

## PHASE-OUT AND PHASE-IN OF QUALIFICATIONS FOR THE FACULTY OF FACULTY OF ENGINEERING AND THE BUILT ENVIRONMENT

*Students should consult Chapter 6 of the Students' Rules and Regulations (Part 1) for rules pertaining to recognitions and exemptions.*

The new Policy for Higher Education Qualifications has brought changes at national level. Such changes were required by the policy document titled Higher Education Qualifications Sub-Framework (HEQSF), Government Gazette No. 36721 (02 August 2013). The introduction of the HEQSF in the Higher Education sector required all public and private Higher Education Institutions (HEIs), including Tshwane University of Technology (TUT), to revise all its qualifications to ensure alignment with the HEQSF.

### DEPARTMENT OF ARCHITECTURE AND INDUSTRIAL DESIGN

#### Architecture section:

The 2017 visit by the Validation Board of the SA Council for the Architectural Profession (SACAP) recommended the amalgamation of specific modules/subjects, the adjustment of certain module/subject credits, the re-circulation and adaptation of particular modules/subjects, and the development of a scientifically rigorous approach to the technological aspects of the profession.

After DHET approval, the recommended changes were implemented in 2020 using the approved 2019 Teaching-out Plan.

1. The approved 2019 Teaching-out Plan makes provision for two scenarios for the **phasing-in of new modules/subjects**, namely:
  - **Scenario 1: The student passed all the modules/subjects**  
If a student passed all the modules/subjects of a particular academic year, the student continues with all the new modules/subjects.
  - **Scenario 2: The student has modules/subjects outstanding**  
If a student had one or more modules/subjects outstanding in 2019, the student has two (2) years (until December 2021) to complete the specific modules/subjects.

After that, (in 2022) the modules/subjects will no longer be offered in its current format but only in the new consolidated form. Students who are not excluded from further studies will have to register for the relevant new module/subject and complete the entire module/subject.

#### 2. Credit equivalence

The credit weight of each academic year remains the same. Therefore, the combined modules/subjects forming part of the respective academic years are deemed equal.

#### 3. Module/subject equivalence

The approved 2019 Teaching-out Plan lists module/subject equivalences. Students have to apply for module/subject equivalency for all completed modules/subjects. Contact the Department for more information.

#### 4. Module/subject pre-requirements and combinations

All pre-requirements and module/subject combinations remain in place.

5. **The final teach out date** for all the modules/subjects currently forming part of the BTechArch and BArch (BTPS09, BPAR17), as well as the BTechArch(Ext) and BArch(Ext) (BTPSF0, BPARF1) qualifications, is **December 2021**.

#### Industrial Design section:

1. The approved 2020 Teaching-out Plan allows two years for phasing out the National Diploma: Three-Dimensional Design (Field of specialisation: Engineering and Related Design).
2. The final teach out date for the National Diploma: Three Dimensional Design (Field of specialisation: Engineering and Related Design) will be **December 2022**.
3. Depending on certain conditions, the modules/subjects listed below of the National Diploma: Three-Dimensional Design (Field of specialisation: Engineering and Related Design) may be recognised for the Diploma in Industrial Design. Contact the Department for more information.

<b>Modules/subjects passed</b> National Diploma: Three Dimensional Design (Field of specialisation: Engineering and Related Design)	<b>Modules/subjects that may be recognised</b> Diploma in Industrial Design
Business Management I	Business Management I
Freehand Drawing	Freehand Drawing
History of Art and Design	History of Art and Design
Industrial Design I	Industrial Design I
Mechanical Engineering Drawing	Mechanical Engineering Drawing
Manufacturing I	Manufacturing I
Computer-Aided Design	Computer-Aided Design
Engineering Design I	Engineering Design I
Business Management II	Business Management II
History of Industrial Design	History of Industrial Design
Industrial Design II	Industrial Design II
Material Technology I	Material Technology I
Presentation Drawing	Presentation Drawing
Manufacturing II	Manufacturing II
Engineering Design II	Engineering Design II
Business Management III	Business Management III
Design Theory	Design Theory
Material Technology II	Material Technology II
Industrial Design III	Industrial Design III
Multimedia Presentation	Multimedia Presentation
Manufacturing III	Manufacturing III
Ergonomics	Ergonomics

## DEPARTMENT OF BUILDING SCIENCES

### 1. The following new qualifications are (or will be) offered:

- Diploma in Building - 1 January 2017

### 2. The following qualifications are being phased out:

*(Students should consult the online TUT prospectus for detailed information on the programme specific subject offering).*

- National Diploma: Building - last intake: July 2016
- Diploma in Building
- Baccalaureus Technologiae: Construction Management - last intake July 2019
- Baccalaureus Technologiae: Quantity Surveying - last intake July 2019

- i. The final teach out date for the National Diploma: Building will be **December 2021** will phase-out as follows:

Level	Last year to be offered
Y1	January 2020
Y2	January 2021
Y3	July 2021

- ii. The final teach out date for the Baccalaureus Technologiae: Construction Management and the Baccalaureus Technologiae: Quantity Surveying will be **June 2022**.

