Vacant
Lecturers	Mr J Terblanche NDip (Bldg Surv), NH Dip (Bldg Surv) ()(PET), Pr CM Ms P Ntshiba Dip. Building *Cum Laude*, BTech (QS) *Cum Laude* & BTech (CM) (NMMU), CIOB.
	Mrs N Gaga Dip (Bldg), BTech CM (NMMU), CHS Auditor Certificate (MBSA), SACMP, SAIOSH,BELA, ACHASM, Pr CHSO Vacant
Associate Lecturers	Ms N Siziba Dip (Bldg), BTech (CM) (NMU)
Administrative Professional	Ms N Sam NDip (Office Mgt and Tech) (PET)
Administrator for BHSD Academic and Student Affairs	*Ms J Holmes NDip (HRM)*

Department of Construction Management

Head of Department	Mr C Allen BBdgA (UPE), MSc (BE) (NMMU),
Professors	Prof W M W Shakantu BSc (Building) (Copperbelt), MSc (CM) (Reading), PhD (CM)

	(Glasgow Caledonian), Pr.CM (SACPCMP), MCIOB (UK), AEIZ (Zambia), MSIZ (Zambia)
Emeritus Professor	Prof J Smallwood BSc (BM) (UPE), MSc (CM) (UPE), PhD (CM) (UPE), Pr CM, Pr CHSA, FCIOB, MACHASM, MACPM, MESSA, MARCOM, MICOH, MIOSH, MIOSM, MSAIOSH, PPSAIB
Adjunct Professors	Prof T Haupt NDip (Building Surveying) (Peninsula Technikon), HNDip (Building Surveying) (Peninsula Technikon), HNDip (Post-School Education) (Peninsula Technikon), M.Phil. (Construction Management) (De Montfort University), PhD (University of Florida). Prof D Els Diploma (Police administration), Diploma (Police Science), BA (Criminology) (UNISA), BHons (African Politics) (UNISA), MA (Conflict & Transformation) (NMMU), PhD (Development Studies) (NMMU).
Lecturers	Ms K Crafford BEng (Civil Eng), Dipl.-Ing. (Universität Dortmund), ICIOB Mr A Manga BSc CS (NMU), BSc (Hons) CM (NMU), MSc CM (NMU) CPHD Dr M Raliile NDip (Building)(CPUT) BTech (CM) Cum laude (CPUT), Msc (CM) (UKZN), PhD (CM) (UFS), ACHASM Can prCHSM
Secretary	Ms V Mbekela BAdmin (WSU) BAdmin Hons (WSU)

Department of Quantity Surveying

Head of Department	Mr R C Cumberlege BSc (QS) (UPE), MSc (CE) (NMMU), PrQS, PMAQS, MRICS
Adjunct Professor	Prof D Edwards PhD(BCU)
Professor	Prof G J Crafford BSc (QS) (UPE), MSc (QS) (UPE), PhD (CE) (NMMU), MBA (US), MPhil (Higher Education) ICIOB, MAQS, M.Inst.D
Associate Professor	Prof T Moyo BSc (QS) (NUST), MSc (CPM) (NUST), PhD (CE) (NMU)MRICS
Senior Lecturer	Ms S Dent BSc (QS) (UPE), MSc (CE), MAQS
Lecturer	Ms S Xulaba BSc Hons (QS) NMU, MSc BE (PM) NMU
Associate Lecturer	Mrs S Jonas BSc Hon (QS) (NMU)
Research Associates	Prof H Cruywagen PhD (CE) (UP) Prof N Harinarain PhD (CM) (UKZN) Dr N Karambakuwa PhD (CE) NMU Dr J Posilliso PhD (BCU) Dr C Roberts PhD (BCU)
Secretary	Ms L Engelbrecht

REGISTERED ENTITIES

Built Environment Research Centre (BERC)

Director (Acting)	Mr C Allen BBdgA (UPE), MSc (BE) (NMMU)
Secretariate	Ms Janine Holmes

Chair for Education in Human Settlement Development and Management (CEHSDM)

Professor	Prof S L Mbanga B Admin (UNISA), PGCert in Housing Policy Management (Wits), MPA *Cum Laude* (NMMU), PhD (Admin) (NMMU) SAAPAM, GISSA, SAPI, AAPS, SAMEA
Chair Administrative Project Coordinator	Mr Y Mashalaba

SCHOOL OF INFORMATION TECHNOLOGY

Director of School	Dr A Petratos NDip (Comp Dat Proc) (PET), NH Dip (Computer Systems) (PET), MDip Tech (IT) (PET), PhD IT (NMMU)
Emeritus Distinguished Professor	Prof R von Solms HDE (UPE), NH Dip (Electr Data Proc) (PET), BSc (UPE), BSc (Hons) (UNISA), MSc (RAU), PhD (RAU), PMIITPSA, CISM
Emeritus Professor	Prof R A Botha BSc (UPE), BScHons (UPE), MSc (RAU), PhD (RAU), PGCHE (NMMU), MIITPSA
Secretaries	Ms F Foutie NDip (PR) (NMMU), BTech (PRM) (NMMU)
	Ms V S Ntungela BA (Tourism) (UWC)
Post Graduate Academic Assistant	Ms AW Sulo NDip (Financial Management) (PE College)
Academic Assistant	Ms L Vincent NDip (IT) (PET)
Senior Laboratory Technician	Mr D P Müller NDip (IT) (PET), BTech (IT) (NMMU)
Laboratory Technicians	Ms T Cedras NDip (IT) (NMMU), BTech (IT) (NMMU)
	Mr C Leander HCert (IT) (NMMU), Dip IT (NMMU)

Department of Applied Technologies

Head of Department	Ms A du Preez BCom (Ed) (UPE)
Professor	Prof D van Greunen HDE (UPE), FDE (UPE), BAHons (UPE), MA (UPE), PhD (UNISA), PMIITPSA, MICSIT
Senior Lecturer	Mr M Thomson NDip Electr Data Proc (PET), NH Dip Computer Systems (PET), MTech IT (PET)
	Mr MA Brand BMus (UPE), BScHons (NMMU), MScEng (cum laude) (US)
Lecturer	Mr A Rutherford NDip (IT) (PET), BTech (IT) (PET), MTech (IT) (NMMU)

Associate Lecturers	Mr X Zepe NDip (IT) (NMMU), BTech (IT) (NMMU) Ms S Salie NDip (IT), (PET), BTech (IT) (PET) Vacant

Department of Network Engineering

Head of Department	Prof K Thomson NDip (IT) (PET), BTech (IT) (PET), MTech (IT) (PET), DTech (IT) (NMMU), PMIITPSA
Senior Lecturer	Dr K Kativu NDip (IT) (NMMU), BTech (IT) (NMMU), MTech (IT) (NMMU), PhD (IT) (NMMU), CCNA, MCSA
Lecturers	Mr S Vincent NDip (IT) (PET), BTech (IT) (TSA)
	Mr S Nkaule NDip (Elec Eng) (Cape Tech), BTech (Elec Eng) (Pen Tech), MTech (Elec Eng) (UJ), PG Dip (Tertiary Education) (Unisa)
	Ms TV Motaung NDip (IT) (CUT), BTech (IT) (CUT), MIT(CUT)
Associate Lecturer	Mr A Ndzondzo NDip (IT) (NMMU), BTech (IT) (NMMU)

Department of Software Engineering

Head of Department	Dr M Makalima NDip (IT) (NMMU), BTech (IT) (NMMU), MTech (IT) (NMMU), PhD (IT) (NMMU)
Associate Professor	Prof N Mostert NDip IT (PET), BTech IT (PET), MTech IT (NMMU), PGCHE (NMMU), PhD IT (NMMU)
Senior Lecturers	Mr R G Harmse BCom (UPE), BTech (IT) (PET), BA Hons (Psychology) cum laude (NMMU), MTech (IT) (PET)
	Dr B Ngoqo BComm (Accounting, IT) (Rhodes), BComm (Hons) (IT) (UFH), MComm (IT) (UFH), DPhil (IT)(UFH)
	Dr C L Obioha BSc (Hons) (CS) (IMSU), MTech (IT) (CPUT), PhD (Inform) (CPUT)
Lecturers	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) Mr DT Fredericks NDip (IT) (NMMU), BTech (IT) (NMMU), MIT (NMU)
Associate Lecturers	Mr I Salie NDip (IT) (Nelson Mandela University), BTech (IT) (NMU)
	Mr B Mngaza Ndip (IT) (NMMU), BTech (IT) (NMMU), PGDip (Enterprise Management) (Rhodes)

Department of IT Management and Governance

Head of Department	Dr T Gundu BSc (UFH), BSc Hon (UFH), MCom (IS) (UFH), PhD (IS) (UFH)
Professor	Prof L Futcher HED (UNISA), BSc (UPE), BTech (IT) (PET), MTech (IT) (NMMU), PhD (IT) (NMMU), PMIITPSA
Associate Professors	Prof M Gerber NDip (IT) (PET), BTech (IT) (PET), MTech (IT) (PET), PhD (NMMU), CISM Prof N Gcaza NDip (IT) (NMMU), BTech (IT) (NMMU), MTech (IT) (NMMU), PhD (NMU)
Senior Lecturer	Dr T. Seaba NDip (Computer Studies) (TUT), BTech (Knowledge Management) (TUT), MTech (Business information Systems) (TUT), Doctor of Computing: Informatics (TUT)
Lecturer	Mr R. R Ramaru BSc (CS & IS) (UV), BCom Hon (Business Information Systems) (UV), MCom (Business Information Systems) (UV) Vacant

REGISTERED ENTITIES

Centre for Community Technologies (CCT)

Director	Prof D van Greunen HDE (UPE), FDE (UPE), BAHons (UPE), MA (UPE), PhD (UNISA), PMIITPSA, MICSIT

Centre for Research in Information and Cyber Security (CRICS)

Director	Prof K Thomson NDip (IT) (PET), BTech (IT) (PET), MTech (IT) (PET), DTech (IT) (NMMU), PMIITPSA

Southern Africa Cisco Academy Support Centre

Manager/Lecturer	Prof K Thomson NDip (IT) (PET), BTech (IT) (PET), MTech (IT) (PET), DTech (IT) (NMMU), PMIITPSA

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.

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)		**370**		**375**		**377**

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	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.

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 statuary 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

RE-ADMISSION REQUIREMENTS FOR UNDERGRADUATE PROGRAMMES

The purpose of Policy on Academic Progression and Readmission to Undergraduate Programmes is to indicate both the process by which Senate determines readmission requirements and who has the authority to refuse readmission to a student who fails to satisfy such minimum requirements for admission.

The policy furthermore addresses the importance of reviewing student progress, where a student can obtain information on readmission requirements, the support afforded to students with conditional readmission, and the process to be followed to appeal a readmission refusal decision.

Nelson Mandela University upholds academic excellence in its endeavour to equip students with transformative and sustainable graduate attributes. Among the principles underpinning learning at the University is that lecturers have high expectations that students will succeed in their studies. Academic progression can be viewed as persistence and motivation to achieve a mark of 50% or more in the modules enrolled for. It is the responsibility of lecturers, professional academic support staff, and students to co-create learning experiences that promote excellence and foster studentsuccess.

Furthermore, in accordance with sound educational practices related to enhancing academic success, procedures need to be in place to regularly review the academic progress of students. Monitoring students' academic performance, psycho-social status and possible aggravating factors on an ongoing basis is a key strategy to enhance student success and throughput.

Each Faculty Board must thus approve a process to review the performance of students at a module and/or programme level in their Faculty, submit the process to the Learning and Teaching Committee for approval, and monitor the implementation of the review process.
Minimum requirements for readmission must be determined by faculties, submitted for approval to Senate and published in the faculty prospectus where applicable.

The following general principles will apply:

- Faculties should consider not only a level (i.e., number of credits accumulated per year of registration), but also a range in which conditional readmission will apply;
- Faculties should have the discretion to determine the minimum credit value for readmission to a particular programme;
- Where the maximum study period has been reached, but a student is close to graduating in that he/she only requires a few credits to graduate, the Faculty should have clear criteria in place to apply discretion to readmit the student;
- Faculties should have the discretion to deal with possible exceptions.

Process to determine if readmission requirements have been met and to refuse readmission

The following process must be followed when reaching a decision whether the readmission requirements have been met:

- The performance of all students registered for a programme in a faculty must be reviewed against the readmission requirements.
- Unless the Faculty Board decides otherwise, this review will normally take place at the end of an academic year.
- Students who have not yet reached the maximum years of study for their programme must be notified by Faculty Academic Administration if they have been readmitted as they met the requirements or if they have been conditionally readmitted and what the conditions are.
- The Head of Department/Director of School/Executive Dean has the delegated authority to refuse the readmission of students who have reached the maximum years of study for their qualification but did not manage to complete the qualification.
- The Head of Department/Director of School in collaboration with Faculty Academic Administration must convey the fact that readmission has been refused and the reasons for this must be attached to the Student Record.
- The Head of Department/Director of School must be able to provide the detailed information that informed the decision, should the decision to refuse readmission be appealed.
- A student who has been refused readmission can appeal.

