The programme is hosted by the Centre for Asset Integrity Management (C-AIM), Department of Mechanical and Aeronautical Engineering.

Visit the website www.up.ac.za/caim, for more information on this programme as well as other postgraduate study opportunities, or contact:

George Harley
george.harley@up.ac.za

Admission requirements and registration

- Students who have completed a BEng / BSc (Engineering) degree will be automatically accepted when applying for admission.
- Students who have completed a BTech or non-engineering BSc degree must have a minimum average of 65% (calculated on the grades of all the final year modules (failed/passed) for the pre-requisite degree) will be considered for registration for the BSc (Hons) degree.
- Students must apply for admission and register for the BScHons (Applied Sciences) Mechanics: Physical Asset Management (Code 12243010) at the Department of Mechanical and Aeronautical Engineering.

Further information

More details about other programmes, prerequisites, etc. can be found in the respective departmental brochures:

Department of Mechanical and Aeronautical Engineering
www.up.ac.za/me

Graduate School of Technology Management
www.up.ac.za/gstm

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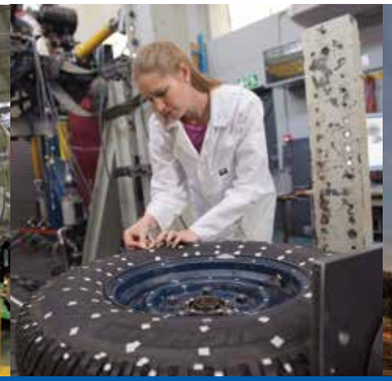

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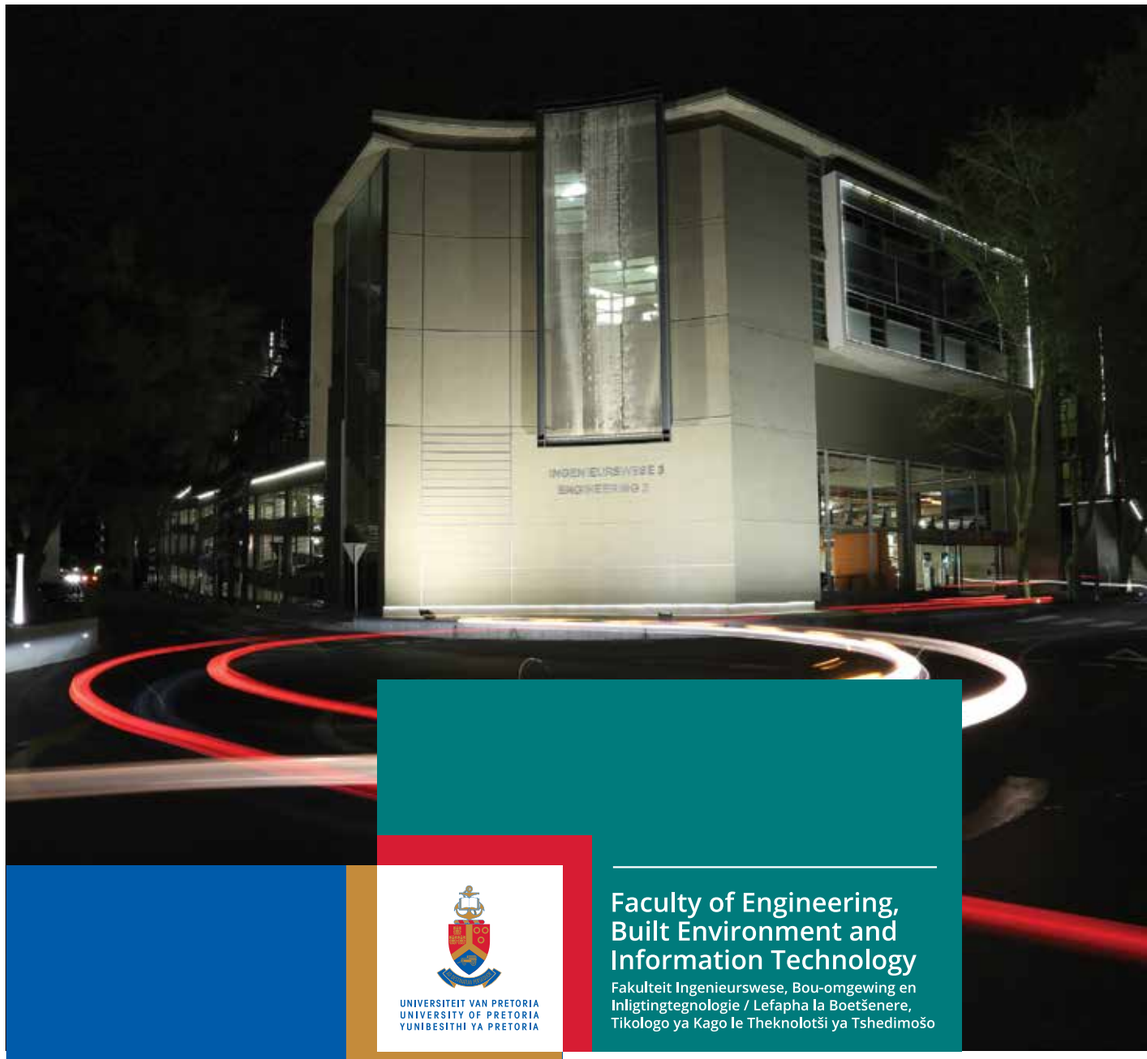
Multi-disciplinary Postgraduate Programme in Physical Asset Management



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Faculty of Engineering, Built Environment and Information Technology
Fakulteit Ingenieurswese, Bou-omgewing en Inligtingtegnologie / Lefapha la Boetšenere, Tikologo ya Kago le Theknolotši ya Tshedimošo

Centre for Asset Integrity Management

www.up.ac.za/caim

Make today matter

Physical asset management spans many disciplines, both in the technical engineering domain as well as in the management domain. The University of Pretoria is proud to present this unique and comprehensive multi-disciplinary programme in physical asset management.