If a student does not complete his/her studies according to the above dates, he/she will have to apply for admission to a new HEQSF-aligned qualification and certain relevant subjects may be recognised. Students should note that there are significant differences between the NATED 151 and HEQSF-aligned qualifications. Admission is not guaranteed and it is based on students meeting the admission requirements as well as available space.

### 3. Module/subject recognition from the National Diploma: Building to the Diploma in Building

Subjects passed National Diploma: Building	Modules that may be recognised Diploma in Building
Applied Building Science I	Applied Building Science I
Computer Applications	Computer Applications
Communication I	Communication I
Construction Management I	Construction Management I
Construction Technology I	Construction Technology I
Site Surveying: Application I	Site Surveying I
Site Surveying: Practical I	
Quantity Surveying I	Quantity Surveying I
Work-Integrated Learning I	Work-Integrated Learning I
Work-Integrated Learning II	Work-Integrated Learning II
Construction Management II	Construction Management II
Construction Technology II	Construction Technology II
Quantity Surveying II	Quantity Surveying II
Construction Management III	Construction Management III

Construction Technology III	Construction Technology III
Construction Accounting	Construction Accounting
Quantity Surveying III	Quantity Surveying III
Price Analysis and Estimating III	Price Analysis and Estimating III
Structures and Concrete: Structures III	Structures and Concrete III

## DEPARTMENT OF CHEMICAL, METALLURGICAL AND MATERIALS ENGINEERING

### 1. The following new qualifications are (or will be) offered:

- Bachelor of Engineering Technology in Chemical Engineering
- Bachelor of Engineering Technology in Metallurgical Engineering
- Bachelor of Engineering Technology in Materials Engineering in Polymer Technology

### 2. The following qualifications are being phased out:

*(Students should consult the online TUT prospectus for detailed information on the programme specific subject offering).*

- National Diploma: Engineering: Chemical (NDCE03) - last intake: January 2019
  - National Diploma: Engineering: Metallurgy (NDMY03) - last intake: January 2019
  - Baccalaureus Technologiae: Engineering: Chemical (BTCE02) - last intake: July 2019
  - Baccalaureus Technologiae: Engineering: Metallurgy (BTMY02) - last intake: July 2019
  - Baccalaureus Technologiae: Polymer Technology(BTPY03) - last intake: July 2019
- i. The final teach out date for the National Diploma: Engineering: Chemical and National Diploma: Engineering: Metallurgy will be **December 2024**. The programmes will phase-out as follows:

Level	Last semester to be offered
S1	January 2020
S2	July 2021
S3	January 2023
S4	July 2024
WIL I	January 2024
WIL II	July 2024

- ii. The final teach out date for the Baccalaureus Technologiae: Engineering: Chemical, Baccalaureus Technologiae: Engineering: Metallurgy, and Baccalaureus Technologiae: Polymer Technology will be **June 2021**

If a student does not complete his/her studies according to the above dates, he/she will have to apply for admission to a new HEQSF-aligned qualification and certain relevant subjects may be recognised. Students should note that there are significant differences between the NATED 151 and HEQSF-aligned qualifications. Admission is not guaranteed and it is based on students meeting the admission requirements as well as available space.

### 3. Module/subject recognition from the National Diploma: Engineering: Chemical to the Bachelor of Engineering Technology in Chemical Engineering

Subjects passed	Modules that may be recognised
National Diploma: Engineering: Chemical	Bachelor of Engineering Technology in Chemical Engineering
Computer Skills	Computer Literacy
Communication Skills	Communication Skills
Chemical Engineering Technology: Chemical Principles	Chemical Engineering Fundamentals I

Chemical Engineering Technology: Metallurgical Principles	Chemical Engineering Fundamentals I
Drawing: Chemical Engineering I	Engineering Graphics
Engineering Physics II	Engineering Physics
Organic Chemistry II	Organic Chemistry
Physical Chemistry II	Physical Chemistry
Mathematics I and Mathematics II	Engineering Mathematics I
Chemical Process Industries	Chemical Process Technology
Thermodynamics: Chemical Engineering III	Chemical Engineering Thermodynamics I
Thermodynamics: Applied III	Chemical Engineering Thermodynamics I
Chemical Engineering Technology IIIB	Unit Operations
Work-Integrated Learning II	Information Literacy Life Skills Computer Literacy

**4. Module/subject recognition from the National Diploma: Engineering: Metallurgy to the Bachelor of Engineering Technology in Metallurgical Engineering**

<b>Subjects passed</b>	<b>Modules that may be recognised</b>
National Diploma: Engineering: Metallurgy	Bachelor of Engineering Technology in Metallurgical Engineering
Computer Skills	Computer Literacy
Communication Skills	Communication Skills
Mechanical Engineering Drawing I	Engineering Graphics
Physics IA	General Physics
Mathematics I and Mathematics II	Engineering Mathematics I
Chemistry IA	Chemistry
Metallurgical Chemistry II	Metallurgical Chemistry
Metallurgy I	Metallurgical Materials
Refractories II and Refractories III	Refractories Engineering
Metallurgical Thermodynamics II	Metallurgical Thermodynamics
Strength of Materials II	Strength of Materials
Ferro-Alloy Technology II and III	Pyrometallurgy
Physical Metallurgy I and Practical Metallurgy II	Physical Metallurgy
Work-Integrated Learning II	Information Literacy Life Skills Computer Literacy