Appeal procedure

- The student has the right to appeal against a decision to refuse readmission.
- The appeal will normally be handled by the Faculty Management Committee, unless the Faculty Board determines that another faculty committee must consider the appeal. In the latter instance, the Faculty Board must determine the composition of the committee. The decision reached by the appropriate faculty committee regarding the readmission appeal will be final and no further appeal will be permitted.
- The process followed to apply for, consider and deal with a readmission appeal is as follows:
    - A student must submit their appeal in writing on a prescribed readmission appeal form, with full motivation and supporting documentation, to their Faculty Academic Administration Consultant by either the last day of the re-examination period or within five (5) working days of receiving notification of readmission refusal, whichever date is the latest.
    - Faculty Academic Administration must forward the appeal, together with a copy of the student's study record and the letter in which the student was informed that he/she was being refusedreadmission, to the Faculty Management Committee.
    - The Faculty Management Committee or the committee identified by the faculty to do so will then handle the appeal where consideration could be given to factors such as:

- Whether the student participated in programmes and activities to enhance their academic progress.
- Whether there are any special circumstances related to the student's unsatisfactory academic performance that should be taken into account and which could mitigate against refusing readmission.

- A statement of the outcome of the appeal and a motivation for the decision reached must be communicated to and placed on the student's record by Faculty Academic Administration.

Maximum period of study exceeded

In the event that a student exceeds 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).

Full time:

The following maximum periods of study are 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 are 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 are 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
480+ credits	6 years	8 years

Progress-based readmission criteria

Full time students

The following template serves as an example to be used by faculties for full time students:

Period of Registration	3-year programme (360+ credits)		4-year programme (480+ credits)	
	Readmit	Conditional Readmission	Readmit	Conditional Readmission
After 1 year	*72+	≤72	80+	≤80
After 2 years	144+	≤143	160+	≤159
After 3 years	216+	≤215	240+	≤239
After 4 years	288+	≤287	320+	≤319
After 5 years	Refuse readmission, unless specialcircumstances		400+	≤399
After 6 years			Refuse readmission, unless special circumstances	

*(*Note: The credit values indicated serve as a guideline only).*

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.**

WORK-INTEGRATED LEARNING REQUIREMENTS (WHERE APPLICABLE)

The WIL 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-related experience before they can practise their chosen career effectively. Experience shows that the integration of theory and work-related experience creates readily employable graduates.

The work-related 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 Diploma, a student must complete at least one semester of applicable experiential learning. Guides outlining the requirements for successful completion of workplace-based learning are obtainable from the Administrator of the Department.

It is imperative for students to register for the workplace-based learning component, where applicable. 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.

IMPORTANT NOTES SPECIFIC TO WORK-INTEGRATED LEARNING

The Unit for Co-operative Education & Service Learning provides essential student placement support services to learners who have to complete a compulsory workplace-based 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
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Facebook: http://facebook.com/pages/Nelson Mandela University-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: Ms J Holmes
Janine.Holmes@mandela.ac.za

PROFESSIONAL STATUS AND RECOGNITION OF DEGREES

SCHOOL OF ARCHITECTURE

The School of Architecture consists of the Departments of Architecture and the Department of Architectural Technology and Interior Design. The School offers various undergraduate and postgraduate study opportunities in the fields related to Architecture. Qualifications are related to registration categories in each of the South African Council for Architectural Professionals (SACAP), registration categories.

The School's programmes are highly acclaimed and are accredited by the South African Council of Architectural Professionals, an international signatory to the Canberra Accord.

SCHOOL OF THE BUILT ENVIRONMENT AND CIVIL ENGINEERING

The School consists of the Departments of Construction Management, Building & Human Settlement Development, Quantity Surveying and Civil Engineering. 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.

Institutes and professional bodies:

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

Accreditation	Affiliation
	Engineers (SAACE)

SCHOOL OF ENGINEERING

The School of Engineering offers a continuum of academic programmes including Bachelor of Engineering Technology, Professional Bachelor, Bachelor of Engineering Technology Honours; 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 Marine, Industrial, Electrical and Mechanical Engineering as well as Mechatronics. 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 relevant 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

Professional Bodies

ECSA	Engineering Council of South Africa (Professional Registration Body for South Africa)
SAMSA	South African Maritime Safety Authority

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 the Advanced Diploma, Postgraduate Diploma in Cybersecurity, MIT and PhD IT. The Postgraduate Diploma in Cybersecurity provides specialised knowledge in the area of Cybersecurity in Information Technology. 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.

SPECIAL PRIZES AND AWARDS

SCHOOL OF THE BUILT ENVIRONMENT AND CIVIL 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**
Association of SA Quantity Surveyors (ASAQS)	Best overall first-year student. Best overall second-year student. Best overall third-year student. Best overall fourth-year student.
Algoa Brick	Construction Management student who has shown determination in maintaining a good standard in his/her studies throughout 3 years in BSc (CS) despite challenges and circumstances
Brink Botha Enterprises	Best Construction Management student with the highest overall mark in any year of study.
SACPCMP	Best Professional Practice 4 student.
ECMBA	Best Construction Management student.
ASAQS (EC Chapter)	Student with highest mark in Structures and Concrete III.
BHSD	Student with the highest mark in Construction Management I.
BHSD	Student with the highest mark in Construction Technology II.
Department of Building and Human Settlement Development	Student with highest mark in Construction Management II.
Departmental Prize SACPCMP	Best Construction Management Honours Treatise 4
Clay Brick	Best student in Building Science (Materials and Methods) 1,2 & 3
Dimitri Zenios Property Developers	Best Construction Management student in Property Economics 4.
East Cape MBA	Best National Diploma: Building student.
Department of Construction Management	Best student in Building Science (Environment and Services) 1,2 &3.
BUCO	Best Basic Surveying 1 student.

Donors	Prize awarded for
Greyvensteins Attorneys	Best student in combined subjects: Company Law and Commercial Law 4.
WBHO	Best Project Management 4 student.
GVK-Siyazama Construction	Best student BSc (Honours) Construction Management Programme.
ACHASM	Best student BSc (Honours) Construction health and Safety Management Programme.
MBA (EC) Algoa Brick	Best Student in any year of study BSc Construction Studies Programme
Dekon	Best Production Analysis ~~3~~ student.
Corobrik	Best first-year Building student.
AAAMSA	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).
WBHO	Student with highest mark in Construction Technology 1.
Studio D'Arch Architects	Best Building Science (Environment and Services) 3 student.
Strydom Basson and Tait (Pty) Ltd	Best second-year Building student.
SACPCMP	Best Building Science (Materials and Methods) 4 student.
AAAMSA	Student with the highest mark in Construction Technology III.
GVK-Siyazama Construction	Best Building Science (Structures) student.
Stanley Warren Prize	Student with the highest mark in the module: Quantities 1
Bham Tayob Khan Matunda (BTKM PE)	Student with the highest mark in the module: Quantities 2
Bham Tayob Khan Matunda (BTKM PE)	Student with the highest mark in the module: Quantities 3
Lakhanya Quantity Surveyors	Student with the highest mark in the module: Quantitiess 4
Association of SA Quantity Surveyors (ASAQS EC)	Student with the highest mark in the module: Quantity Surveying 1
SYNERGY Quantity Surveyors and Project Managers	Student with the highest mark in the module: Quantity Surveying 2
Professional Provident Society (PPS)	Student with the highest mark in the

Donors	Prize awarded for
	module: Quantity Surveying 3
Rogerson Reddan	Student with the highest mark in the module: Quantity Surveying 4
Professional Provident Society (PPS)	Student with the highest mark in the module: Building Economics 2
Rogerson Reddan	Student with the highest mark in the module: Building Economics 3
Prof Brink Botha	Student with the highest mark in the module: Building Economics 4
Rogerson Reddan	Student with the highest mark in the module: Professional Practice 4
Rogerson Reddan	Best All-Round Female Undergraduate Quantity Surveying Student.
Rogerson Reddan	Best All-Round Male Undergraduate Quantity Surveying Student.
Rousseau Probert Elliott (RPE)	Outstanding Treatise which contributes to progressive and innovative approach to Quantity Surveying.
Prof Deon Els	Exceptional leadership and constant high academic achievement.
Association of SA Quantity Surveyors (ASAQS)	Bell-John prize for the best all-round Quantity Surveying student in any year of study.

IMESA: Eastern Cape branch	Best 1st year BEngTech: Civil Engineering student
	Best Bachelor of Engineering Technology Civil Engineering graduate
	Best Bachelor of Engineering Technology Honours (Civil Engineering) graduate
AECI Much Asphalt (Pty) Ltd	Best Construction Material Science student
	Best Construction Materials student
Gibb (Pty) Ltd	Best Water Engineering II student
	Best Water Engineering III student
Prize sponsored by IStructE Southern Africa Regional Group	Best Structural Engineering III student
KCS Consultants	Best Bachelor of Engineering Technology Honours (Civil Engineering) graduate
	Best Capstone Project Civil student
	Best Construction Material Science student
	Best Geotechnical Engineering III student
	Best Geotechnical Foundation Design student
	Best Introduction to Geology & Soil Mechanics student
	Best Research Project student
	Best Transportation Engineering II student
Lilitha Project Managers	Best Project Management student
	Best Surveying II student
SAICE (Algoa Branch)	Best Computer Application & Analysis student
	Best Construction Methods student
	Best Environmental Management student
	Best Municipal Water Engineering student
	Best Transportation Engineering III 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**
AECI Much Asphalt (Pty) Ltd	Best Bachelor of Engineering Technology Civil Engineering graduate
	Best Bachelor of Engineering Technology Honours Civil Engineering graduate
Gibb (Pty) Ltd	Best Geotechnical Engineering III student
	Best Transportation Engineering III student
	Best Corporate Citizenship student

Donors	Prize awarded for
	Best Capstone Project Civil student
	Best Computer Application & Analysis student
IStructE Southern Africa Regional Group	Best Structural Engineering III student
KCS Consultants	Best Construction Material Science student
	Best Municipal Water Engineering student
	Best Structural Design student
	Best Geotechnical Foundation Design student
	Best Research Project student
	Best 1st year BEngTech: Civil Engineering students
	Best 2nd year BEngTech: Civil Engineering student
	Best Bachelor of Engineering Technology Civil Engineering graduate
	Best Bachelor of Engineering Technology Honours Civil Engineering graduate
NACO (a company of) Royal Haskoning DHV	Best Urban Transport Eng (Aviation) 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.
Department of Industrial Engineering	Best Diploma in Operations Management student.
Department of Industrial Engineering	Best BEngTech: Industrial Engineering student.
Department of Industrial Engineering	Best BEng Tech Honours in Industrial Engineering Honours student.
Department of Industrial Engineering	Best Advanced Diploma in Operations Management student.
Department of Industrial Engineering	Best Advanced Diploma in Quality Management
Department of Mechanical Engineering: Higher Certificate in Mechatronic Engineering	Mechanotechnology I
Department of Mechanical Engineering: Higher Certificate in Mechatronic Engineering	Mechanotechnology II
Department of Mechanical Engineering: Higher Certificate in Mechatronic Engineering	Mechatronic Systems
Department of Mechanical Engineering: Higher Certificate in Mechatronic Engineering	Manufacturing
Department of Mechanical Engineering: Higher	Mechatronic Project

Donors	Prize awarded for
Certificate in Mechatronic Engineering	
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Engineering Drawing I
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Engineering Materials I
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Engineering Programming Mechanical I
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Engineering Skills I
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Fluid Mechanics IIA
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Manufacturing Processes II
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Statics and Dynamics II
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Strength of Materials IIA
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Dynamics and Controls II
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Fluid Mechanics IIB
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Mechanical Design II
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Strength of Materials IIB
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Thermodynamics II
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Hydraulic Machines III
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Mechanical Design III
Department of Mechanical Engineering: Bachelor of Engineering Technology in	Best Student: Research and Project Management III

Donors	Prize awarded for
Mechanical Engineering	
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Strength of Materials III
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Thermodynamics III
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Applied Strength of Materials III
Department of Mechanical Engineering: Bachelor of Engineering Technology in Mechanical Engineering	Best Student: Capstone Project Mechanical III
Department of Mechanical Engineering: Bachelor of Engineering Technology Honours in Mechanical Engineering	Best Student: Control Systems
Department of Mechanical Engineering: Bachelor of Engineering Technology Honours in Mechanical Engineering	Best Student: Energy Systems
Department of Mechanical Engineering: Bachelor of Engineering Technology Honours in Mechanical Engineering	Best Student: Integrity of Structures
Department of Mechanical Engineering: Bachelor of Engineering Technology Honours in Mechanical Engineering	Best Student: Engineering Materials and Science
Department of Mechanical Engineering: Bachelor of Engineering Technology Honours in Mechanical Engineering	Best Student: Thermal Systems
Department of Mechanical Engineering: Bachelor of Engineering Technology Honours in Mechanical Engineering	Best Student: Research Project
Department of Mechanical Engineering: Bachelor of Engineering Technology Honours in Mechanical Engineering	Best Student: Design Project
Department of Mechanical Engineering eNtsa	Best Overall Student: Higher Certificate in Mechatronic Engineering
Department of Mechanical Engineering eNtsa SAIMECHe	Best Overall Student: Bachelor of Engineering Technology in Mechanical Engineering
Department of Mechanical Engineering eNtsa SAIMECHe	Best Overall Student: Bachelor of Engineering Technology Honours in Mechanical Engineering
Department of Mechanical Engineering eNtsa	Best Master of Engineering in Mechanical Engineering
Department of Mechanical Engineering eNtsa	Doctor of Philosophy (Mechanical Engineering)

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 Top PG Diploma Cybersecurity 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.

