

MASTER OF ENGINEERING IN ENGINEERING MANAGEMENT

MEng (Engineering Management) - NQF Level 9 (180 credits)

Qualification type: Structured Master's Degree

Qualification code: MEEM18

SAQA ID: 96899, CHE NUMBER: H16/10747/HEQSF

Campus where offered: Pretoria Campus

REMARKS

a. Admission requirement(s):

Any Baccalaureus Technologiae in Engineering, **or** a Bachelor Honours in Engineering Technology in Engineering, **or** a Bachelor of Engineering **or** a Bachelor of Science in Engineering, **or** a NQF Level 8 qualification in Engineering (or related field), obtained from an accredited South African university, with an aggregate of 60% for the final-year of study.

Holders of any other equivalent South African or international qualification may also be considered, see Chapter 1 of Students' Rules and Regulations.

Candidates with a baccalaureus technologiae, will be required to complete bridging modules at NQF Level 8 before registration (through an online mode: BPEMO8). The modules are: Engineering Project Management (EPJ51BN), Quality Engineering (QUE51BN) and Systems Modelling (SYM51BN) (or their equivalents).

b. Selection criteria:

Admission will be subject to approval of a research topic by the Departmental Research Committee (DRC). Candidates who do not meet the 60% minimum academic requirements, might be referred to a Departmental Selection Committee for consideration.

Acceptance is subject to available capacity according to the Student Enrolment Plan (SEP) as well as supervisory capacity. Applicants will be informed of their status per official letter from the Office of the Registrar, alternatively, they can check their application status on the TUT website, www.tut.ac.za.

c. Recognition of Prior Learning (RPL), equivalence and status:

See Chapter 30 of Students' Rules and Regulations.

d. Intake for the qualification:

January and July.

e. Presentation:

Block-mode classes presented in the day or evening and research. Classes and assessments may take place on Friday afternoons and/or Saturdays.

f. Duration:

A minimum of two years and a maximum of five years.

g. Rules on postgraduate studies:

See Chapter 8 of Students' Rules and Regulations.

Key to asterisks:

* Students who completed the bridging programme may not register (or request exemption) for Engineering Project Management (EPJ119M) and Quality Engineering (QUE119M). Further details in this regard are available from the Department.



CURRICULUM

ATTENDANCE

CODE	MODULE	NQF-L	CREDIT
RRT109M	Research Report: Engineering Management	(9)	(90)
RRT109R	Research Report: Engineering Management (re-registration)	(9)	(0)
RRT119R	Research Report: Engineering Management (re-registration) (semester option)	(9)	(0)

FIRST SEMESTER

EBU118M	Engineering Business Dynamics	(8)	(15)
RMD118M	Research Methodology (offered in both semesters)	(8)	(15)

SECOND SEMESTER

EDY118M	Engineering Data Analysis	(8)	(15)
TVC119M	Technology Venture Creation	(9)	(15)

plus three* of the following electives:

First semester modules:

MEN119M	Maintenance Engineering	(9)	(10)
QUE119M	Quality Engineering*	(9)	(10)

Second semester modules:

EPJ119M	Engineering Project Management*	(9)	(10)
LCY119M	Life Cycle Management	(9)	(10)
SPP119M	Supply Chain Management	(9)	(10)

TOTAL CREDITS FOR THE QUALIFICATION: **180**

MODULE 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. At time of publication, the syllabus content was defined as follows:

E

ENGINEERING BUSINESS DYNAMICS (EBU118M) CONTINUOUS ASSESSMENT

(Module custodian: Department of Industrial Engineering)

Fundamentals of system dynamics, system thinking with utilisation of stock and flow diagrams, causal loop diagrams and other conceptual models to employ the system dynamics methodology. The latest software will be used to construct, run and evaluate simulation models. (Total notional time: 150 hours)

ENGINEERING DATA ANALYSIS (EDY118M) CONTINUOUS ASSESSMENT

(Module custodian: Department of Industrial Engineering)

Innovation, decision-making and engineering data analysis tools are discussed to ensure effective problem solving skills. (Total notional time: 150 hours)



ENGINEERING PROJECT MANAGEMENT (EPJ119M)**CONTINUOUS ASSESSMENT***(Module custodian: Department of Industrial Engineering)*

Introduction to Engineering Project. Project Management Approaches. Project Management Body of Knowledge (PMBOK). Computer application, systems approach to project management, and implementing a project. (Total notional time: 100 hours)

L**LIFE CYCLE MANAGEMENT (LCY119M)****CONTINUOUS ASSESSMENT***(Module custodian: Department of Industrial Engineering)*

Total quality, asset and environmental management integration in managing the organisation effectively. (Total notional time: 100 hours)

M**MAINTENANCE ENGINEERING (MEN119M)****CONTINUOUS ASSESSMENT***(Module custodian: Department of Industrial Engineering)*

Introduction to maintenance; measures of maintenance system maintenance; and Systems design. (Total notional time: 100 hours)

Q**QUALITY ENGINEERING (QUE119M)****CONTINUOUS ASSESSMENT***(Module custodian: Department of Industrial Engineering)*

Introduction to quality. Quality management systems. Quality improvement. Strategies. Quality assurance. (Total notional time: 100 hours)

R**RESEARCH METHODOLOGY (RMD118M)****CONTINUOUS ASSESSMENT***(Module custodian: Department of Industrial Engineering)*

Research Methodology. Administrative procedures. Research topic. Research problem and objectives. Research proposal. Technical structure of dissertation. Application for funding. Article training. (Total notional time: 150 hours)

RESEARCH REPORT: ENGINEERING MANAGEMENT (RRT109M/R, RRT119R)**MINI-DISSERTATION ASSESSMENT***(Module custodian: Department of Industrial Engineering)*

Each student must identify an appropriate topic within the chosen discipline of Industrial Engineering and prepare a proposal which must be approved after an oral presentation by the Departmental Research and Innovation Committee. Under the guidance of an assigned academic supervisor, the student must demonstrate an understanding of the conceptualisation of the research problem and critical review of the underlying theory and relevant literature. The student must conduct a thorough literature review, design and explain the research methods used and demonstrate the application of appropriate tools of data analysis. The student should further discuss the results, make conclusions and recommendations. The research must be systematic and logical and follow academic research reporting norms and be written in a satisfactory language. (Total notional time: 190 hours).

S**SUPPLY CHAIN MANAGEMENT (SPP119M)****CONTINUOUS ASSESSMENT***(Module custodian: Department of Industrial Engineering)*

This module focuses on the supply chain and methods of design and strategy. The module demonstrates how to solve problems related to supply chain management (SCM). This involves evaluating current SCM applications and strategies in local and global settings. An important part of this module is the use of numerical and computational tools to address SCM issues. (Total notional time: 100 hours)



TECHNOLOGY VENTURE CREATION (TVC119M)**CONTINUOUS ASSESSMENT**

(Module custodian: Department of Industrial Engineering)

Translation of ideas into commercially viable high technology venture. Development of business plan and funding strategies are discussed. To elucidate the role of creativity, entrepreneurial and innovative business activities, and their management, within a global environment, and also of gender and ethnic diversity. (Total notional time: 150 hours)