**5. Module/subject recognition from the National Diploma: Polymer Technology: to the Bachelor of Engineering Technology in Materials Engineering in Polymer Technology**

<b>Subjects passed</b>	<b>Modules that may be recognised</b>
National Diploma: Polymer Technology	Bachelor of Engineering Technology in Materials Engineering in Polymer Technology
Polymer Technology I	Plastics Technology
Mathematics I	Engineering Mathematics I
Organic Chemistry II	Organic Chemistry
Polymer Chemistry III	Polymer Chemistry
Plastics Material Science II	Plastics Material Science I
Polymer Technology II	Plastics Conversion I
Polymer Production Practice I	Information Literacy
Polymer Production Practice II	Life Skills
Polymer Production Practice III	Communication Skills

**6. Module/subject recognition from the Bacca laurea Technologiae: Engineering: Chemical to the Bachelor of Engineering Technology in Chemical Engineering**

<b>Subjects passed</b>	<b>Modules that may be recognised</b>
Baccl laurea Technologiae: Engineering: Chemical	Bachelor of Engineering Technology in Chemical Engineering
Mathematics: Chemical Engineering III	Engineering Mathematics II
Reactor Technology IV	Chemical Reaction Engineering I
Chemical Engineering Technology: Heat and Mass Transfer IV	Heat and Mass Transfer Processes
Chemical Engineering Technology: Unit Operations IV	Unit Operations
Project: Chemical Engineering IV	Investigative Project
Chemical Engineering Technology: Fluid Flow IV	Process Fluid Flow

**7. Module/subject recognition from the Bacca laurea Technologiae: Engineering: Metallurgy to the Bachelor of Engineering Technology in Metallurgical Engineering**

<b>Subjects passed</b>	<b>Modules that may be recognised</b>
Baccl laurea Technologiae: Engineering: Metallurgy	Bachelor of Engineering Technology in Metallurgical Engineering
Project Metallurgy IV	Project Metallurgy
Applied Mineral Processing IV	Process Metallurgy and Design
Extraction of Non-Ferrous Metals	Non-Ferrous Metallurgy

**8. Module/subject recognition from the Bacca laurea Technologiae: Polymer Technology to the Bachelor of Engineering Technology in Materials Engineering in Polymer Technology**

<b>Subjects passed</b>	<b>Modules that may be recognised</b>
Baccl laurea Technologiae: Polymer Technology	Bachelor of Engineering Technology in Materials Engineering in Polymer Technology
Polymer Technology IV	Plastics Conversion I
Polymer Science IV	Polymer Chemistry

## DEPARTMENT OF CIVIL ENGINEERING

### 1. The following new qualifications are offered:

- Higher Certificate in Construction Engineering
- Bachelor of Engineering Technology in Civil Engineering

### 2. The following qualifications are being phased out:

*(Students should consult the online TUT prospectus for detailed information on the programme specific subject offering).*

- National Diploma: Engineering: Civil - last intake: January 2017
  - National Diploma: Engineering: Civil (Extended) - last intake: January 2017
  - Baccalaureus Technologiae: Engineering: Civil - last intake: July 2019
- i. The final teach out date for the National Diploma: Engineering: Civil (and extended) will be **December 2022**, and it will phase out as follows:

Level	Last semester to be offered
S1	July 2017
S2	July 2018
S3	July 2019
S4	July 2020
WIL I	January 2022
WIL II	July 2022

- ii. The final teach out date for the Baccalaureus Technologiae: Engineering Civil will be **June 2023**.

If a student does not complete his/her studies according to the above dates, he/she will have to apply for admission to a new HEQSF-aligned qualification and certain relevant subjects may be recognised. Students should note that there are significant differences between the NATED 151 and HEQSF-aligned qualifications. Admission is not guaranteed and it is based on students meeting the admission requirements as well as available space.

### 3. Module/subject recognition from the National Diploma: Engineering: Civil (and Extended) to the Higher Certificate in Construction Engineering

Subjects passed	Modules that may be recognised
National Diploma: Engineering: Civil (and Extended)	Higher Certificate in Construction Engineering
Computer Skills I or Computer Skills (Extended) I	Computer Literacy
Communication Skills I or Communication Skills (Extended) I	Communication Skills
Construction Materials I or Construction Materials (Extended) I	Civil Engineering Materials



**4. Module/subject recognition from the National Diploma: Engineering: Civil (and Extended) to the Bachelor of Engineering Technology in Civil Engineering**

<b>Subjects passed</b> National Diploma: Engineering: Civil (and Extended)	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Civil Engineering
Computer Sills I or Computer Skills (Extended) I	Computer Literacy
Communication Skills I or Communication Skills (Extended) I	Communication Skills
Construction Materials I or Construction Materials (Extended) I	Civil Engineering Materials
Construction Methods I	Construction Principles
Drawing I or Drawing (Extended) I and Drawing II	Engineering Graphics
Applied Mechanics I or Applied Mechanics (Extended) I and Theory of Structures II	Mechanics Physics
Mathematics I or Mathematics (Extended) I and Mathematics II	Engineering Mathematics I
Surveying: Theory I and Practical I or Surveying: Theory (Extended) I and Practical (Extended) I and Surveying: Theory II and Practical II	Engineering Surveying
Geotechnical Engineering II and Geotechnical Engineering III	Geotechnical Engineering I
Water Engineering II and Water Engineering III	Water Engineering I
Transportation Engineering II and Transportation Engineering III	Transportation Engineering I
Work-Integrated Learning I	Information Literacy
Work-Integrated Learning II	Life Skills