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.

BOARD OF FACULTY/FACULTY MANAGEMENT COMMITTEE

The Board of Faculty consists of all academic staff in the Faculty 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.

CERTIFICATES

HIGHER CERTIFICATE IN INFORMATION TECHNOLOGY IN USER SUPPORT SERVICES

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.

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			

		Presented	Module Code	Credit Value
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.

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

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 NC(V)4 statutory requirements for higher certificate entry must be met
- An applicant with NC(V)4 Mathematics requires a minimum Applicant Score of 330
- NC(V)4 achievement rating of at least 40% for English, Afrikaans, or isiXhosa (Home Language or First Additional Language)
- NC(V)4 Achievement rating of at least 50% for Mathematics
- NC(V)4 Achievement rating of at least 70% for Physical Sciences

NC(V)4 cognate fields of study

(*only the following NC(V) fields can be considered for admissions):*

- Civil Engineering & Building Construction
- Engineering & Related Design
- Electrical Infrastructure Construction
- Mechatronics

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) or Bachelor of Engineering 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.

Or a Higher Certificate in Mechatronic Engineering with an average of 75% or above and a minimum of 75% for Mathematics.

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 I	Semester 1	MET1001	12
	Mechanotechnology I	Semester 1	MEC1001	12
	Introduction to Computers	Semester 1	ICL1001	14
	Language Studies	Semester 1	LES1001	12
	Semester 2			
	Electrotechnology II	Semester 2	MET2002	12
	Mechanotechnology II	Semester 2	MEC2002	12
	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	PHY1001		MAT1011
Electrotechnology I	MET1001		
Mechanotechnology I	MEC1001		
Mechanotechnology II	MEC2002	MEC1001	
Mechatronic Systems	MES1002		
Manufacturing	MAN1002		
Electrotechnology II	MET2002	MET1001	
Mechatronic Project	MEP1002	MET1001 **and** PHY1001	

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 pre-artisan 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 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 NC(V)4 statutory requirements for higher certificate entry must be met
- An applicant with NC(V)4 Mathematics requires a minimum Applicant Score of 330
- NC(V)4 achievement rating of at least 40% for English, Afrikaans, or isiXhosa (Home Language or First Additional Language)
- NC(V)4 Achievement rating of at least 50% for Mathematics
- NC(V)4 Achievement rating of at least 70% for Physical Sciences

STATUTORY AND OTHER REQUIREMENTS
Academic progression:
Candidates who qualify with the Higher Certificate in Renewable Energy Engineering may get admission to the Bachelor of Engineering Technology (BEngTech) or Bachelor of Engineering 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 Renewable Energy Engineering with an average of 60% or above and a minimum of 60% for Mathematics is required for admission to BEngTech degrees.
Or a Higher Certificate in Renewable Energy Engineering with an average of 75% or above and a minimum of 75% for Mathematics.

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 **and** EET1001 **and** MEC1001	
Solar Photovoltaic Systems	ESP1002	PHYV1001 **and** EET1001	
Wind Energy Systems	MWE1002	PHYV1001 **and**	

Module	Code	Pre-requisites	Co-requisites
		EET1001 **and** MEC1001	
Hydro Systems	MHS1002	PHYV1001 **and** EET1001 **and** MEC1001	
Renewable Energy Projects	ERR1002	MAT1011 **and** PHY1001 **and** EET1001 **and** MEC1001	Any two of ERE1002, ESP1002, MWE1002, MHS1002

HIGHER CERTIFICATE IN HUMAN SETTLEMENT DEVELOPMENT

Qualification code:	70009
Offering:	Full-time North Campus (01)
Aligned NQF Level:	5
SAQA ID:	119049
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 Higher Certificate in Human Settlement Development has the purpose to provide theoretical and practical knowledge so that practitioners acquire the skills and attributes to operate in the three tiers of government in matters related to Human Settlement Development.

Programme outcomes:
After completion of this programme the student will be able to:

- Explain relevant project management concepts and skills such as planning, programming, cost control;
- Explain the level of Housing Chapters of IDPs in using use knowledge of sustainable human settlements and integrated development planning;
- Argue for low-income human settlement development by using knowledge of relevant construction management principles;
- Apply critical citizenship in housing and human settlement development programmes and projects;
- Explain how methods and tools of monitoring and evaluating influence efficient and effective implementation of human settlement policies and programmes within an international and South African context;
- Apply theories, concepts, methods and practices of efficient and effective informal settlements upgrading in programmes and projects;
- Explain how knowledge and theory of social housing policies and legislation influence the establishment and management of social housing institutions and programmes;
- Explain the role of principles of property development and property investment in the management of social housing and residential properties.

ADMISSION REQUIREMENTS

- Applicants must be employed in the field of Human Settlement Development or a related field as practitioner **and**
- National Senior Certificate (NSC) A National Senior Certificate (NSC) with minimum NSC requirements for certificate entry must be met **or**
- A National Certificate Vocational (NCV) with minimum NCV level 4 statutory requirements for certificate entry must be met **or**
- A Senior Certificate (Matriculated prior to 2008).

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			
	Project Management	Semester 1	HPM101	15
	Sustainable Human Settlements Policy and Planning	Semester 1	HHS101	15
	Managing Public Participation in Housing and Human Settlement Developments	Semester 1	HPP101	15
	Property Investment and Development	Semester 1	HPI101	15
	Semester 2			
	Social Housing Facilitation and Management	Semester 2	HSH102	15
	Construction Management for Public Managers	Semester 2	HCM102	15
	Informal Settlement Upgrading Theories and Practices	Semester 2	HSU102	15
	Theory of Land use Planning and Management	Semester 2	HTL102	15
	Total Credits			**120**

DIPLOMAS

DIPLOMA IN ARCHITECTURAL TECHNOLOGY

Qualification code:	1252
Offering:	Full-time South Campus (A1)
Aligned NQF Level:	6
SAQA ID:	97082

Total NQF Credits for qualification:	360

In accordance with legal regulations, all students enrolled in the Bachelor of Architectural Studies programme are required to register with the South African Council for the Architectural Profession (SACAP) as student members at the commencement of each academic year.

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
- 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
- International applicants must 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

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.

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	LKM1001	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
	Studio Work II – Module II	Semester 2	DSW2002	10
	Practical Studies II	Semester 2	DPS2002	20
	Credits Second Year	**Minimum**		**126**

Third Year				
Compulsory modules:				
	Construction and Detailing III *(Major)*	Semester 1	DKD3001	24
	Studio Work III *(Major)*	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	Prerequisite	Co-

	Code		requisite*
First Year			
Studio work 1- Module II	DSW1002	DSW1001- Studio work I- module I	
Computer applications II - module I	DKP1002	DKP1001- Computer applications-module I	
Construction and detailing I-module II	DKD1002	DKD1001- Construction and detailing I -module I	
History of Architecture and design – module II	DHA1002	DHA1001 – History of Architecture and design – module I	
Introduction to design theory- module II	DHA1022	DHA1021- Introduction to design theory- module I	
Introduction to design - module II	DAP1002	DAP1001 –Presentation methods - module I	
Applied Building Science – Module II	DBS1002	DBS1001 - Applied Building Science – Module I	
Second Year			
Computer aided drafting III	DAD3001	DKP1002- Computer applications - module II	
Construction and detailing- module I	DKD2001	DKD1002 - Construction and Detailing 1 – Module II	
Construction and detailing-module II	DKD2002	DKD2001- Construction and detailing- module I	
Office management practice-module II	DOP3002	DOP3001- Office management practice-module I	
Design theory	DPA3001	DHA1022- Introduction to design theory- module II	
Design – module I	DPA3011	DAP1002-Introduction to design - module II	
Studio work II-module I	DSW2001	DKD2001- Construction and detailing- module 1, DAP1002- Introduction to design - module II	
Services Module II	DBD3002	DBD3001 - Services – Module I	
Studio work II-module II	DSW2002	DSW2001- Studio work II- module I	
Practical Studies II	DPS2002	DAD3001- Computer aided drafting III	
Third Year			
Construction and detailing III	DKD3001	DKD2002- Construction and detailing-module II	
Studio work III	DSW3001	DSW2002- Studio work II- module II, DPA3011-Design- module I DSW2002-studio work II - module II, DPA3002 - Design - Module II.	

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 Human Settlement Development.

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 Human Settlement Development.

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

Promotion:

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 (DCT1000), Construction Management I (DCO1000) and Quantity Surveying I (DQS1000).

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.

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**
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**
Third Year				
Compulsory modules:				
	Construction Accounting III	Year	DCA3000	20
	Construction Management III *(Major)*	Year	DCO3000	20
	Structures and Concrete III	Year	DCS3000	20
	Construction Technology III *(Major)*	Year	DCT3000	20
	Price Analysis and Estimating III	Year	DPE3000	20
	Quantity Surveying III *(Major)*	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

DIPLOMA IN INFORMATION TECHNOLOGY (COMMUNICATION NETWORKS)

Qualification code:	7227
Offering:	Full-time North Campus (01)
Aligned NQF Level:	6
SAQA ID:	**111573**
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

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**
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**
Third Year				
Compulsory modules:				
	Network Programmability	Semester 1	NTP3011	15
	Infrastructure Automation	Semester 2	IFA3012	15
	Distributed Systems III A: Network Operating Systems *(Major)*	Semester 1	CNW3021	15
	Distributed Systems III B: Project *(Major)*	Semester 2	CNW3022	15
	Support Services II	Year	SSO2010	30
	Communication Networks III A *(Major)*	Semester 1	WCN3021	15
	Communication Networks III B *(Major)*	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
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	WIH1020
Communication Networks III A	WCN3021	Communication Networks IIB	WCN2132
Communication Networks III B	WCN3022	Communication Networks III A & Network Programmability	WCN3021 & NTP3011
Infrastructure Automation	IFA3012	Network Programmability	NTP3011

DIPLOMA IN INFORMATION TECHNOLOGY (SOFTWARE DEVELOPMENT)

Qualification code:	7224
Offering:	Full-time North Campus (01)
Aligned NQF Level:	6
SAQA ID:	**111573**
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 40% for Maths/Technical Maths or 60% for Maths Lit

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 Best Practices

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**
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**
Third Year				
Compulsory modules:				
	Development Software III: C# *(Major)*	Semester 1	ONT3001	15
	Development Software III: Project *(Major)*	Year	ONT3010	15

		Presented	Module Code	Credit Value
	Technical Programming II	Year	PRT2030	30
	Support Services II	Year	SSO2010	30
	Information Systems III: Systems Analysis and Design *(Major)*	Semester 1	WIH3001	10
	Information Systems III: Advanced Design *(Major)*	Semester 2	WIH3002	10
	Information Systems III: Project Best Practices *(Major)*	Semester 1	QIH3061	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	PRT1030	Development Software I	ONT1030/ SDS1010		
Information Systems II	WIH2010	Information Systems IA	WIH1020		
Support Services II	SSO2010	Information Systems IA	WIH1020		
Development Software III: Project	ONT3010	Development Software II & Information Systems II	ONT2030 & WIH2010	Information Systems III: Project -Best Practices	QIH3061
Development Software III: C#	ONT3001	Development Software II	ONT2030		
Technical Programming II	PRT2030	Development Software II & Technical Programming I	ONT2030 & PRT1030		
Information Systems III: System Analysis & Design	WIH3001	Information Systems II	WIH2010		
Information Systems III: Advanced Design	WIH3002	Information Systems III: System Analysis & Design	WIH3001		

Module		Prerequisite		Co-requisite	
Name	**Code**	**Name**	**Code**	**Name**	**Code**
Information Systems III: Project Best Practice	QIH3061	Information Systems II	WIH2010	Development Software III: Project	ONT3010

DIPLOMA IN INFORMATION TECHNOLOGY (SUPPORT SERVICES)

Qualification code:	7228
Offering:	Full-time North Campus (01)
Aligned NQF Level:	**6**
SAQA ID:	**111573**
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 40% 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.

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	SDS1010	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**
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**
Third Year				
Compulsory modules:				
	Information Systems III *(Major)*	Year	SIH3010	30
	Installation Management III	Year	SIM3010	30
	Support Services III *(Major)*	Year	SSO3010	30
	Communication Networks III A	Semester 1	WCN3021	15
	Business Intelligence Fundamentals	Semester 2	BIF3022	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

Module		Prerequisite	
Name	**Code**	**Name**	**Code**
Support Services II	SSO2010	Systems Software I: IT Essentials & Information Systems IA	WIH1020
Information Systems II	WIH2010	Information Systems IA & Information Systems IB	WIH1020
Support Services III	SSO3010	Support Services II	SSO2010
Information Systems III	SIH3010	Information Systems II	WIH2010
Communication Networks III A	WCN3021	Communication Networks IIB	WCN2132

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:	370

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.
- A minimum admission requirement for Maths and Technical Maths must be 30% and for Math Literacy 45%
- An applicant with NSC Grade 12 Mathematics or Technical Mathematics requires a minimum Applicant Score of 315
- An applicant with NSC Grade 12 Mathematical Literacy requires a minimum Applicant Score of 330
- 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
- International applicants must 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.

