

# BEYOND

## Engineering & Science



UNIVERSITEIT VAN PRETORIA  
UNIVERSITY OF PRETORIA  
YUNIBESITHI YA PRETORIA

Graduate School of  
Technology Management

Make today matter

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## FORMAL OFFERING

The GSTM offers internationally recognised postgraduate management development programmes at honours, masters and doctoral level. These programmes address different needs in the fields of engineering, technology and innovation, or project management.

The programmes are offered online on a part-time, modular basis over two years.

### **Taught Programmes**

- Honours in Engineering and Technology Management (ETM)
- Masters in Technology and Innovation Management (MTIM)
- Masters in Engineering Management (MEM)
- Masters in Project Management (MPM)

### **Full Research Programmes**

- PhD (Engineering Management/Project Management/Technology and Innovation Management)

## SKILLS DEVELOPMENT

The GSTM is involved in community activities and offers several certificate programmes and short courses in collaboration with Enterprises University of Pretoria.

The goal is to develop individual and organisational skills gained from research-based knowledge offered by experienced lecturers who are leaders in the industry.

### **Our year programmes and short courses are offered in the fields of:**

- Asset Management
- Corporate Entrepreneurship
- Engineering Management
- Maintenance Management
- Project Management
- Science, Technology and Innovation Policy
- Systems Engineering
- Technological Entrepreneurship and Innovation

Several Short Courses are on offer. For more in depth information on all the programmes and courses offered, please visit [www.up.ac.za/gstm/courses](http://www.up.ac.za/gstm/courses)

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# GRADUATE SCHOOL OF TECHNOLOGY MANAGEMENT (GSTM)

Engineering, Technology and Innovation Management is a globally evolving discipline. The increasing complexity of engineering projects, systems and activities, the scope and sophistication of resources as well as advances in technology have all been driving forces in the evolution of this field.

A Chair for Engineering Management, sponsored by industry, was established at the University of Pretoria in 1987. This evolved into the Department of Engineering and Technology Management in 1994 – the first and only Department of its kind at a South African university. The Graduate School of Technology Management (GSTM) evolved from this department and was established on 1 January 2007.

The GSTM is not just the first graduate school of its kind in South Africa, but also the largest in Africa.

The GSTM offers internationally recognised post graduate programmes. These programmes are offered at honours, masters and doctoral level and address different needs in the field of Engineering Management, Technology and Innovation Management as well as Project Management.

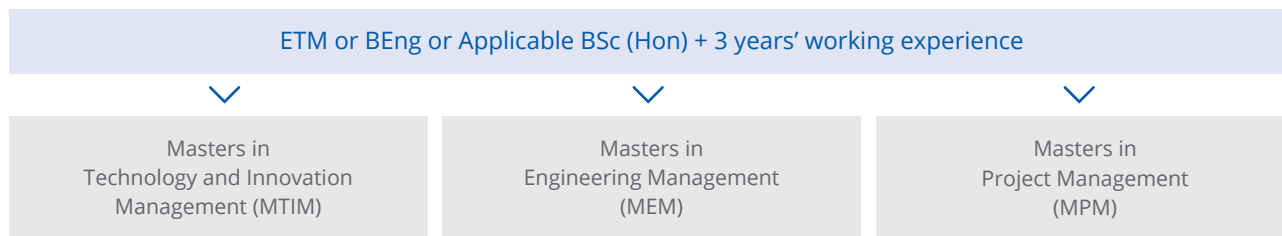
A strong focus is placed on high quality research and excellent teaching and education. Research ensures relevance to the market in terms of increased international competitiveness, optimising product life-cycles, technology transfer and positioning of technological abilities within the international context.

## HONOURS IN ENGINEERING AND TECHNOLOGY MANAGEMENT (ETM)

The honours programme in Engineering and Technology Management is aimed at engineers and scientists who have recently completed a bachelor's degree and who have insufficient work experience or require an entry qualification to enrol for a Masters degree in the technical management sciences.

The honours programme provides the first step towards technical management and exposes the young graduate to the management of technology and the management of technological innovation through predefined modules as well as a research project.

By successfully completing the honours programme, young engineers and scientists should have improved their ability to manage technology and have the knowledge on how to develop and deploy technology innovations.



## MASTERS IN TECHNOLOGY AND INNOVATION MANAGEMENT (MTIM)

The MTIM programme aims to introduce students to the aspects of technology which support the long term goals of innovation and productivity within an organisation.

Technology and Innovation Management focuses on the introduction of new products, processes, services or systems to an organisation, through the economic development and transfer of knowledge on the choice and application of technology and processes, in order to secure the organisation's growth, competitiveness and sustainability.