**5. Module/subject recognition from the Baccalaureus Technologiae: Engineering: Civil to the Bachelor of Engineering Technology in Civil Engineering**

<b>Subjects passed</b> Baccalaureus Technologiae: Engineering: Civil (Construction Management)	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Civil Engineering
All subjects listed under paragraph 4 and any four of the following subjects:	Civil Engineering Practice
Industrial Relations and Negotiation II	
Management Principles and Practice IV	
Concrete Technology IV	
Environmental Management for Engineers: Civil IV	

Commercial Law: Civil	
Financial Management III	
Asphalt Technology IV	
Project Management: Civil IV	
Industrial Relations and Negotiation II	

<b>Subjects passed</b> Baccalaureus Technologiae: Engineering: Civil (Environmental Engineering)	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Civil Engineering
No recognition granted	

<b>Subjects passed</b> Baccalaureus Technologiae: Engineering: Civil (Geotechnical Engineering)	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Civil Engineering
All subjects listed under paragraph 4 and any four of the following subjects:	Geotechnical Engineering
Hydrogeology III	
Construction Materials Technology IV	
Foundation Engineering IV	
Soil and Groundwater Pollution: Civil IV	
Earthworks Design IV	
Geology: Civil IV	
Applied Geomechanics IV	

<b>Subjects passed</b> Baccalaureus Technologiae: Engineering: Civil (Structural Engineering)	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Civil Engineering
All subjects listed under paragraph 4 and any four of the following subjects:	Structural Analyses and Strength of Materials
Structural Timber Design IV	
Foundation Engineering IV	
Pre- Stressed Concrete Design IV	
Theory of Structures IV	
Structural Steel Design IV	
Structural Masonry Design IV	
Structural Analysis IV	

All subjects listed under paragraph 4 and any four of the following subjects:	Structural Design
Reinforced Concrete Design IV	
Structural Timber Design IV	
Foundation Engineering IV	
Pre-Stressed Concrete Design IV	
Structural Analysis IV	
Theory of Structures IV	
Structural Steel Design IV	
Structural Masonry Design IV	

<b>Subjects passed</b> Baccalaureus Technologiae: Engineering: Civil (Transportation Engineering)	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Civil Engineering
All subjects listed under paragraph 4 and any four of the following subjects:	Transportation Engineering II
Geometric Design IV	
Concrete Technology IV	
Traffic Engineering IV	
Transportation Planning IV	
Transportation Technology IV	
Asphalt Technology IV	
Pavement Technology IV	

<b>Subjects passed</b> Baccalaureus Technologiae: Engineering: Civil (Urban Engineering)	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Civil Engineering
All subjects listed under paragraph 4 and all of the following subjects:	Transportation Engineering II
Geometric Design IV	
Construction Materials Technology IV	
Pavement Technology IV	
Urban Planning and Design IV	Water Engineering II
Urban Planning and Design IV	
Hydrology IV	
Wastewater Treatment Technology IV	

Reticulation Design and Management IV	
<b>Subjects passed</b> Baccalaureus Technologiae: Engineering: Civil (Water Engineering)	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Civil Engineering
All subjects listed under paragraph 4 and any four of the following subjects:	Water Engineering II
Hydraulics IV	
Hydrology IV	
Hydrogeology III	
Irrigation IV	
Water Treatment Technology IV	
Wastewater Treatment Technology IV	

## DEPARTMENT OF ELECTRICAL ENGINEERING

### 1. The following new qualifications are offered:

- Higher Certificate in Electrical Engineering
- Diploma in Electrical Engineering
- Bachelor of Engineering Technology in Electrical Engineering

### 2. The following qualifications are being phased out:

*(Students should consult the online TUT prospectus for detailed information on the programme specific subject offering).*

- National Diploma: Engineering: Electrical (Extended) - last intake: January 2017
- National Diploma: Engineering: Electrical - last intake: July 2019
- Baccalaureus Technologiae: Engineering: Electrical - last intake: July 2019

- i. The final teach out date for the National Diploma: Engineering: Electrical (Extended) will be **December 2023**, and it will phase-out as follows:

Level	Last semester to be offered
Foundation	January 2018
S1	July 2019
S2	July 2020
S3	July 2021
S4	July 2022
WIL I	January 2023
WIL II	July 2023

- ii. The final teach out date for the National Diploma: Engineering: Electrical will be **June 2024**, and it will phase-out as follows:

Level	Last semester to be offered
S1	January 2020
S2	January 2021
S3	January 2022
S4	January 2023
WIL I	July 2023
WIL II	January 2024

- iii. The final teach out date for the Baccalaureus Technologiae: Engineering: Electrical will be **June 2023**.