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 lecturers 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
	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**		**134**
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**
Third Year				
Compulsory modules:				
	Design Technology III			
	Design Technology – Module I *(Major)*	Semester 1	DDT3001	15
	Design Technology – Module II *(Major)*	Semester 2	DDT3002	15
	Interior Design III			
	Interior Design III - Module A *(Major)*	Semester 1	DID3001	15
	Interior Design III - Module B *(Major)*	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 *(Major)*	Semester 1	DPM3011	10
	Presentation Methods III - Module B *(Major)*	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			
Presentation – module B	DFD1002	DFD1001- Presentation – module A	
History of Art and Design – module B	DHD1002	DHD1001- History of Art and Design – module A	
Design Theory II – Module B	DTE2002	DTE2001 - Design Theory II – Module A	
Design Studies I – module B	DDS1002	DDS1001 - Design Studies I – Module A	
Design Technology I – module B	DDT1002	DDT1001 - Design Technology I – module A	
Second Year			
Construction – module I	DDT2011	DDT1002 -Design Technology I – module B	
Construction – module II	DDT2012	DDT2011- Construction – module I	
Interior Design II – module A	DID2011	DDS1002- Design Studies I – module B	
Interior Design II – module B	DID2012	DID2011- Interior Design II – module A	
Office management – Module II	DOP3002	DOP3001 – Office Management – module I	
2D CAD	DPM2011	DKP1010 – Computer	

		applications	
Presentation – 3D	DPM2012	DPM2011- 2D CAD	
Design Theory III - Module A	DTE3001	DTE2002 - Design Theory II – Module B	
Design theory III – Module A	DTE3002	DTE3001- Design theory 111 – Module A	
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	
Interior Design III - Module A	DID3001	DID2012- Interior Design II – module B	
Interior Design III - Module B	DID3002	DID3001 -Interior Design III – Module A	
Contemporary Developments in Interior design - module A	DPD3021	DID2012- Interior Design II – module B	
Contemporary Developments Interior design - Module B	DPD3022	DPD3021 - Contemporary Developments in Interior design - module A	

DIPLOMA IN 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.

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.

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**
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**
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 *(Major)*	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	

BACHELOR DEGREES

BACHELOR OF ARCHITECTURAL STUDIES

Qualification code:	10040
Offering:	Full-time South Campus (A1)
Aligned NQF Level:	7
SAQA ID:	87233 / (National Code – 48731)
Total NQF Credits for qualification:	390

In accordance with legal regulations, all students enrolled in the Bachelor of Architectural Studies programme are required to register with the South African Council for the Architectural Profession (SACAP) as student members at the commencement of each academic year.

THE PURPOSE OF THE LEARNING PROGRAMME

This qualification has been approved in accordance with the new Higher Education Qualification Sub-Framework (HEQSF). It provides students with comprehensive knowledge and skills in various fields of architecture, preparing them for post-qualification registration as a Candidate Architectural Technologist. Additionally, this NQF level 7 qualification serves as a platform for pursuing 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.
- Departmental selection is based on the submission requirements outlined in the Portfolio Requirement document, which can be found on our website at architecture.mandela.ac.za.

SELECTION PROCEDURE

The selection process is based on a series of exercises, including drawing, mapping, creative, and problem-solving tasks. Detailed descriptions of each exercise are outlined in the Portfolio Requirements document, which is reviewed annually and provided to applicants who meet the minimum entry requirements. Additionally, an online interview with departmental staff will be conducted, during which applicants will discuss their creative portfolio. The final selection of applicants will only be confirmed after the final matric results have been received.

STATUTORY AND OTHER REQUIREMENTS

Upon completion of the Bachelor of Architectural Studies degree as well as the requisite practical training commensurate with the registration level, candidates can register with the South African Council for the Architectural Profession's (SACAP) as Candidate 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.

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.

Assessments:

- The following modules are assessed using continuous assessment with portfolio:
  Design AAV 1, 2 and 3
  Building Science (Detail Design and Construction) ADCV 1, 2 and 3
  Architecture Presentation Techniques AAAV 1 and 2
  Architectural Computer Usage ACUV 3

The following modules are assessed using continuous assessment without portfolio:

- Theory of Architecture ATV 1, 2 and 3
- History of Architecture and Art AEV 1, 2 and 3

All modules offered within the Department of Architecture are structured as continuous assessment modules, ensuring students have multiple opportunities throughout the academic year to enhance their performance and marks. Due to this continuous assessment framework, there are no provisions for re-assessments or supplementary examinations for modules governed by continuous assessment. Students are encouraged to actively engage in the ongoing assessment processes, utilise feedback provided, and use the multiple opportunities provided to enhance their academic standing and achievements.

Meeting a minimum attendance requirement of 75% in all theory-based modules is mandatory as per the Department's policy. This attendance standard is a prerequisite for students to qualify for portfolio assessment and is an integral part of the overall evaluation process. Students are responsible for ensuring their attendance is accurately noted during class sessions.

The Department of Architecture maintains certain criteria for students to be eligible for portfolio assessment. In addition to the standard academic requirements, students are expected to have completed all design projects (100%) and must maintain a class average

of at least 40% to be eligible for portfolio assessment.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 has granted permission for those modules;
- the following modules cannot be taken in this circumstance: Design (AAV),and Building Science (Detail Design and Construction) (ADCV).

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 (Full -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**
Second Year				
Compulsory module:				

		Presented	Module Code	Credit Value
	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**
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
	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
	Professional Practice	Semester 2	ABAV302	6
	Credits Third Year	**Minimum**		**92**
	Total Credits			**360**
Required in addition to the above programme for admission to the degree of BAS Honours:				
	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)	

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

BACHELOR OF ENGINEERING IN MECHATRONICS

Qualification code:	71055
Offering:	Full-time North Campus (01)
Aligned NQF Level:	8
SAQA ID:	115167
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 Mechatronic Engineering or Higher Certificate in Renewable Energy Engineering 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 (MWSV100 and MWSV200) 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, EMPV400.

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.

DURATION

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

CURRICULUM (Full-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
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**
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	-
	Credits Third Year	**Minimum**		**152**
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 *(Major)*	Year	EMPV400	50
	Project Management: Engineering IV	Semester 1	EPMV401	9
	Human Rights **	Term 2	SSSV331	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** MSEV102 **and**	MATV201

Module	Code	Pre-requisites	Co-requisites
		WRSC111	
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	MEWV101 **and** MASV102 **and** 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	EELV202 **and** MDGV201 **and** MSEV101 **and**	

Module	Code	Pre-requisites	Co-requisites
		MSEV102	
Advanced Manufacturing Systems IV	EAMV401	MGNV302	
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	

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:	434

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 Civil Engineering BEngTech (Civil Engineering) is to enable the graduate to obtain the necessary knowledge, understanding, abilities and skills required towards becoming a competent, practicing Civil Engineering Technologist.

The BEngTech (Civil Engineering) provides graduates with a sound knowledge base in the Civil Engineering discipline and the ability to apply the knowledge, skills an 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 Civil Engineering itself and areas that potentially benefit from engineering skills and contribute to the economy and National development;
- The educational base required for registration as a Candidate Professional EngineeringTechnologist with the Engineering Council of South Africa (ECSA).
- Entry to NQF Level 8 programmes such as the Bachelor of Engineering Technology Honours in Civil Engineering or the Postgraduate Diploma in Civil 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:

- Identify, formulate, research literature and analyse broadly defined engineering problems reaching substantiated conclusions using analytical tools appropriate to the discipline or area of specialisation.
- Apply knowledge of mathematics, natural science, computing and engineering fundamentals, and an engineering specialisation to defined and applied engineering procedures, processes, systems or methodologies.
- Design solutions for broadly defined engineering technology problems and contribute to the design of systems, components or processes to meet identified needs.
- Demonstrate competence to conduct investigations of broadly defined engineering problems; locate, search and select relevant data from codes, data bases and literature, and design and conduct experiments to provide valid conclusions.
- Demonstrate competence to select and apply and recognise limitations of appropriate techniques, resources and modern engineering and IT tools, including prediction and modelling, to broadly defined engineering problems.
- Demonstrate competence to communicate effectively and inclusively on broadly defined engineering activities, both orally and in writing, with the engineering community and society at large, taking into account cultural, language and learning differences.
- Demonstrate critical awareness of the sustainable development impacts on society, the economy, sustainability, health and safety, legal frameworks and the environment.
- Demonstrate competence to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.
- Demonstrate competence to engage in independent learning through well-developed learning skills.
- Understand and commit to professional ethics and norms of engineering technology practice, including compliance with national and international laws.
- Demonstrate knowledge and understanding of engineering management principles.

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)4 achievement rating of at least a 5 (60-69%) for Mathematics.
- NC(V)4 achievement rating of at least a 4 (70-79%) for Physical Sciences
- Enrolment in related engineering NCV programmes.

Higher Certificates:

A Higher Certificate in Mechatronic Engineering (QC 70005), or Higher Certificate in Renewable Energy Engineering (QC 70007) as awarded by the Nelson Mandela University, 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.

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
	Professional Communication Language	Semester 1	LELV111	14
	Professional Communication Computers	Semester 1	LECV101	14
	Civil Engineering Drawing	Semester 1	CDRV100	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 Materials	Semester 2	CCOV112	14
	Credits First Year			**140**
Second Year				
Compulsory module:				
	Mathematics IIA	Semester 1	MATV211	14
	Construction Methods	Semester 1	CCOV221	10
	Water Engineering IIA	Semester 1	CWEV201	14
	Surveying IIA	Semester 1	CSUV211	10
	Transportation Engineering IIA	Semester 1	CTEV201	14
	Strength of Materials and Structures	Semester 1	CSMV201	14
	Structural Analysis	Semester 2	CSEV212	14
	Introduction to Geology and Soil Mechanics	Semester 2	CGSM202	14
	Water Engineering IIB	Semester 2	CWEV202	14
	Surveying IIB	Semester 2	CSUV212	12
	Transportation Engineering IIB	Semester 2	CTEV202	14

		Presented	Module Code	Credit Value
	Credits Second Year			**144**
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
	Civil Engineering Practice and Professionalism	Semester 2	CPPV302	14
	Capstone project *(Major)*	Semester 2	CCPV302	42
	Credits Third Year			**140**
	Total Credits			**434**

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	
Water Engineering IIB	CWEV202	CWEV201	
Surveying IIB	CSUV202	CSUV201	
Structural Analysis	CSEV212	CSMV201	
Geotechnical Engineering	CGEV301	CGSM202	
Structural Engineering IIIA	CSEV301		
Transportation Engineering III	CTEV301	CCOV112	
Corporate Citizenship for Engineering	CCCV302		
Capstone Project	CCPV302	CPMV301 **and** CWEV202 **and** CTEV202 **and** CSEV301	
Structural Engineering IIIB	CSEV302		

BACHELOR OF ENGINEERING TECHNOLOGY IN ELECTRICAL ENGINEERING

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 (BEngTech (Electrical Engineering) is to enable the graduate to obtain the necessary knowledge, understanding, abilities and skills required towards becoming a competent, practicing Electrical Engineering Technologist.

The BEngTech (Electrical Engineering) 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:

- Identify, formulate, research literature and analyse broadly defined engineering problems reaching substantiated conclusions using analytical tools appropriate to the discipline or area of specialisation.
- Apply knowledge of mathematics, natural science, computing and engineering fundamentals, and an engineering specialisation to defined and applied engineering procedures, processes, systems or methodologies.
- Design solutions for broadly defined engineering technology problems and contribute to the design of systems, components or processes to meet identified needs.
- Demonstrate competence to conduct investigations of broadly defined engineering problems; locate, search and select relevant data from codes, data bases and literature, and design and conduct experiments to provide valid conclusions.
- Demonstrate competence to select and apply and recognise limitations of appropriate techniques, resources and modern engineering and IT tools, including prediction and modelling, to broadly defined engineering problems.

- Demonstrate competence to communicate effectively and inclusively on broadly defined engineering activities, both orally and in writing, with the engineering community and society at large, taking into account cultural, language and learning differences.
- Demonstrate critical awareness of the sustainable development impacts on society, the economy, sustainability, health and safety, legal frameworks and the environment.
- Demonstrate competence to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.
- Demonstrate competence to engage in independent learning through well-developed learning skills.
- Understand and commit to professional ethics and norms of engineering technology practice, including compliance with national and international laws.
- Demonstrate knowledge and understanding of engineering management principles.

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)4 achievement rating of at least a 5 (60-69%) for Mathematics.
- NC(V)4 achievement rating of at least a 4 (70-79%) for Physical Sciences
- Enrolment in related engineering NCV programmes

Higher Certificates:

A Higher Certificate in Mechatronic Engineering (QC 70005), or Higher Certificate in Renewable Energy Engineering (QC 70007) as awarded by the Nelson Mandela University, 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.