BScHons (Applied Sciences) Mechanics: Physical Asset Management

The physical asset management challenge

Physical Asset Management is the systematic and coordinated activity and practice through which an organisation optimally and sustainably manages its assets and asset systems, their associated performance, risks and expenditures over their life cycles for the purpose of achieving its organisational strategic plan (BSI PAS 55:2008).

Management of physical assets such as plant equipment, buildings, aero structures, machinery and vehicles focuses at a strategic level on establishing, operating and maintaining an asset portfolio that is aligned with the organisation's strategic objectives, within the context of the regulatory and broader organisational environment. Issues such as an asset management policy, strategy and system, as well as asset performance versus cost with due consideration of health and safety, are of pertinent importance.

At an operational management and technical level this translates to the need for deep understanding of asset management principles and processes, enhanced by specialised technical knowledge and techniques related to aspects such as asset design analysis, data acquisition, condition monitoring, diagnostics and prognostics, all within the context of asset life cycle management.

Physical Asset Management is therefore a truly multidisciplinary challenge which draws expertise from diverse fields such as management strategy, process optimisation, quality management, machine condition monitoring, artificial intelligence, statistics, structural dynamics, finite element analysis, fatigue and many more.

Objectives and key features of the Programme

It is recognised that many people active in the field of Physical Asset Management wish to increase their knowledge in the field, but do not necessarily want to complete the full research component usually associated with a Masters degree, which as a minimum requires two years of full time study. It is also recognised that many practitioners have a need for deep understanding of both the technical and management aspects of asset management, and that the learning be at a level that is recognised as a formal post-graduate academic qualification

It is in this context that Centre for Asset Integrity Management (C-AIM), Department of Mechanical and Aeronautical Engineering, and the Graduate School of Technology Management (GSTM) joined forces to develop a multi-disciplinary postgraduate programme in Physical Asset Management, that can be completed on a full-time (one year) or part-time (2 years) basis.

The outcome will be that the individual will have achieved the requirements to be awarded a BScHons (Applied Sciences) Mechanics: Physical Asset Management.

Unique features of the programme are as follows:

- Multi-disciplinary in that both the management and technical aspects of Physical Asset Management are addressed
- Flexibility in that students can construct their curriculum to have either a stronger focus on the management aspects of Physical Asset Management, or a stronger focus on the technical aspects thereof
- A combination of course based learning (75%) and research (25%)
- One year full-time or two years part-time study period
- Formal postgraduate qualification awarded by an internationally recognised university
- Portability, in that the Honours degree is recognised to be the equivalent of the first years' study requirement of a two year full time Masters degree, at the University of Pretoria
- The student is expected to complete at least eight 16 credit modules (128 credits in total), in line with the SAQA standard. This translates to approximately 1 280 notional hours of study, which typically consists of 20 lecture hours per course based module and the balance of study time made up of homework assignments

The key objectives of the programme are to meet the needs of asset management practitioners in terms of:

- Theoretical understanding of the technical and management aspects of physical asset management
- Exposure to the application of the theoretical concepts through industry relevant case studies, assignments as well as a mini research dissertation
- Exposure to leaders in various disciplines
- Interaction with a broad range of students

The programme exposes the student to both the management as well as the technical aspects of Physical Asset Management from a theoretical perspective. However, students will have to choose whether they prefer to do the majority of the taught modules and research project in either the technical or management domain.



Students must construct a curriculum consisting of eight 16 credit modules, of which four (16 credit modules) are compulsory, two elective modules (16 credit modules) and a research project (32 credit modules).

THE FOLLOWING FOUR MODULES ARE COMPULSORY FOR ALL STUDENTS:

Compulsory modules:

Maintenance Management IMC 780	16 credits (GSTM)	Reliability Engineering MIR 781	16 credits (ME)
Asset Management IBB 780	16 credits (GSTM)	Maintenance Practice MIP 780	16 credits (ME)

Students must then do two additional modules (32 credits), focussing on either the management or technical domain.

If you wish to pursue your studies with a **MANAGEMENT FOCUS** the following two modules are compulsory.

Engineering Techno Economics IKN 780	16 credits (GSTM)
Project Management IPK 780	16 credits (GSTM)

If you wish to pursue your studies with a **TECHNICAL FOCUS** select two of the honours modules offered by the Department of Mechanical and Aeronautical Engineering. The following are examples:

Condition Based Maintenance MIC 780	16 credits (ME)
Vibration-based condition monitoring MEV 781	16 credits (ME)
Maintenance Logistics MIP 782	16 credits (ME)
Non-destructive testing MCT 780	16 credits (ME)

Conduct research project on management related aspects of Physical Asset Management
(equivalent of 32 credits / 2 modules)

Conduct research project on technical related aspects of Physical Asset Management
(equivalent of 32 credits / 2 modules)

BScHons (Applied Sciences) Mechanics: Physical Asset Management