If a student does not complete his/her studies according to the above dates, he/she will have to apply for admission to a new HEQSF-aligned qualification and certain relevant subjects may be recognised. Students should note that there are significant differences between the NATED 151 and HEQSF-aligned qualifications. Admission is not guaranteed and it is based on students meeting the admission requirements as well as available space.

### 3. Module/subject recognition from the National Diploma: Engineering: Electrical (and Extended) to the Higher Certificate in Electrical Engineering

<b>Subjects passed</b> National Diploma: Engineering: Electrical (and Extended)	<b>Modules that may be recognised</b> Higher Certificate in Electrical Engineering
Communication Skills or Communication Skills (Extended) I	Communication Skills
Computer Skills I or Computer Skills (Extended) I	Computer Literacy
Mathematics I or Mathematics I (Extended)	Technical Mathematics
Electrical Engineering I or Electrical Engineering (Extended) I	Electrical Technology
Electronics I or Electronics (Extended) I	Electronic Technology
Digital Systems I	Digital Technology

### 4. Module/subject recognition from the National Diploma: Engineering: Electrical (and Extended) to the Diploma in Electrical Engineering

<b>Subjects passed</b> National Diploma: Engineering: Electrical (and Extended)	<b>Modules that may be recognised</b> Diploma in Electrical Engineering
Communication Skills I or Communication Skills (Extended) I	Communication Skills
Computer Skills I or Computer Skills (Extended) I	Computer Literacy
Mathematics I or Mathematics I (Extended)	Mathematics IA
Electrical Engineering I or Electrical Engineering I	Electrical Engineering IA
Electronics I or Electronics (Extended) I	Electronics IA
Electrical Engineering II	Electrical Engineering IB
Electronics II	Electronics IB
Digital Systems I	Digital Systems IA
Mathematics II	Mathematics IB
Software Design II	Software Design
Electrical Engineering III	Electrical Engineering II
Electronics III	Electronic Application I
Digital Systems II	Digital Systems IB
Mathematics III	Mathematics II
Control Systems III	Control Systems
Digital Systems III	Embedded Systems I
Electrical Machines III	Electrical Machines
Electronic Communication III	Electronic Communication I
Electrical Distribution III and Electrical Protection III	Power Systems I

Medical Equipment: Equipment III and Medical Equipment: Systems III	Clinical Engineering I
Power Electronics III	Power Electronics
Process Instrumentation III	Process Instrumentation I
Design Project: Light Current III	Design Projects: Application
Design Project: Light Current III	Design Projects: Clinical
Design Project: Light Current III	Design Projects: Communication
Design Project: Light Current III	Design Projects: Embedded
Design Project: Light Current III	Design Projects: Process
Design Project: Heavy Current III	Design Projects: Power
Work-Integrated Learning II	Experiential Learning

**5. Module/subject recognition from the National Diploma: Engineering: Electrical (and Extended) to the Bachelor of Engineering Technology in Electrical Engineering**

<b>Subjects passed</b>	<b>Modules that may be recognised</b>
National Diploma: Engineering: Electrical	Bachelor of Engineering Technology in Electrical Engineering
Computer Skills I or Computer Skills (Extended) I	Computer Literacy
Communication Skills I or Communication Skills (Extended) I	Communication Skills
Engineering Science I or Engineering Science (Extended) I	Physics
Mathematics II	Engineering Mathematics I
Electrical Engineering II	Electrical Circuits
Electronics II	Electronic Circuits
Software Design III	Engineering Software Design
Digital Systems III	Embedded System
Electrical Machines III	Conversion Systems
Work-Integrated Learning II	Information Literacy
	Life Skills
	Computer Literacy
Software Design III	Engineering Software Design

**6. Module/subject recognition from the Higher Certificate in Electrical Engineering to the Bachelor of Engineering Technology in Electrical Engineering**

<b>Subjects passed</b>	<b>Modules that may be recognised</b>
Higher Certificate in Electrical Engineering	Bachelor of Engineering Technology in Electrical Engineering
Computer Literacy	Computer Literacy
Communication Skills	Communication Skills
Life Skills	Life Skills
Information Literacy	Information Literacy
Engineering Physics	Physics

**7. Module/subject recognition from the Diploma in Electrical Engineering to the Bachelor of Engineering Technology in Electrical Engineering**

<b>Subjects passed</b> Diploma in Electrical Engineering	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Electrical Engineering
Computer Literacy	Computer Literacy
Communication Skills	Communication Skills
Life Skills	Life Skills
Mechanics	Mechanics
Electrical Engineering II	Electrical Circuits
Electronic Application I	Electronic Circuits
Mathematics II	Engineering Mathematics I

**8. Module/subject recognition from the Higher Certificate in Electrical Engineering to the Diploma in Electrical Engineering**

<b>Subjects passed</b> Higher Certificate in Electrical Engineering	<b>Modules that may be recognised</b> Diploma in Electrical Engineering
Computer Literacy	Computer Literacy
Communication Skills	Communication Skills
Digital Technology	Digital Systems IA
Electrical Technology	Electrical Engineering IA
Electronic Technology	Electronics IA
Information Literacy	Information Literacy
Life Skills	Life Skills
Technical Mathematics	Mathematics IA