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 (ECPV300)

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
	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**
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**
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 *(Major)*	Year	ECPV300	42
	Credits Third Year	**Minimum**		**140**

		Presented	Module Code	Credit Value
	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	
Electrical Engineering Skills	ESKV102	EEDV101	
Mathematics II	MATV211	MATV102	
Communication Systems IIA	ECCV211	EESV102 **and** ESKV102 **and** PHYV102	
Computer Systems IIA	ECSV201	ESKV102	
Electronic Systems IIA	EESV201	EESV102	
Electrical Systems IIA	ESSV201	MATV102 **and** PHYV102	
Electrical Machines and Control II	EMCV202	ESSV201	
Communication Systems IIB	ECCV202	ECCV211	
Computer System IIB	ECSV202	ECSV201 **and** EEPV102	
Electronic Systems IIB	EESV202	EESV201	
Electrical Systems IIB	ESSV202	ESSV201	
Electrical Machines and Control III	EMCV301	EMCV202	
Automation and Control IIIA	EACV301	ECSV202 **and** MATV211	
Computer Systems III	ECSV311	ECSV202 **and** EESV202	
Research and Project Management	ERPV301	Any 2 of the following: ECCV202 **or** ECSV202 **or** EESV202 **or** EMCV202 **or** ESSV202	
Electrical Systems III	ESSV301	ESSV202 **and** MATV211	
Automation and Control IIIB	EACV302	EACV301	
Corporate Citizenship for Engineering	CCCV302	ERPV301	

Module	Code	Prerequisites	Co-requisites
Capstone Project Electrical	ECPV300	MATV211 **and** EMCV202 **and** ECCV202 **and** ECSV202 **and** EESV202 **and** ESSV202	ERPV301

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 BEngTech (Industrial Engineering) 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 BEngTech (Industrial Engineering) 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:

- Identify, formulate, research literature and analyse broadly defined engineering problems reaching substantiated conclusions using analytical tools appropriate to the discipline or area of specialisation.
- Apply knowledge of mathematics, natural science, computing and engineering fundamentals, and an engineering specialisation to defined and applied engineering procedures, processes, systems or methodologies.

- Design solutions for broadly defined engineering technology problems and contribute to the design of systems, components or processes to meet identified needs.
- Demonstrate competence to conduct investigations of broadly defined engineering problems; locate, search and select relevant data from codes, data bases and literature, and design and conduct experiments to provide valid conclusions.
- Demonstrate competence to select and apply and recognise limitations of appropriate techniques, resources and modern engineering and IT tools, including prediction and modelling, to broadly defined engineering problems.
- Demonstrate competence to communicate effectively and inclusively on broadly defined engineering activities, both orally and in writing, with the engineering community and society at large, taking into account cultural, language and learning differences.
- Demonstrate critical awareness of the sustainable development impacts on society, the economy, sustainability, health and safety, legal frameworks and the environment.
- Demonstrate competence to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.
- Demonstrate competence to engage in independent learning through well-developed learning skills.
- Understand and commit to professional ethics and norms of engineering technology practice, including compliance with national and international laws.
- Demonstrate knowledge and understanding of engineering management principles.

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)4 achievement rating of at least a 5 (60-69%) for Mathematics.
- NC(V)4 achievement rating of at least a 4 (70-79%) for Physical Sciences
- Enrolment in related engineering NCV programmes.

Higher Certificates:

A Higher Certificate in Mechatronic Engineering (QC 70005), or Higher Certificate in Renewable Energy Engineering (QC 70007) as awarded by the Nelson Mandela University, 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.

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 (ICPV300)

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**
Second Year				
Compulsory module:				
	Mathematics II	Semester 1	MATV211	14
	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**
Third Year				
Compulsory module:				
	Business Engineering IIIA	Semester 1	IBEV301	14
	Operations Research	Semester 1	IORV301	14

		Presented	Module Code	Credit Value
	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
	Industrial Professionalism and Ethics	Semester 2	IPEV302	14
	Automation	Semester 2	IATV302	14
	Capstone Project Industrial *(Major)*	Year	ICPV300	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	
Industrial Professionalism and Ethics	IPEV302	IBEV202	
Automation	IATV302	IEPV201 **and** CADV201 **and** IBEV301	
Capstone Project Industrial	ICPV300	IBEV202 **and** ISEV202 **and** IOEV202 **and** IQEV202 **and** IMEV202 **and**	IBEV301 **and** IORV301 **and** IOEV301 **and** IFLV301 **and** IRPV301

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.

Qualification Objectives:

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

- Identify, formulate, research literature and analyse broadly defined engineering problems reaching substantiated conclusions using analytical tools appropriate to the discipline or area of specialisation.
- Apply knowledge of mathematics, natural science, computing and engineering fundamentals, and an engineering specialisation to defined and applied engineering procedures, processes, systems or methodologies.
- Design solutions for broadly defined engineering technology problems and contribute to the design of systems, components or processes to meet identified needs.
- Demonstrate competence to conduct investigations of broadly defined engineering problems; locate, search and select relevant data from codes, data bases and literature, and design and conduct experiments to provide valid conclusions.
- Demonstrate competence to select and apply and recognise limitations of appropriate techniques, resources and modern engineering and IT tools, including prediction and modelling, to broadly defined engineering problems.
- Demonstrate competence to communicate effectively and inclusively on broadly defined engineering activities, both orally and in writing, with the engineering community and society at large, taking into account cultural, language and learning differences.
- Demonstrate critical awareness of the sustainable development impacts on society, the economy, sustainability, health and safety, legal frameworks and the environment.
- Demonstrate competence to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.
- Demonstrate competence to engage in independent learning through well-developed learning skills.

- Understand and commit to professional ethics and norms of engineering technology practice, including compliance with national and international laws.
- Demonstrate knowledge and understanding of engineering management principles.

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 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)4 achievement rating of at least a 5 (60-69%) for Mathematics.
- NC(V)4 achievement rating of at least a 4 (70-79%) for Physical Sciences
- Enrolment in related engineering NCV programmes.

Higher Certificates:

A Higher Certificate in Mechatronic Engineering (QC 70005), or Higher Certificate in Renewable Energy Engineering (QC 70007) as awarded by the Nelson Mandela University, with an average of 60% or above and a minimum of 60% for Mathematics.

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 at sea.

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.

The BEngTech (Marine Engineering) provides graduates with a sound knowledge base in the Marine 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 Marine 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;

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**
Second Year				
Compulsory module:				
	Mathematics IIA	Semester 1	MATV211	14
	Strength of Materials IIA	Semester 1	MSMV211	14
	Statics and Dynamics IIA	Semester 1	MSDV201	14
	Marine Engineering Knowledge II	Semester 1	EMAR201	14
	Fluid Mechanics IIA	Semester 1	MFMV201	14
	Thermodynamics IIB	Semester 2	MTDV202	14
	Strength of Materials IIB	Semester 2	MSMV202	14
	Naval Architecture II	Semester 2	EMNA202	14
	Mechanical Design IIB	Semester 2	MMDV212	14
	Marine Electrical Systems II	Semester 2	EMES202	14
	Credits Second Year			**140**
Third Year				
Compulsory module:				
	Thermodynamics IIIA	Semester 1	MTDV301	14
	Marine Electrical Systems III	Semester 1	EMES301	14
	Marine Research and Project Management III	Semester 1	EMRP301	14

		Presented	Module Code	Credit Value
	Marine Automation and Programming IIIA	Semester 1	EMAP301	14
	Naval Architecture III	Semester 2	EMNA302	14
	Mechanical Design IIIA	Semester 1	MMDV301	14
	Marine Engineering Knowledge III	Semester 2	EMAR302	14
	Marine Advanced Automation IIIB	Semester 2	EMAA302	14
	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	MSMV211	MATV101 **and** PHYV102	
Statics and Dynamics IIA	MSDV201	MATV102 **and** PHYV102	
Marine Engineering Knowledge II	EMAR201	EMAR102 (40%)	
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** MEMV102 Only for Marine EDRV101(40%) **and** EMNA102(40%)	
Strength of Materials IIB	MSMV202	MSMV211	
Marine Electrical System II	EMES202	PHYV102	
Thermodynamics IIIA	MTDV301	MTDV202	
Marine Electrical Systems III	EMES301	EMES202	

Module	Code	Pre-requisites	Co-requisites
Marine Research and Project Management III	EMRPV301	LELV111 **and** LECV101 **and** MMDV202	
Marine Automation and Programming III	EMAP301	EMES202 (40%)	
Naval Architecture III	EMNA302	EMNA202	
Mechanical Design IIIA	MMDV311	Only for Mechanical MMDV212 **and** MSMV202 **and** MMPV201 Only for Marine EMAR201(40%) **and** MMDV212(40%)	
Marine Engineering Knowledge III	EMAR302	EMAR201 (40%)	
Marine Advanced Automation IIIB	EMAA302	EMAP301 (40%)	
Marine Engineering Capstone Project III	EMEC302	EMAP301 (40%) **and** EMAR201 (40%) **and** EMNA202 (40%) **and** EMRP301 (40%) **and** MMDV311 (40%)	

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 (BEngTech (Mechanical Engineering) is to enable the graduate to obtain the necessary knowledge, understanding, abilities and skills required towards becoming a competent, practicing Mechanical Engineering Technologist.

The BEngTech (Mechanical Engineering) 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:

- Identify, formulate, research literature and analyse broadly defined engineering problems reaching substantiated conclusions using analytical tools appropriate to the discipline or area of specialisation.
- Apply knowledge of mathematics, natural science, computing and engineering fundamentals, and an engineering specialisation to defined and applied engineering procedures, processes, systems or methodologies.
- Design solutions for broadly defined engineering technology problems and contribute to the design of systems, components or processes to meet identified needs.
- Demonstrate competence to conduct investigations of broadly defined engineering problems; locate, search and select relevant data from codes, data bases and literature, and design and conduct experiments to provide valid conclusions.
- Demonstrate competence to select and apply and recognise limitations of appropriate techniques, resources and modern engineering and IT tools, including prediction and modelling, to broadly defined engineering problems.
- Demonstrate competence to communicate effectively and inclusively on broadly defined engineering activities, both orally and in writing, with the engineering community and society at large, taking into account cultural, language and learning differences.
- Demonstrate critical awareness of the sustainable development impacts on society, the economy, sustainability, health and safety, legal frameworks and the environment.
- Demonstrate competence to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.
- Demonstrate competence to engage in independent learning through well-developed learning skills.
- Understand and commit to professional ethics and norms of engineering technology practice, including compliance with national and international laws.
- Demonstrate knowledge and understanding of engineering management principles.

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)4 statutory requirements for degree entry must be met.
- An applicant with NC(V)4 Mathematics or requires a minimum Applicant Score of 370
- NC(V)4 achievement rating of at least 60% for English, Afrikaans, or isiXhosa (Home Language or First Additional Language)
- NC(V)4 achievement rating of at least 60% for Mathematics.
- NC(V)4 achievement rating of at least 70% for Physical Sciences

NC(V)4 cognate fields of study (*only the following NC(V) fields can be considered for admissions):*
- Engineering & Related Design
- Mechatronics

Higher Certificates:
A Higher Certificate in Mechatronic Engineering (QC 70005), or Higher Certificate in Renewable Energy Engineering (QC 70007) as awarded by the Nelson Mandela University, 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.

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 III (MCPV300)

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

		Presented	Module Code	Credit Value
	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
	Credits First Year	**Minimum**		**140**
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**
Third Year				
Compulsory module:				
	Hydraulic Machines III	Semester 1	MHMV301	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 *(Major)*	Year	MCPV300	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

Module	Code	Pre-requisites	Co-requisites
Mathematics IB	MATV102	MATV101	
Physics IB	PHYV102	PHYV101	
Engineering Materials I	MEMV102	PHYV101	
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	MSMV211 **and** MSDV201(40%)	
Mechanical Design II	MMDV212	MSMV211 Only for Mechanical EDRV101 **and** MMPV201 **and** MEMV102 Only for Marine EDRV101(40%) **and** EMNA102(40%)	
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 EMAR201(40%) **and** MMDV212(40%)	
Hydraulic Machines III	MHMV301	MFMV202	

Module	Code	Pre-requisites	Co-requisites
Applied Strength of Materials III	MAMV302	MSMV311	
Corporate Citizenship for Engineering III	CCCV302	MRPV301	
Capstone Project Mechanical III	MCPV300	MATV211 **and** MMDV212 **and** MSMV202 **and** MMPV201 **and** MFMV202 **and** MTDV202 **and** MDCV202	MRPV301 **and** MSMV311 **and** MMDV311

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:	507

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 applicant 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

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 North 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			
	Introduction to Public Administration for Development	Semester 1	SPA121	12
	Provincial and Local Government in Constitutional Democracies	Semester 2	SPA122	12
	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			
	Sociology an introduction	Semester 1	SSV101	12
	Political Studies			
	Political Issues, theories and concepts	Semester 1	SLP111	6
	Law			
	Local Government Law	Semester 2	JLG101	12
	Credits First Year			**129**
Second Year				
Compulsory module:				
	Human Settlement Management			
	Land Use Management and Environment	Semester 1	HSM201	10
	Communities and Human Resources	Semester 1	HSM202	10

