

# BACCALAUREUS TECHNOLOGIAE: ENGINEERING: CIVIL: URBAN ENGINEERING

Qualification code: BTUB02 - NQF Level 7

Campus where offered: Pretoria Campus (block-mode classes)  
Last year of new intake: July 2019  
Teach-out (phase-out) date: 30 June 2023

Students registered for this qualification should complete their studies according to the teach-out date prescribed for the qualification, subject to the stipulations of Regulation 3.1.11 and 3.1.13 in the Students' Rules and Regulations.

Information on phased-out programmes can be obtained from the TUT website, [www.tut.ac.za](http://www.tut.ac.za).

## CURRICULUM

Consult the 2019 Faculty Prospectus for the full contents of the qualification.

### Please note:

Students must pass eight subjects. A minimum of five compulsory subjects in their particular field of specialisation should be taken, with the balance made up of subjects offered in the other fields of specialisation. Optional/elective subjects taken from the other fields must be closely related/relevant to the qualification. Subjects are offered as determined by the Head of the Department. The total credits of the Level IV subjects may not be less than 0,500.

Students who register for the subject: Construction Materials Technology IV are not permitted to register for Asphalt Technology IV or Concrete Technology IV.

## ATTENDANCE

CODE	SUBJECT	CREDIT
<b>FIRST SEMESTER (2020)</b>		
GDE401T	Geometric Design IV	(0,125)
KMT401T	Construction Materials Technology IV	(0,125)
<b>SECOND SEMESTER (2020)</b>		
SWM401T	Solid Waste Management IV	(0,125)
UPD401T	Urban Planning and Design IV	(0,125)
<b>FIRST SEMESTER (2021)</b>		
HYD401T	Hydrology IV	(0,125)
WWT401T	Wastewater Treatment Technology IV	(0,125)
<b>SECOND SEMESTER (2021)</b>		
PTY401T	Pavement Technology IV	(0,125)
RDA401T	Reticulation Design and Management IV	(0,125)
TOTAL CREDITS FOR THE QUALIFICATION:		<b>1,000</b>



## SUBJECT INFORMATION (OVERVIEW OF SYLLABUS)

The syllabus content is subject to change to accommodate industry changes. Please note that a more detailed syllabus is available at the Department or in the study guide that is applicable to a particular module. On 01 October 2019, the syllabus content was defined as follows:

### C

**CONSTRUCTION MATERIALS TECHNOLOGY IV (KMT401T)** **1 X 3-HOUR PAPER**  
(*Subject custodian: Department of Civil Engineering*)  
Concrete technology, asphalt and bitumen technology, other materials, testing. (Total tuition time: ± 32 hours)

### G

**GEOMETRIC DESIGN IV (GDE401T)** **1 X 4-HOUR PAPER (OPEN BOOK)**  
(*Subject custodian: Department of Civil Engineering*)  
Principles and practice of road alignment, environmental impact control, design control and criteria, elements of design (geometric, safety), intersection and interchange design, drainage design, earthworks design, design project. (Total tuition time: ± 32 hours)

### H

**HYDROLOGY IV (HYD401T)** **1 X 3-HOUR PAPER (OPEN BOOK)**  
(*Subject custodian: Department of Civil Engineering*)  
Introduction to meteorology, groundwater, surface water, water resources analysis, South African hydrology. (Total tuition time: ± 32 hours)

### P

**PAVEMENT TECHNOLOGY IV (PTY401T)** **1 X 4-HOUR PAPER (OPEN BOOK)**  
(*Subject custodian: Department of Civil Engineering*)  
Pavement design factors (gravel, flexible, rigid), pavement construction (gravel, flexible, rigid), pavement assessment and rehabilitation, pavement management and project. (Total tuition time: ± 32 hours)

### R

**RETICULATION DESIGN AND MANAGEMENT IV (RDA401T)** **1 X 3-HOUR PAPER (OPEN BOOK)**  
(*Subject custodian: Department of Civil Engineering*)  
This subject covers water, wastewater and stormwater reticulation systems: hydraulic principles, design parameters, ancillary works, pumping installations, system operation, water management, waste management, environmental aspects. Design project(s). (Total tuition time: ± 32 hours)

### S

**SOLID WASTE MANAGEMENT IV (SWM401T)** **1 X 3-HOUR PAPER**  
(*Subject custodian: Department of Civil Engineering*)  
Characteristics of waste, solid waste disposal methods. Design, operation and management of landfill sites. Operation of solid waste removal management systems, third-world applications, waste recycling, emergency waste management, legal aspects. (Total tuition time: ± 32 hours)

### U

**URBAN PLANNING AND DESIGN IV (UPD401T)** **1 X 3-HOUR PAPER**  
(*Subject custodian: Department of Civil Engineering*)  
Planning: historical perspective, modern trends, land-use, legal procedure, urban infrastructure, maintenance. Design: structure plans, township establishment, informal project design, emphasising the engineering-related aspects of urban planning and design. (Total tuition time: ± 32 hours)



**WASTEWATER TREATMENT TECHNOLOGY IV (WWT401T)****1 X 3-HOUR PAPER (OPEN BOOK)***(Subject custodian: Department of Civil Engineering)*

Wastewater properties, treatment processes, treatment plant design, environmental factors, plant operation and management. Design project. (Total tuition time: ± 32 hours)