## DEPARTMENT OF GEOMATICS

### 1. The following new qualifications are (or will be) offered:

- Bachelor of Geomatics (BPGM20)

### 2. The following qualifications are being phased out:

*(Students should consult the online TUT prospectus for detailed information on the programme specific subject offering).*

- National Diploma: Surveying - last intake: January 2019
  - Baccalaureus Technologiae: Surveying (BTSU18) - last intake: July 2019
- i. The final teach out date for the National Diploma: Surveying will be **December 2024**, and it will phase-out as follows:

Level	Last semester to be offered
S1	January 2020
S2	July 2021
S3	January 2022
S4	July 2023
WIL I	January 2024
WIL II	July 2024

- ii. The final teach out date for the Baccalaureus Technologiae: Surveying will be **December 2020** (for BTSU02) and **June 2023** for (BTSU18).

If a student does not complete his/her studies according to the above dates, he/she will have to apply for admission to a new HEQSF-aligned qualification and certain relevant subjects may be recognised. Students should note that there are significant differences between the NATED 151 and HEQSF-aligned qualifications. Admission is not guaranteed and it is based on students meeting the admission requirements as well as available space.

### 3. Module/subject recognition from the National Diploma: Surveying to the Bachelor of Geomatics

Subjects passed	Modules that may be recognised
National Diploma: Surveying	Bachelor of Geomatics
Geography I	Geography
Communication Skills I	Communication Skills
Drawing I and Survey Drawing II	Computer Survey Drawing
Cadastral Surveying III	Cadastral Systems
Mathematics I and Mathematics II	Engineering Mathematics I
Physics	Physics
Photogrammetry II and Photogrammetry III	Photogrammetry I

Surveying: Theory I and Surveying: Practical I and Surveying: Theory II and Surveying Practical II	Engineering Surveying Fundamentals I
Work-Integrated Learning I and/or Work-Integrated Learning II	Information Literacy Life Skills
Surveying Theory III and Surveying: Precise III Surveying: Geometric III Management: Civil I	Engineering Surveying I
Map Projections II	Geodesy and Map Projection I
Computer Skills I and Computer Applications III	Geomatics Computer Applications

**4. Module/subject recognition from the Baccalaureus Technologiae: Surveying to the Bachelor of Geomatics**

<b>Subjects passed</b> Baccalaureus Technologiae: Surveying	<b>Modules that may be recognised</b> Bachelor of Geomatics
Project Management: Surveying IV	Project Management: Surveying
Town Planning IV	Rural and Urban Planning

## DEPARTMENT OF INDUSTRIAL ENGINEERING

### 1. The following new qualifications are offered:

- Higher Certificate in Industrial Engineering
- Bachelor of Engineering Technology in Industrial Engineering

### 2. The following qualifications are being phased out:

*(Students should consult the online TUT prospectus for detailed information on the programme specific subject offering).*

- National Diploma: Industrial (Extended) - (last intake: January 2018)
- National Diploma: Industrial - (last intake: January 2018)
- Baccalaureus Technologiae: Engineering: Industrial - (last intake: July 2019)

- i. The final teach out date for the National Diploma: Industrial will be December 2024 (for Extended) and December 2023, and it will phase-out as follows:

Level	Last semester to be offered
S1	January 2019
S2	July 2019
S3	July 2020
S4	July 2021
WIL I	July 2022
WIL II	July 2023

- ii. The final teach out date for the Baccalaureus Technologiae: Engineering: Industrial will be **June 2023**.

If a student does not complete his/her studies according to the above dates, he/she will have to apply for admission to a new HEQSF-aligned qualification and certain relevant subjects may be recognised. Students should note that there are significant differences between the NATED 151 and HEQSF-aligned qualifications. Admission is not guaranteed and it is based on students meeting the admission requirements as well as available space.

### 3. Module/subject recognition from the National Diploma: Engineering: Industrial (or extended) to the Higher Certificate in Industrial Engineering

Subjects passed	Modules that may be recognised
National Diploma: Engineering: Industrial	Higher Certificate in Industrial Engineering
Engineering Communication I or Engineering Communication (Extended) I	Communication Skills (COM105X)
Quality Assurance II	Quality systems and Process Improvements
Qualitative Techniques I	Statistics
Engineering Work Study I	Engineering Work Systems for Process Planning

Computer-Aided Draughting (Extended) I or Computer-Aided Draughting I or Mechanical Engineering Drawing I or Mechanical Engineering Drawing (Extended) I	Engineering Graphics
--	----------------------

**4. Module/subject recognition from the National Diploma: Engineering: Industrial to the Bachelor of Engineering Technology in Industrial Engineering**

<b>Subjects passed</b> National Diploma: Engineering: Industrial	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Industrial Engineering
Engineering Communication I or Engineering Communication (Extended) I	Communication Skills
Engineering Work Study I and Engineering Work Study II and Facility Layout and Materials Handling II	Industrial Work Systems
Operational Research III	Operational Research
Mechanical Engineering Drawing I or Mechanical Engineering Drawing (Extended) I	Engineering Graphics
Production Engineering I and Production Engineering II	Production Engineering
Mathematics I or Mathematics (Extended) I and Mathematics II	Engineering Mathematics I
Mechanical Manufacturing Engineering I and Mechanical Manufacturing Engineering II and Automation III	Production and Automation
Qualitative Techniques I	Probability and Statistics
Work-Integrated Learning II	Information Literacy
	Computer Literacy
	Life Skills