		Presented	Module Code	Credit Value
	Housing Finance and Administration	Semester 2	HSM203	10
	Public Administration			
	Public Policy and Financing Processes and Procedures	Semester 1	SPA231	20
	Law			
	Commercial Law	Semester 1	JHA131	12
	Sociology			
	Sociology of health and illness	Semester 2	SHAI201	20
	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			**126**
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			
	Comparative Local Government and Administration	Semester 1	SPA321	20
	Techniques for Managing Public Resources	Semester 2	SPA322	20
	Project Management	Semester 2	SPA332	20
	House Construction and Maintenance			
	House Construction and Maintenance	Semester 1	HCM301	12
	Construction Management (Special)			
	Introduction to the Built Environment and Construction Management (Special)	Semester 1	CMS301	10
	Construction Contracts	Semester 2	CMS302	10
	Credits Third Year			**122**
Fourth Year				
Compulsory module:				
	Human Settlement Management			

		Presented	Module Code	Credit Value
	Sustainable Human Settlement and Urban Infrastructure Management *(Major)*	Semester 1	HSM401	10
	Economic Development and Environmental Impact Management *(Major)*	Semester 2	HSM402	10
	Advanced Project Management Applications *(Major)*	Semester 1	HSM403	10
	Integrated Development Management			
	IDP Theory, Policies and Practice *(Major)*	Semester 1	IDM401	10
	GIS for Human Settlement Managers *(Major)*	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			**130**
	Total Credits			**507**

BACHELOR OF INFORMATION TECHNOLOGY

Qualification code:	72001
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
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	Semester 1	MATS101	8
	Mathematics Special B	Semester 2	MABN112	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
	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**
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

		Presented	Module Code	Credit Value
	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 1	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**
Third Year				
Compulsory module:				
	Re-usable Design and Development *(Major)*	Semester 1	IRUD301	15
	Mobile Development	Semester 1	IMOB301	10
	Multi-platform and Cloud Systems	Semester 1	IMPS301	10
	Integrated Enterprise Systems *(Major)*	Semester 1	IENT301	10
	IT Management and Governance	Semester 2	ITMG302	15
	Emerging Technologies	Semester 2	IEMT302	15
	Project *(Major)*	Semester 2	ITPV302	30
Electives (continue with choice made in second year)				
	Manufacturing & Maritime Option			
	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	IDPM202	IREQ201 **and**	

Modelling		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** ITPP100	IENT301
IT Project 3	ITPV302	IENT301 **and** IRUD301 **and** INOS202	
Applied Programming	IAPP301	IADA201 **and** IDBD201	
Mathematics Special B	MABN112	MATS101	
Programming Fundamentals 1B	WRAV102	WRAV101	
Applied Data Analytics[#]	IADA201	STAV102 **and** WRAV102	
Maritime Information Systems	IMIS202	IMEV201	

BACHELOR OF SCIENCE IN CONSTRUCTION ECONOMICS

Qualification code:	72022
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

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)

		Module Code	Presented	Credit Value
First Year				
Compulsory modules:				
	Quantities 1	QQHV110	Year	20
	Quantity Surveying 1	QQSV110	Year	15
	Building Drawings 1	QBDV101	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

		Module Code	Presented	Credit Value
	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
	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**
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**
Third Year				
Compulsory modules:				
	Quantities 3 *(Major)*	QQHV310	Year	20
	Quantity Surveying 3 *(Major)*	QQSV310	Year	15
	Building Economics 3 *(Major)*	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**

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
Building Science (Materials and Methods) 1B	KMMV102	KMMV101	
Computing Fundamentals 1.2	WRFV102	WRFV101	
Building Science (Environment & Services) 2A	KESV201	KESV101	
Building Science (Environment & Services) 2B	KESV202	KESV102	
Building Science (Materials & Methods) 2A	KMMV201	KMMV102	
Building Science (Materials & Methods) 2B	KMMV202	KMMV201	
Quantities 2	QQHV210	KMMV102(45%) QQHV110	
Quantity Surveying 2	QQSV210	QQSV110 (45%)	
Building Economics 2	QBEV210	KMMV102 (45%) QQHV110	
Accounting (Special) 102	RSS102	RSS101	
Marketing Management 2	EBMV201	EBCV102	
Business Management: Financial Management 301	EBMV301	EBCV102	
Building Science (Environment & Services) 3A	KESV301	KESV201	
Building Science (Environment & Services) 3B	KESV302	KESV202	
Building Science (Materials & Methods) 3A	KMMV301	KMMV202	
Building Science (Materials & Methods) 3B	KMMV302	KMMV301	
Quantities 3	QQHV310	KESV201(45%) KESV202 (45%) KMMV202(45%) QQHV210	
Quantity Surveying 3	QQSV310	QQHV210 (45%)	
Building Economics 3	QBEV310	KMMV202 (45%) QBEV210 QQHV210	

BACHELOR OF SCIENCE IN CONSTRUCTION MANAGEMENT

Qualification code:	71050
Offering:	Full-time North Campus (01)
Aligned NQF Level:	7
SAQA ID:	110939
Total NQF Credits for qualification:	375

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.

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-economics (Special)	Semester 1	ECSV101	7
	Introduction to Macro-economics (Special)	Semester 2	ECSV102	7
	Mechanics and Thermodynamics	Semester 1	FBBV101	7
	Commercial Law	Semester 1	JHAV131	12
	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) 1B	Semester 2	KESV102	7
	Basic Surveying	Semester 2	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			**127**
Second Year				
Compulsory modules:				
	Commercial Law (Building Disciplines)	Semester 2	JHYV102	6
	Construction Management 2A	Semester 1	KBMV201	10
	Construction Management 2B	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

		Presented	Module Code	Credit Value
	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			**124**
Third Year				
Compulsory modules:				
	Introduction to Labour Law	Semester 1	JHLV101	12
	Construction Management 3A *(Major)*	Semester 1	KBMV311	12
	Construction Management 3B *(Major)*	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 *(Major)*	Semester 1	KMMV301	7
	Building Science (Materials and Methods) 3B *(Major)*	Semester 2	KMMV302	7
	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			**375**

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
Building Science (Structures) 1B	KBSV102	KBSV101	
Building Science (Materials and Methods) 1B	KMMV102	KMMV101	
Building Science (Structures) 2A	KBSV201	KBSV102	
Building Science (Structures) 2B	KBSV202	KBSV201	
Building Science (Environment and Services) 2A	KESV201	KESV101	

Building Science (Environment and Services) 2B	KESV202	KESV102	
Building Science (Materials and Methods) 2A	KMMV201	KMMV102	
Building Science (Materials and Methods) 2B	KMMV202	KMMV201	
Production Analysis 2	KPAV200	KMMV102 (45%) KPAV100	
Building Economics II 2	QBEV210	KMMV102 (45%) KPAV100	
Construction Management 3A	KBMV311	KBMV202	
Construction Management 3B	KBMV312	KBMV311	
Building Science (Structures) 3A	KBSV301	KBSV201	
Building Science (Structures) 3B	KBSV302	KBSV301	
Building Science (Environment and Services) 3A	KESV301	KESV201	
Building Science (Environment and Services) 3B	KESV302	KESV202	
Building Science (Materials and Methods) 3A	KMMV301	KMMV202	
Building Science (Materials and Methods) 3B	KMMV302	KMMV301	
Production Analysis 3A	KPAV311	KPAV200	
Production Analysis 3B	KPAV312	KPAV311	
Building Economics 3	QBEV301	QBEV210 KPAV200, KMMV202 (45%)	

ADVANCED DIPLOMAS

ADVANCED DIPLOMA IN ARCHITECTURAL DESIGN

Qualification code:	10150
Offering:	Full-time South Campus (A1)
Aligned NQF Level:	7
SAQA ID:	103079
Total NQF Credits for qualification:	120

In accordance with legal regulations, all students enrolled in the Bachelor of Architectural Studies programme are required to register with the South African Council for the Architectural Profession (SACAP) as student members at the commencement of each academic year.

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 ofNMU Vision 2030.

ADMISSION REQUIREMENTS:

- ***A***pplicants must have graduated with a Diploma in Architectural Technology with an average of 65%for both Architectural Design and Studio Work 1, 2, 3, 65% for both theory of architecture 1, 2 and Construction and Detailing 1, 2, 3.
- Applicants whose marks do not meet the subminimum admission requirements listed above must submit a portfolio of professional work completed in practice over two to three years for assessment by the admissions committee composed of the School Director and both Departmental Heads.
- Applicants who have completed their Diploma in Architectural Technology at another SACAP accredited institution will be required to submit their full academic record and a portfolio for assessment by the admissions committee.
- Applicants who are coming from a Professional Practice environment must have obtain a Diploma in Architectural Technology at any SACAP accredited Institution and will be required to submit their full academic record and submit a portfolio of professional work completed in practice over two to three years for assessment by the admissions committee

SELECTION PROCEDURE

Selection is based on an applicant's design and technical ability, academic record, and work experience where applicable.
Selection is at the discretion of the 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.

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.

The application Portfolios are supposed to:

- have a clear structure (on project after another);
- to be submitted digitally, in bound A1 format and be clearly labelled with the applicant's name and contact details;
- have an introduction for each project, explaining the nature and design decisions of the project;
- have an indication of how long you have been working on a project – per projects;
- have an indication of the practice you have been working for – per projects, with details of the practices and mentors;
- have a clear indication of your involvement/responsibility in these projects.

Decision of the Panel:
Please note that the decisions of the 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
	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

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 NelsonMandelaUniversity 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 Advanced Diploma 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 of Building and Human Settlement Dvelopment.

CURRICULUM

		Presented	Module Code	Credit Value
Full-time				
	Construction Management	Year	KBM450	20
	Construction Economics	Year	KCE400	20
	Professional Practice	Semester 1	KPP451	10

		Presented	Module Code	Credit Value
	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**

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

		Presented	Module Code	Credit Value
First Year				
Compulsory modules:				
	IT Project Management	Semester 1	OPM401	15
	Applied Project (Design and Implementation)	Year	ONP400	30
	Information Security	Semester 2	ISC402	15
	Sub-total			**60**
Select any four of the following: electives (please refer to the pre-requisite table below):				
	Development Software	Semester 1	ONT401	15
	IT Support Services	Semester 1	OSS401	15
	Computer Networks	Semester 1	OCN401	15
	Enterprise Networks	Semester 1	OEN401	15
	Advanced Communication Networks	Semester 2	OAC402	15
	Advanced Development Software	Semester 2	ONT412	15
	Operating Systems	Semester 2	IOS402	15
	Application Security	Semester 2	OAS402	15
	User Interfaces	Semester 2	UIF402	15
	Total Credits			**120**
Not offered				
	IT Management	Semester 1	ITM401	15
	Analysis and Design-Quality Assurance	Semester 2	OAD402	15

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
Development Software	ONT401	ONT3001	
Advanced Development Software	ONT412	ONT401	
Advanced Communication Networks	OAC402	OCN401 & OEN401	

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

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	DPMI400	15
	Total Credits			**120**

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**

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 IV	OPEV401	EPE3001	
Operations Project IV	OPRV400	EIP3002	

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.
- 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.

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**
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	

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 (Quantity Surveying) 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 Nelson Mandela University 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 Advanced Diploma 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 of Building and Human Settlement Development.

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**

ADVANCED DIPLOMA IN ARCHITECTURAL TECHNOLOGY

Qualification code:	10151
Offering:	Full-time South Campus (A1)
Aligned NQF Level:	7
SAQA ID:	
Total NQF Credits for qualification:	120

In accordance with legal regulations, all students enrolled in the Bachelor of Architectural Studies programme are required to register with the South African Council for the Architectural Profession (SACAP) as student members at the commencement of each academic year.

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 technology replaces the Bachelor of Technology (Architecture): Technology, which in terms of the HEQSF will be phased out in 2018. It builds on the technical and professional skills of the Diploma in 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 60% for Architectural Design and Studio Work 1, 2, 3, and 60% for Construction and Detailing 1, 2, 3.
- Applicants whose marks do not meet the subminimum admission requirements listed above must submit a portfolio of professional work completed in practice over two to three years for assessment by the Department of Architectural Technology and Interior Design admissions committee.

- Applicants who have completed their Diploma in Architectural Technology at another SACAP accredited institution will be required to submit their full academic record and a portfolio for assessment by the departmental admissions committee.
- Applicants who are coming from a Professional Practice environment must have obtain a Diploma in Architectural Technology at any SACAP accredited Institution and will be required to submit their full academic record and submit a portfolio of professional work completed in practice over two to three years for assessment by 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 departmental admissions committee and a shortlist compiled of candidates considered for admission. The candidates may be invited to a selection interview

The criteria for selection are as follows:

- the ability to think conceptually and respond to an architectural problem in an innovative and appropriate manner
- the ability to appraise and define an architectural design problem
- an advanced knowledge of construction technology and technical drawing.
- the ability to detail buildings of medium complexity based on accepted parameters and constraints
- 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 in Architectural Technology. Portfolios and design journals are to be submitted in bound A3 format and be clearly labelled with the applicant's name and contact details.

The application Portfolios are supposed to:

- have a clear structure (on project after another)
- to be submitted digitally, in bound A1 format and be clearly labelled with the applicant's name and contact details.
- have an introduction for each project, explaining the nature and design decisions of

the project
- have an indication of how long you have been working on a project – Per projects
- have an indication of the practice you have been working for – per projects, with details of the practices and mentors,
- have a clear indication of your involvement/responsibility in these projects

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.