## MASTERS IN ENGINEERING MANAGEMENT (MEM)

The MEM programme aims to provide relevant management education to the practising engineer/scientist who is active in primarily technology-based enterprises.

The MEM programme focuses on the process of value creation, i.e. product and system development, production and operations and the maintenance of systems and related services within a business context. The question of strategically positioning the enterprise in terms of technological capability is paramount. The above mentioned study areas are the key factors which distinguish MEM from other postgraduate and business management degrees.

## MASTERS IN PROJECT MANAGEMENT (MPM)

The MPM programme empowers graduates to apply scientific thinking and advanced interdisciplinary skills to manage projects over the project life-cycle.

Viewing projects as temporary endeavours, the programme facilitates learning the fundamentals of project management to enable learners to identify, develop, implement and close projects. Apart from the core project management modules, the programme also views projects as strategic initiatives with modules considering the environment, people and the realisation of benefits.



### International Accreditation

The MPM Programme, offered by the Graduate School of Technology Management (GSTM), is fully accredited by the Global Accreditation Center for Project Management Education Programs (GAC) of the Project Management Institute (PMI), USA. The programme is aligned with ISO 21500 guidelines.

## PHD DEGREE

A PhD degree in either Engineering Management, Technology and Innovation Management or Project Management is offered.

## PROGRAMME ARCHITECTURE

### Honours Degree: Engineering and Technology Management (ETM)

The programme consists of five core modules and two elective modules and may be completed in one or two years' study.

The modules are equivalent to 16 credits each, except the research project which is equivalent to 32 credits.

## PROGRAMME DESIGN

### Semester 1 (2x Core and 2x Electives)

- Technology and Innovation Management
- Engineering Techno Economics
- Operations Management\*
- Maintenance and Asset Management\*
- Technological Entrepreneurship\*

### Semester 2 (2x Core and 1x Research Project)

- Project Management
- Systems Thinking and Engineering
- Research Project

\* Electives: Choose two of the three electives above or a prior approved elective from the School of Engineering.

## MASTERS DEGREES

The Masters programmes each consists of nine modules and a research project. Modules are all equivalent to 10 credits each, except the research component (mini-dissertation), which is equivalent to 90 credits. The programme must be completed within a maximum period of three years.

PROGRAMME DESIGN

MEM	MPM	MTIM
Year 1: Semester 1		
Financial Management Eng Asset Mngmt. and Maintenance Systems Engineering and Mngmt. Technology Management	Project Planning Finance and Cost Management Procurement and Contract Mngmt. Risk Management	Fundamentals of Technology Mngmt. Organisation and Innovation Corporate Entrepreneurship New Product Development
Year 1: Semester 2		
People Management Strategic Management Production and Operations Mngmt.	Project Organisation Quality and Integration Mngmt. Construction Mngmt. <i>or</i> IT and Services Project Mngmt. <i>or</i> Project Systems Engineering	Science, Tech. and Inn. Policy Techno-Economics and the Circular Economy Strategic Tech. and Inn. Mngmt.
Research (mini-dissertation)		
Year 2: Semester 1		
*Elective x2	*Elective x2	*Elective x2
Research (mini-dissertation)		
Year 2: Semester 2		
Research (mini-dissertation)		



MEM	MPM	MTIM
*Electives available to all programmes		*Electives only available to specific programmes
Industrial Marketing Knowledge and Information Management Legal Aspects New Ventures and Entrepreneurship Programme and Portfolio Management Sustainable Management Systems Thinking		New Product Development (MEM/MPM) Project Planning (MEM/MTIM) Risk Management (MEM/MTIM)

Research Symposium



## ASSESSMENT

Assessment for the Honours and Masters programmes are conducted by means of individual/group assignments, oral presentations, tests and examinations. Masters students must present their mini-dissertation research at the GSTM Research Symposium.

## QUALIFICATIONS AWARDED

### Honours Degree (ETM)

- BEng (Hons) (Engineering and Technology Management) or
- BSc (Hons) (Engineering and Technology Management)

### Masters Degree (MEM/MPM/MTIM)

- MEng (Engineering Management or Project Management or Technology and Innovation Management) or
- MSc (Engineering Management or Project Management or Technology and Innovation Management)

## ADMISSION AND SELECTION

More detail on admission requirements, and information re the calculation of the required percentage, are available on the website.

Please visit





### **Honours Degree (ETM)**

E-mail

### **Masters Degrees (MEM/MPM/MTIM)**

E-mail

### **Address**

Enterprise Building  
University of Pretoria  
C/o Lunnon and Jan Shoba Roads

### **GSTM programmes at Enterprises University of Pretoria**

Tel +27 12 434 2500

E-mail

For more in depth information on all the GSTM programmes, fees, application procedures and closing dates, please visit