**5. Module/subject recognition from the Higher Certificate in Industrial Engineering to the Bachelor of Engineering Technology in Industrial Engineering**

<b>Subjects passed</b> Higher Certificate in Industrial Engineering	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Industrial Engineering
Information Literacy	Information Literacy
Life Skills	Life Skills
Communication Skills	Communication Skills
Computer Literacy	Computer Literacy

**6. Module/subject recognition from the Baccalaureus Technologiae: Engineering: Industrial to the Bachelor of Engineering Technology in Industrial Engineering**

<b>Subjects passed</b> Baccalaureus Technologiae: Engineering: Industrial	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Industrial Engineering
Project Engineering IV	Project Engineering
System Dynamics IV	Simulation Design
Quality Assurance IV	Quality Engineering and Management
Production Technology IV	Advanced Manufacturing

**DEPARTMENT OF MECHANICAL AND MECHATRONICS ENGINEERING**
**1. The following new qualifications are offered:**

- Higher Certificate in Mechanical Engineering
- Diploma in Industrial Design
- Advanced Diploma in Industrial Design
- Bachelor of Engineering Technology in Mechanical Engineering
- Bachelor of Engineering Technology in Mechatronic Engineering

**2. The following qualifications are being phased out:**

*(Students should consult the online TUT prospectus for detailed information on the programme specific subject offering).*

- National Diploma: Engineering: Mechanical - last intake: July 2017
- National Diploma: Engineering: Mechanical (Extended) - last intake: Jan 2017
- National Diploma: Engineering: Mechatronics (NDMR06) - last intake: July 2017
- National Diploma: Engineering: Mechatronics (Extended) (NDMRF0) - last intake: Jan 2017
- National Diploma: Three-Dimensional Design: Engineering and related design - last intake: January 2017
- Baccalaureus Technologiae: Engineering: Mechanical (last intake: July 2019)
- Baccalaureus Technologiae: Engineering: Mechanical (Field of specialisation: Mechatronics) - last intake: July 2019

- i. The teach out date for the National Diploma: Engineering Mechanical and Extended will be **December 2023** and it will phase-out as follows:

Level	Last semester to be offered
Foundation	December 2017
S1	January 2018
S2	January 2019
S3	January 2020
S4	January 2021
WIL I and II	December 2023

- ii. The teach out date for the National Diploma: Mechatronics and Extended will be **December 2023**, and it will phase-out as follows:

Level	Last semester to be offered
Foundation	December 2017
S1	January 2018
S2	January 2019
S3	January 2020
S4	January 2021
S5	January 2022
WIL	December 2023

- iii. The teach out date for the Baccalaureus Technologiae: Engineering: Mechanical and Mechatronics specialisation will be **June 2023**.

If a student does not complete his/her studies according to the above dates, he/she will have to apply for admission to a new HEQSF-aligned qualification and certain relevant subjects may be recognised. Students should note that there are significant differences between the NATED 151 and HEQSF-aligned qualifications. Admission is not guaranteed and it is based on students meeting the admission requirements as well as available space.

**3. Module/subject recognition from the National: Engineering: Mechanical and National Diploma: Engineering: Mechatronics to the Higher Certificate in Mechanical Engineering**

<b>Subjects passed</b> National Diploma: Engineering: Mechanical/Mechatronics	<b>Modules that may be recognised</b> Higher Certificate in Mechanical Engineering
Computer-Aided Draughting I or Computer-Aided Design	Engineering Graphics
Mechanical Engineering Drawing I or Mechanical Engineering Drawing	
Engineering Communication I or Engineering Communication	Communication Skills
Mechanics I	Mechanics
Mathematics I	Technical Mathematics
Electrotechnology I	Electrical Technology
Mechanical Manufacturing Engineering I or Manufacturing Engineering	Manufacturing and Tooling

**4. Module/subject recognition from the National Diploma: Engineering: Mechanical (Extended) and National Diploma: Engineering: Mechatronics (Extended) to the Higher Certificate in Mechanical Engineering**

<b>Subjects passed</b> National Diploma: Engineering: Mechanical/Mechatronics (Extended)	<b>Modules that may be recognised</b> Higher Certificate in Mechanical Engineering
Computer-Aided Draughting (Extended) I or Computer-Aided Design (Extended)	Engineering Graphics
Mechanical Engineering Drawing I or Mechanical Engineering Drawing	
Engineering Communication (Extended) I or Engineering Communication (Extended)	Communication Skills
Mechanics (Extended) I	Mechanics
Mathematics (Extended) I	Technical Mathematics
Electrotechnology (Extended) I	Electrical Technology

Mechanical Manufacturing Engineering I or Manufacturing Engineering	Manufacturing and Tooling
---	---------------------------

**5. Module/subject recognition from the National Diploma: Engineering: Mechanical to the Bachelor of Engineering Technology in Mechanical Engineering**