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:				
	Studio Work IV	Year	ASWA400	40
	Construction and Detailing IV	Year	ACDA400	30
	Principles of Urban Design	Year	APUA400	20
	Advanced Computer Applications	Year	AACA400	30
	Total Credits			120

BACHELOR OF HONOURS DEGREES

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

In accordance with legal regulations, all students enrolled in the Bachelor of Architectural Studies programme are required to register with the South African Council for the Architectural Profession (SACAP) as student members at the commencement of each academic year.

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 AND REGISTRATION 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.

The modules Architectural Design and Treatise, Architectural Theory, Advanced Construction, and Architectural Computer Usage are required to be taken together.

DURATION

The qualification is offered as a full-time programme only and shall extend over one year of full-time study.

ASSESSMENT

The following modules are assessed using continuous assessment with portfolio:

- Architectural Design and Treatise AAV400
- Advanced Construction ACAV400
- Architectural Computer Usage ACU400

The following modules are assessed using continuous assessment without portfolio:

- Professional Practice ABAV402
- Architectural Theory and Research Methodology ATV400
- Urban Studies AUSV400

All modules offered within the Department of Architecture are structured as continuous assessment modules, ensuring students have multiple opportunities throughout the academic year to enhance their performance and marks. Due to this continuous assessment framework, there are no provisions for re-assessments or supplementary examinations for modules governed by continuous assessment. Students are encouraged to actively engage in the ongoing assessment processes, utilise feedback provided, and use the multiple opportunities provided to enhance their academic standing and achievements.Meeting a minimum attendance requirement of 75% in all theory-based modules is mandatory as per the Department's policy. This attendance standard is a prerequisite for students to qualify for portfolio assessment and is an integral part of the overall evaluation process. Students are responsible for ensuring their attendance is accurately noted during class sessions.

The Department of Architecture maintains certain criteria for students to be eligible for portfolio assessment. In addition to the standard academic requirements, students are expected to have completed all design projects (100%) and must maintain a class average of at least 40% to be eligible for portfolio assessment.

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**

BACHELOR OF ENGINEERING TECHNOLOGY HONOURS IN CIVIL ENGINEERING

Qualification code:	73510
Offering:	Full-time North Campus (01)
Aligned NQF Level:	8

SAQA ID:	**111179**
Total NQF Credits for qualification:	142

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 Civil Engineering serves to consolidate and deepen the student's knowledge in Civil Engineering in preparation for industry practice. It also serves to develop postgraduate research capabilities on methodologies and techniques of Civil Engineering.

Qualification Objectives:

Graduates from this programme should be able to demonstrate:

- Identify, formulate, research literature and analyse complex problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences with holistic considerations for sustainable development.
- Apply knowledge of mathematics, natural science, computing and engineering fundamentals, and an engineering specialisation to develop solutions to complex problems.
- Design creative solutions for complex problems and design systems, components or processes to meet identified needs.
- Demonstrate competence to conduct investigations of complex engineering problems using research methods including research-based knowledge, design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions.
- Demonstrate competence to create, select and apply, and recognise limitations of appropriate techniques, resources and modern engineering and IT tools, including prediction and modelling, to complex problems.
- Demonstrate competence to communicate effectively and inclusively on complex engineering activities, both orally and in writing, with the engineering community and society at large, taking into account cultural, language and learning differences.
- Demonstrate critical awareness of the sustainable development impacts on society, the economy, sustainability, health and safety, legal frameworks and the environment.
- Demonstrate competence to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.
- Demonstrate competence to engage in independent learning through well-developed learning skills.
- Apply ethical principles and commit to professional ethics and norms of engineering practice and adhere to relevant national and international laws.
- Demonstrate knowledge and understanding of engineering management principles and economic decision-making.

ADMISSION REQUIREMENTS

- The minimum admission requirement is an average of 65% for the modules in the final year Bachelor of Engineering Technology in Civil Engineering or equivalent qualification from an accredited university; **or**;
- An average of 60% for the modules in the final year Bachelor of Engineering Technology in Civil Engineering or equivalent qualification with two years relevant post qualification working experience.
- A minimum of 65% for the project work in the final year of Bachelor of Engineering Technology in Civil Engineering or equivalent qualification.

- 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:				
	Municipal Water Engineering	Semester 1	CMWE401	14
	Environmental Management	Semester 1	CENE411	12
	Computer Applications and Analysis	Semester 1	CCSA411	12
	Applied Mathematics	Semester 1	MAPV401	10
	Construction Material Science	Semester 1	CENM411	12
	Structural Design	Semester 2	CEDP412	16
	Geotechnical Foundation Design	Semester 2	CENS412	12
	Research Project	Semester 2	CERP402	42
	Select ONE from the following modules:			
	Urban Transportation Engineering (Road & Network)	Semester 2	CUTE4A2	12
	Urban Transportation Engineering (Aviation)	Semester 2	CUTE4B2	12
	Total Credits			**142**

BACHELOR OF ENGINEERING TECHNOLOGY HONOURS IN 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:

- Identify, formulate, research literature and analyse complex problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences with holistic considerations for sustainable development.
- Apply knowledge of mathematics, natural science, computing and engineering fundamentals, and an engineering specialisation to develop solutions to complex problems.
- Design creative solutions for complex problems and design systems, components or processes to meet identified needs.
- Demonstrate competence to conduct investigations of complex engineering problems using research methods including research-based knowledge, design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions.
- Demonstrate competence to create, select and apply, and recognise limitations of appropriate techniques, resources and modern engineering and IT tools, including prediction and modelling, to complex problems.
- Demonstrate competence to communicate effectively and inclusively on complex engineering activities, both orally and in writing, with the engineering community and society at large, taking into account cultural, language and learning differences.
- Demonstrate critical awareness of the sustainable development impacts on society, the economy, sustainability, health and safety, legal frameworks and the environment.
- Demonstrate competence to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.
- Demonstrate competence to engage in independent learning through well-developed learning skills.
- Apply ethical principles and commit to professional ethics and norms of engineering practice and adhere to relevant national and international laws.
- Demonstrate knowledge and understanding of engineering management principles and economic decision-making.

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.

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	

BACHELOR OF ENGINEERING TECHNOLOGY HONOURS IN INDUSTRIAL ENGINEERING

Qualification code:	73530
Offering:	Full-time North Campus (01)
Aligned NQF Level:	8
SAQA ID:	111227
Total NQF Credits for qualification:	142

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 Industrial Engineering is a postgraduate qualification, characterised by the fact that it prepares students for research and industry. This qualification serves to consolidate and deepen the student's expertise in industrial engineering and to develop research capacity in the methodology and techniques of industrial engineering.

Qualification Objectives:
Graduates from this programme should be able to demonstrate:

- Identify, formulate, research literature and analyse complex problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences with holistic considerations for sustainable development.
- Apply knowledge of mathematics, natural science, computing and engineering fundamentals, and an engineering specialisation to develop solutions to complex problems.
- Design creative solutions for complex problems and design systems, components or processes to meet identified needs.
- Demonstrate competence to conduct investigations of complex engineering problems using research methods including research-based knowledge, design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions.
- Demonstrate competence to create, select and apply, and recognise limitations of appropriate techniques, resources and modern engineering and IT tools, including prediction and modelling, to complex problems.
- Demonstrate competence to communicate effectively and inclusively on complex engineering activities, both orally and in writing, with the engineering community and society at large, taking into account cultural, language and learning differences.
- Demonstrate critical awareness of the sustainable development impacts on society, the economy, sustainability, health and safety, legal frameworks and the environment.
- Demonstrate competence to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.
- Demonstrate competence to engage in independent learning through well-developed learning skills.
- Apply ethical principles and commit to professional ethics and norms of engineering practice and adhere to relevant national and international laws.
- Demonstrate knowledge and understanding of engineering management principles and economic decision-making.

ADMISSION REQUIREMENTS

- An average of 65% for the qualification with a minimum of 65% for the module dealing with final year project work of a Bachelor of Engineering Technology in Industrial Engineering degree or equivalent qualification from a SAQA accredited university; **or**
- An average of 60% for the qualification with a minimum of 65% for the module dealing with final year project work of a Bachelor of Engineering Technology in Industrial Engineering degree or equivalent qualification from a SAQA accredited university with two years relevant post qualification working experience
- Applicants may be required to undergo a selection procedure that may include written evaluations and/or an interview with a departmental panel.
- Recognition for Prior Learning (RPL) will be applied and granted according to Nelson Mandela University Policy on RPL.

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:				
	Systems Engineering	Semester 1	ISEV401	14
	Advanced Manufacturing Technology	Semester 1	IAMT401	14
	Engineering Quality and Reliability	Semester 1	IEQR401	14
	Industrial Engineering Research	Semester 1	IERM401	30
	Engineering Systems Performance	Semester 2	IESP402	14
	Applied Systems Engineering	Semester 2	IASE402	14
	Supply Chain Engineering	Semester 2	ISCE402	14
	Industrial Design Project	Semester 2	INDP402	28
	Total Credits			**142**

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
Engineering Systems Performance	IESP402	ISEV401	
Applied Systems Engineering	IASE402	ISEV401	
Industrial Design Project	INDP402	ISEV401	

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 (BEngTech 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:

- Identify, formulate, research literature and analyse complex problems reaching substantiated conclusions using first principles of mathematics, natural sciences and engineering sciences with holistic considerations for sustainable development.
- Apply knowledge of mathematics, natural science, computing and engineering fundamentals, and an engineering specialisation to develop solutions to complex problems.
- Design creative solutions for complex problems and design systems, components or processes to meet identified needs.
- Demonstrate competence to conduct investigations of complex engineering problems using research methods including research-based knowledge, design of experiments, analysis and interpretation of data and synthesis of information to provide valid conclusions.
- Demonstrate competence to create, select and apply, and recognise limitations of appropriate techniques, resources and modern engineering and IT tools, including prediction and modelling, to complex problems.
- Demonstrate competence to communicate effectively and inclusively on complex engineering activities, both orally and in writing, with the engineering community and society at large, taking into account cultural, language and learning differences.
- Demonstrate critical awareness of the sustainable development impacts on society, the economy, sustainability, health and safety, legal frameworks and the environment.
- Demonstrate competence to function effectively as an individual, and as a member or leader in diverse and inclusive teams and in multi-disciplinary, face-to-face, remote and distributed settings.
- Demonstrate competence to engage in independent learning through well-developed learning skills.
- Apply ethical principles and commit to professional ethics and norms of engineering practice and adhere to relevant national and international laws.
- Demonstrate knowledge and understanding of engineering management principles and economic decision-making.

ADMISSION REQUIREMENTS

- Direct entry requirements are an average of 65% for the Bachelor of Engineering Technology in Mechanical Engineering with a minimum of 65% for the module dealing with final year project work of a Bachelor of Engineering Technology in Mechanical Engineering degree or equivalent qualification from a SAQA accredited university; **or**
- An average of 60-64% for the qualification with a minimum of 65% for the module dealing with final year project work of a Bachelor of Engineering Technology in Mechanical Engineering degree or equivalent qualification from a SAQA accredited university. Application will be considered and reviewed by a departmental committee; **or**

- An average of 55-60% for the qualification with a minimum of 65% for the module dealing with final year project work of a Bachelor of Engineering Technology in Mechanical Engineering degree or equivalent qualification from a SAQA accredited university with two years relevant post qualification working experience. A portfolio of the work experience will be required to be considered for admission **or**
- Applicants may be required to undergo a selection procedure that may include written evaluations and/or an interview with a departmental panel.
- Recognition for Prior Learning (RPL) will be applied and granted according to Nelson Mandela University Policy on RPL.

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 **(Mechanical Honours students only)**	Semester 1	MCOS401	12
	Modelling and Simulation **(Marine Honours students only)**	Semester 1	EEMS401	12
	Energy Systems Engineering	Semester 1	MESE401	12
	Integrity of Structures **(Mechanical Honours students only)**	Semester 1	MINS401	14
	Marine Craft Design, Performance and Seakeeping **(Marine Honours students only)**	Semester 1	EMDP401	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
Marine Craft Design, Performance and Seakeeping	EMDP401	EMNA302	
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	

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 Management 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–May 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.

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

		Presented	Module Code	Credit Value
	~~+~~ Professional Practice for Construction Management A	Semester 1	KPP421	10
	~~+~~ Professional Practice for Construction Management B	Semester 2	KPP422	10
	Construction Health and Safety Management Treatise 4	Year	KTR400	35
	Total Credits			125

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). 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 in Construction Management 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 REQUIRMENTS

Treatise:

A treatise of between 12000 and 15000 words on an approved topic shall be required. A date in April–May 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**

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~~127

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 Bachelor of Science Honours in Quantity Surveying, that meets the prerequisites for statutory registration with the South African Council for the Quantity Surveying Profession, is to:

- 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. The final treatise (based on the research proposal) of between 12000 and 15000 words must be submitted by no later than the date 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 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 *(Major)*	Year	QQHV410	20
	Quantity Surveying 4 *(Major)*	Year	QQSV400	10
	Building Economics 4 *(Major)*	Year	QBEV410	25
	Property Economics 4 *(Major)*	Year	QPEV400	16
	Professional Practice 4	Year	QPPV410	20
	Treatise 4	Year	QRSV400	36
	Total Credits			**127**

POSTGRADUATE DIPLOMAS

POSTGRADUATE DIPLOMA IN CYBERSECURITY

Qualification code:	73002
Offering:	Full-time North Campus (01)
Aligned NQF Level:	8
SAQA ID:	118656
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 Postgraduate Diploma in Cybersecurity provides specialised knowledge in the area of Cybersecurity in Information Technology.
- It will enable students to have a high level of theoretical engagement within the Cybersecurity discipline which involves technology, people, information and organization processes.
- It will allow them to undertake reflection of the current technologies/trends, practices, laws and research in cybersecurity.
- This will give the students the ability to relate the knowledge to a range of contexts in order to undertake professional cybersecurity work and research.

