

BACCALAUREUS TECHNOLOGIAE: ENGINEERING: INDUSTRIAL

Qualification code: BTEI03 - 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.

CURRICULUM

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

ATTENDANCE

CODE	SUBJECT	CREDIT
FIRST SEMESTER (JANUARY – JUNE)		
ENT401B	Entrepreneurship IV	(0,125)
ISY401T	Information Systems IV	(0,125)
PJR401B	Project Research IV	(0,125)
SDN411T	Systems Dynamics IV	(0,125)
TOTAL CREDITS FOR THE SEMESTER:		0,500
SECOND SEMESTER (JULY – DECEMBER)		
LEN401T	Logistics Engineering IV	(0,125)
PHY401T	Production Technology IV	(0,125)
PJE401T	Project Engineering IV	(0,125)
QAS401T	Quality Assurance IV	(0,125)
TOTAL CREDITS FOR THE SEMESTER:		0,500
TOTAL CREDITS FOR THE QUALIFICATION:		1,000

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:

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ENTREPRENEURSHIP IV (ENT401B)

1 X 3-HOUR PAPER

(Subject custodian: Department of Management and Entrepreneurship)

Introduction to strategic management. A strategic management model for a business. Situational analysis of a business. Strategy formulation, implementation and control. Continuous improvement approaches. Case studies and projects. Entrepreneurship: principles, innovation, creativity, opportunities, entrepreneurial options, sources of support. (Total tuition time: ± 70 hours)



I**INFORMATION SYSTEMS IV (ISY401T)****1 X 3-HOUR PAPER****(Subject custodian: Department of Industrial Engineering)**

Structure and strategic organisational role. Computer systems resources. Decision support systems and executive information systems. Development and implementation of information systems. (Total tuition time: ± 40 hours)

L**LOGISTICS ENGINEERING IV (LEN401T)****1 X 3-HOUR PAPER****(Subject custodian: Department of Industrial Engineering)**

Introduction to logistics. Measurement of logistics. System operational requirements. Logistics in system design. System operation and support. Logistic support management. Projects. (Total tuition time: ± 40 hours)

P**PRODUCTION TECHNOLOGY IV (PHY401T)****1 X 3-HOUR PAPER****(Subject custodian: Department of Industrial Engineering)**

Computer integrated design and manufacturing systems. Enterprise integration. Computer-Integrated Manufacturing. Agile manufacturing systems. Advanced control systems. Advanced robotics. Advanced manufacturing technologies. South African manufacturing arena. (Total tuition time: ± 40 hours)

PROJECT ENGINEERING IV (PJE401T)**1 X 3-HOUR PAPER****(Subject custodian: Department of Industrial Engineering)**

Need for and advantages of project management. Definition of the project. Modern project planning methods. Communication and presentation of information. Feasibility studies (affordability). Project implementation. Support of the operational systems. Case studies, projects and computer applications. (Total tuition time: ± 40 hours)

PROJECT RESEARCH IV (PJR401B)**1 X 3-HOUR PAPER****(Subject custodian: Department of Industrial Engineering)**

Introduction to business research methods and the research process, designing of research including observation studies, qualitative research, experiments and surveys. Data collection and sources with emphasis on measurement and measurement scales, questionnaires and sampling. Analysis and presentation of data with Hypothesis testing, multivariate analysis and measures of association. (Total tuition time: ± 40 hours)

Q**QUALITY ASSURANCE IV (QAS401T)****1 X 3-HOUR PAPER****(Subject custodian: Department of Industrial Engineering)**

Introduction: quality assurance in perspective. Philosophies of Crosby, Deming, Juran, etc. Advanced quality techniques. Quality audit (SABS 0157/ISO 9000). Total quality management. Case studies and projects. (Total tuition time: ± 40 hours)

S**SYSTEMS DYNAMICS IV (SDN411T)****CONTINUOUS ASSESSMENT****(Subject custodian: Department of Industrial Engineering)**

Introduction to and fundamentals of modelling, system definitions and model formulation, model validation and analysis, interpretation of simulation outputs. Station sub-models and entity transfer. Animation of simulation model with the help of cinema. Additional discrete modelling concepts, advanced manufacturing features. Coupling to user sub-programs. Continuous and combined models. Variant reduction techniques. (Total tuition time: not available)