<b>Subjects passed</b> National Diploma: Engineering: Mechanical	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Mechanical Engineering
Computer-Aided Draughting I Mechanical Engineering Drawing I	Engineering Graphics
Engineering Communication I	Communication Skills
Mechanics I Mechanics of Machines II Mechanics of Machines III	Mechanics
Mechanical Manufacturing Engineering I and Mechanical Manufacturing Engineering II	Manufacturing I
Strength of Materials II Strength of Materials III	Strength of Materials I
Mathematics I Mathematics II	Engineering Mathematics I
Mechanical Engineering Design II Mechanical Engineering Design III	Design of Machines
Fluid Mechanics II Fluid Mechanics III Hydraulic Machines III	Fluid Mechanics
Thermodynamics II Thermodynamics III Steam Plant III	Thermodynamics
Work-Integrated Learning II	Information Literacy Computer Literacy Life Skills

**6. Module/subject recognition from the National Diploma: Engineering: Mechanical (Extended) to the Bachelor of Engineering Technology in Mechanical Engineering**

<b>Subjects passed</b> National Diploma: Engineering: Mechanical (Extended)	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Mechanical Engineering
Computer-Aided Draughting (Extended) I Mechanical Engineering Drawing (Extended) I	Engineering Graphics
Engineering Communication (Extended) I	Communication Skills
Mechanics (Extended) I Mechanics of Machines II Mechanics of Machines III	Mechanics



Mechanical Manufacturing Engineering (Extended) I Mechanical Manufacturing Engineering II	Manufacturing I
Strength of Materials II Strength of Materials III	Strength of Materials I
Mathematics (Extended) I Mathematics II	Engineering Mathematics I
Mechanical Engineering Design II Mechanical Engineering Design III	Design of Machines
Fluid Mechanics II Fluid Mechanics III Hydraulic Machines III	Fluid Mechanics
Thermodynamics II Thermodynamics III Steam Plant III	Thermodynamics
Work-Integrated Learning II	Information Literacy Computer Literacy Life Skills

**7. Module/subject recognition from the National Diploma: Engineering: Mechanical (Mechatronics) to the Bachelor of Engineering Technology in Mechatronics Engineering**

<b>Subjects passed</b> National Diploma: Engineering: Mechatronics	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Mechatronics Engineering
Computer-Aided Design Mechanical Engineering Drawing	Engineering Graphics
Engineering Communication	Communication Skills
Mechanics I Mechanics II Mechanics III	Mechanics
Strength of Materials II Strength of Materials III	Strength of Materials I
Mathematics I Mathematics II	Engineering Mathematics I
Mechanical Engineering Design II Mechatronic Engineering Design	Design of Machines
Mechatronic Engineering Practice	Information Literacy Life Skills Computer Literacy

**8. Module/subject recognition from the National Diploma: Engineering: Mechanical (Mechatronics) (Extended) to the Bachelor of Engineering Technology in Mechatronics Engineering**

<b>Subjects passed</b> National Diploma: Engineering: Mechatronics	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Mechatronics Engineering
Computer-Aided Design (Extended) Mechanical Engineering Drawing (Extended)	Engineering Graphics
Engineering Communication (Extended)	Communication Skills
Mechanics (Extended) I Mechanics II Mechanics III	Mechanics
Strength of Materials II Strength of Materials III	Strength of Materials I
Mathematics (Extended) I Mathematics II	Engineering Mathematics I
Mechanical Engineering Design II Mechatronic Engineering Design	Design of Machines
Mechatronic Engineering Practice	Information Literacy
	Life Skills
	Computer Literacy

**9. Module/subject recognition from the Higher Certificate in Mechanical Engineering to the Bachelor of Engineering Technology in Mechanical or Mechatronics Engineering**

<b>Subjects passed</b> Higher Certificate in Mechanical Engineering	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Mechanical Engineering or Bachelor of Engineering Technology in Mechatronics Engineering
Information Literacy	Information Literacy
Life Skills	Life Skills
Communication Skills	Communication Skills
Computer Literacy	Computer Literacy

**10. Module/subject recognition from the Baccalaureus Technologiae: Engineering: Mechanical to the Bachelor of Engineering Technology in Mechanical Engineering (certain National Diploma subjects will also be needed)**

<b>Subjects passed</b> Baccalaureus Technologiae: Engineering: Mechanical	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Mechanical Engineering
Engineering Design Project IV	Mechanical Design Projects
Applied Strength of Materials III Strength of Materials IV Stress Analysis IV	Strength of Materials II
Theory of Machines III Mechanics of Machines IV	Dynamics

Mechanical Engineering Manufacturing III Manufacturing Engineering IV	Manufacturing II
--	------------------

**11. Module/subject recognition from the Baccalaureus Technologiae: Engineering: Mechanical (Mechatronics) to the Bachelor of Engineering Technology in Mechatronic Engineering (certain National Diploma subjects will also be needed)**

<b>Subjects passed</b> Baccalaureus Technologiae: Engineering: Mechanical (Mechatronics)	<b>Modules that may be recognised</b> Bachelor of Engineering Technology in Mechatronic Engineering
Engineering Design Project IV	Mechatronics Design Projects
Automatic Control IV Digital Control Systems IV	Control Systems
Thermo-flow Thermodynamics IV	Thermo-flow