QUALIFICATION OBJECTIVES

Upon completion of this programme, Cybersecurity graduates will be able to:

- Apply the theory and practice of Information and Cybersecurity in IT in an organisation via a problem-based case study application.
- Integrate Culture and Awareness into Information and Cybersecurity strategy.
- Conduct a systematic investigation into an Information and Cybersecurity topic.
- Examine how Information and Cybersecurity is managed and governed in a given IT context.
- Identify and manage the risks of cyber threats by using a range of specialised knowledge, skills, frameworks, technologies and ethical standards associated with Information and Cybersecurity in a given scenario.
- Construct an effective report related to a given cybersecurity context/scenario.

ADMISSION REQUIREMENTS

- An Information Technology/Computer Science Bachelor's degree; or
- An Information Technology Advanced Diploma. Students must have an average of at least 60% for the final year modules; or
- A cognate qualification at NQF level 7 with at least 3 years IT experience may be considered for admission to this qualification.
- The applicant will be expected to provide a portfolio of IT learning via the years of IT experience which will then be considered by the department.
- Cognizance would have to be taken of the nature, level, volume and contextual knowledge, which may necessitate the completion of articulation modules.
- Admission is also subject to the NMU General Rules on Admission (as per the Prospectus).

RE-ADMISSION REQUIREMENTS
According to the rules in the General Prospectus of the university, students who have not completed the postgraduate diploma after two years, must apply for re-admission to the studies for the postgraduate diploma. Should such students be re-admitted, the retention of credits already earned towards the postgraduate diploma shall be subject to departmental approval.

STATUTORY AND OTHER REQUIREMENTS
Possible admission to further studies:
This qualification will provide entry to a Masters in Information Technology which can be followed by a Doctorate in Information Technology.

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 cum laude in the Postgraduate Diploma qualifications.

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

CURRICULUM (Full-time)
Please note: New intake restricted to the start of each year. All modules are compulsory and require formal class attendance.

		Presented	Module Code	Credit Value
Compulsory modules				
	Information and Cybersecurity Principles	Semester 1	ICYB401	15
	Professional Skills for Cybersecurity	Semester 1	ICCT401	15
	Research Methodology	Semester 1	ICYP401	12
	Information Security Governance	Semester 1	ISGO401	15
	Research Report	Semester 2	ICYR402	18
	Information Security Management	Semester 2	ICYI402	15
	Cyber Safety (Human)	Semester 2	ICHF402	15
	Technical Aspects in Information and Cybersecurity	Semester 2	ITAI402	15
	Total Credits			**120**

CURRICULUM MODULE PRE-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 Report	ICYR402	ICYP401	
Technical Aspects in Information and Cybersecurity	ITAI402	ICYB401	

MASTERS DEGREES

MASTER OF ARCHITECTURE (RESEARCH)

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.

Research Proposal Approval:
Your research proposal must be approved at both the Departmental/School level and the faculty level.

- MArch Research: Approval must be obtained within 6 months.

If your research requires ethical clearance, the ethics application process will commence only after your research proposal has been approved and registered at the Faculty level.

Annual Progress Presentation:

- All MArch Research students are required to present their research progress once a year during October at the 45 minute Research Round Table Discussion Presentation.
- All MArch Research students at the proposal stage are required to submit an updated research proposal one month (31 days) prior to the discussion.

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

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

In accordance with legal regulations, all students enrolled in the Bachelor of Architectural Studies programme are required to register with the South African Council for the Architectural Profession (SACAP) as student members at the commencement of each academic year.

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 Honours (BAS Honours) ~~degree with design.~~ The modules Design Treatise, Architectural Theory, Urban Studies, and Advanced Construction are required to be taken together as part of the Treatise Review.

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.

ASSESSMENT
The following modules are assessed using continuous assessment with portfolio:

- Design AAV5
- Advanced Construction ACAV501
- Architectural Theory ATV500
- Urban Studies ATAV500

The following modules are assessed using continuous assessment without portfolio:

- Professional Practice ABAV501

All modules offered within the Department of Architecture are structured as continuous assessment modules, ensuring students have multiple opportunities throughout the academic year to enhance their performance and marks. Due to this continuous assessment framework, there are no provisions for re-assessments or supplementary examinations for modules governed by continuous assessment. Students are encouraged to actively engage in the ongoing assessment processes, utilise feedback provided, and use the multiple opportunities provided to enhance their academic standing and achievements.Meeting a minimum attendance requirement of 75% in all theory-based modules is mandatory as per the Department's policy. This attendance standard is a prerequisite for students to qualify for portfolio assessment and is an integral part of the overall evaluation process. Students are responsible for ensuring their attendance is accurately noted during class sessions.

		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

MASTER OF ENGINEERING IN CIVIL ENGINEERING

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 Bachelor of Engineering Technology Honours or Bachelor of Science in Engineering 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	CRE500	180

MASTER OF ENGINEERING IN ELECTRICAL ENGINEERING

Qualification code:	75058
Offering:	Full-time North Campus (01) **OR** Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	97131
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 Engineering Technology (Honours) in Electrical Engineering 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	EMT500	180

MASTER OF ENGINEERING IN INDUSTRIAL ENGINEERING

Qualification code:	75060
Offering:	Full-time North Campus (01) **OR** Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	97132
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 Engineering Technology (Honours) in Industrial Engineering 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

MASTER OF ENGINEERING IN MECHANICAL ENGINEERING

Qualification code:	75059
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	97133
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 Engineering Technology (Honours) Mechanical Engineering 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

MASTER OF ENGINEERING IN MECHATRONICS

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 BEngTech (Honours) Engineering 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

MASTER OF HUMAN SETLEMENT DEVELOPMENT

Qualification code:	75500
Offering:	Full-time North Campus (01) **OR** Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	118137
Total NQF Credits for qualification:	180

THE PURPOSE OF THE LEARNING PROGRAMME

To provide students who want to move into postgraduate studies and students from related disciplines who want to specialise in this field with the problem solving, innovation and research skills and practice to deal with and address the issues and demands related to Human Settlement Development.

ADMISSION REQUIREMENTS

- A Bachelor of Human Settlement Development at NQF level 8 or
- A Honours degree in a related field or
- A qualification deemed by Senate to be equivalent to the above and
- Including a research methodology module.

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 Human Settlements 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 Human Settlements 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 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

		Presented	Module Code	Credit Value
First Year				
Compulsory module:				
	Dissertation	Year	HSD500	180

MASTER OF INFORMATION TECHNOLOGY

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 provides 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

- An equivalent NQF Level 8 qualification in an Information Technology-related area with an average of at least 60% and including a Research Methodology module. 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-to-day basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will 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 needs 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

MASTER OF OPERATIONS MANAGEMENT

Qualification code:	75053
Offering:	Full-time North Campus (01) **OR** Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	**115547**
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 *(Under review)*

- 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

MASTER OF PHILOSOPHY IN INFORMATION TECHNOLOGY GOVERNANCE (COURSE WORK)

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**

Second Year				
Select one of the following:				
	Research Treatise: IS Auditing	Year	RRIS500	90
	Research Treatise: IT Law	Year	JRTV500	
	Research Treatise: IT Management (Only one currently offered)	Year	RRTI500	
	Total Credits			**180**

MASTER OF SCIENCE IN CONSTRUCTION ECONOMICS

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:	180

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	180

MASTER OF SCIENCE IN CONSTRUCTION MANAGEMENT

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

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
SAQA ID	**115154**
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 40% 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**

MASTER OF SCIENCE IN THE BUILT ENVIRONMENT (CONSTRUCTION MANAGEMENT) (COURSE WORK)

Qualification code:	75023
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	**115154**
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 40%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**

MASTER OF SCIENCE IN THE BUILT ENVIRONMENT (FACILITIESMANAGEMENT) (COURSE WORK)

Qualification code:	75020
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	**115154**
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 40% 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:				
	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**

MASTER OF SCIENCE IN THE BUILT ENVIRONMENT (PROJECT MANAGEMENT) (COURSE WORK)

Qualification code:	75022
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	**115154**
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 40% 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**
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**

MASTER OF SCIENCE IN THE BUILT ENVIRONMENT (PROPERTY ECONOMICS AND VALUATION) (COURSE WORK)

Qualification code:	75021
Offering:	Part-time North Campus (21)
Aligned NQF Level:	9
SAQA ID:	**115154**
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 40% 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**

DOCTORAL DEGREES

DOCTOR OF PHILOSOPHY IN CONSTRUCTION MANAGEMENT

Qualification code:	76014
Offering:	Full-time North Campus (01) **OR** Part-time North Campus (21)
Aligned NQF Level:	10
SAQA ID:	
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-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will 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	EMCT600	360

DOCTOR OF ENGINEERING (ELECTRICAL ENGINEERING)

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 in Electrical Engineering 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-today basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will 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

DOCTOR OF ENGINEERING (MECHANICAL ENGINEERING)

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 in Mechanical Engineering or Master of Engineering (Mechanical Engineering) 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 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

DOCTOR OF ENGINEERING (MECHATRONICS)

Qualification code:	76011
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).

- Students pursuing the DEng in Mechatronics should seek to advance the state of knowledge in their 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 contributes to knowledge in a particular field.

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 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 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 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: Mechatronic Engineering	Year	EMT600	360

DOCTOR OF ENGINEERING (CIVIL ENGINEERING)

Qualification code:	76006
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 Engineering (Civil Engineering) 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 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	ECT600	360

DOCTOR OF ARCHITECTURE

Qualification code:	16506
Offering:	Full-time South Campus (A1) **OR** Part-time South Campus (A2)
SAQA ID:	87146
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), or the degree of Master of Architecture, or Equivalent.

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.

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.

Research Proposal Approval
Your research proposal must be approved at both the Departmental/School level and the faculty level.

- DArch: Approval must be obtained within 12 months.

If your research requires ethical clearance, the ethics application process will commence only after your research proposal has been approved and registered at the Faculty level.
Annual Progress Presentation:

- DArch Research students are required to present their research progress once a year during October at the 45 minute Research Round Table Discussion Presentation.
- DArch Research students at the proposal stage are required to submit an updated research proposal one month (31 days) prior to the discussion.

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

DOCTOR OF PHILOSOPHY IN CONSTRUCTION ECONOMICS

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

A Master of Science in Construction Economics (NQF Level 9) or an equivalent qualification. Admission is subject to Departmental selection.

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

DOCTOR OF PHILOSOPHY (MECHANICAL ENGINEERING)

Qualification code:	76012
Offering:	Full-time North Campus (01) **OR** Part-time North Campus (21)
Aligned NQF Level:	10
SAQA ID:	**115513**
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: Mechanical Engineering	Year	ETM600	360

DOCTOR OF PHILOSOPHY IN INFORMATION TECHNOLOGY

Qualification code:	76005
Offering:	Full-time North Campus (01) **OR** Part-time North Campus (21)
SAQA ID:	124045
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 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 provides 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	Credit

			Code	Value
Compulsory module:				
	Thesis	Year	ITV600	360

DOCTOR OF PHILOSOPHY (OPERATIONS MANAGEMENT)

Qualification code:	76008
Offering:	Full-time North Campus (01) **OR** Part-time North Campus (21)
Aligned NQF Level:	10
SAQA ID:	**115513**
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 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

DOCTOR OF PHILOSOPHY (ENGINEERING)

Qualification code:	76013
Offering:	Full-time North Campus (01) **OR** Part-time North Campus (21)
Aligned NQF Level:	10
SAQA ID: 115513	Engineering other 0899
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 a PhD in Engineering 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 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 contributes to knowledge in a particular field.

ADMISSION REQUIREMENTS

- A Master's qualification in Engineering, or a Master's qualification deemed by the 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-to-day basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will 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 years	Maximum period – 4 years
Part-time:	Minimum period – 2 years	Maximum period – 6 years

CURRICULUM (Full-time)

	Presented	**Module Code**	**Credit Value**
Compulsory Module			
Thesis	*Year*	EMP600	360

DOCTOR OF PHILOSOPHY (MECHATRONIC ENGINEERING) (RESEARCH)

Qualification code:	76022
Offering:	Full-time North Campus (01) **OR** Part-time North Campus (21)
Aligned NQF Level:	10
SAQA ID:	
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 a PhD in Engineering 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 contributes 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-to-day basis to attend and participate in the postgraduate programme. A student who is unable to attend as stated will 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	EMT600	360