University of Pretoria Yearbook 2025

BScHons (Applied Science) *Mechanics - Physical Asset Management* (12243037)

Department	Mechanical and Aeronautical Engineering
Minimum duration of study	1 year
Total credits	128
NQF level	08

Programme information

This multidisciplinary programme exposes students to both the management as well as the technical aspects of Physical Asset Management from a theoretical perspective. Students will, however, have to choose whether they would prefer to conduct the research component of the programme in either the technical domain (register with the Department of Mechanical and Aeronautical Engineering) or in the management domain (register with the Graduate School of Technology Management).

The BScHons (Applied Science) degree is conferred by the following academic departments:

- Chemical Engineering
- Civil Engineering
- Industrial and Systems Engineering
- Materials Science and Metallurgical Engineering
- Mechanical and Aeronautical Engineering
- Mining Engineering

Any specific module is offered on the condition that a minimum number of students are registered for the module, as determined by the relevant head of department and the Dean. Students must consult the relevant head of department in order to compile a meaningful programme, as well as on the syllabi of the modules. The relevant departmental postgraduate brochures must also be consulted.

Admission requirements

1. BEng degree awarded by the University of Pretoria

   or
   relevant four-year bachelor's degree in engineering that the Engineering Council of South-Africa (ECSA) regards as acceptable for registration as a candidate engineer and for eventual registration as a professional engineer
   or
   three-year BSc (or equivalent) degree (in Natural Sciences)
   with a cumulative weighted average of at least 60% for the degree

or
relevant BTech qualification in an engineering discipline awarded by a university of technology in South Africa,
with a cumulative weighted average of at least 75% for the degree
and
no modules failed in the BTech degree
or
a relevant Advanced Diploma qualification (NQF Level 7) in an engineering discipline awarded by a university of technology in South Africa
with a cumulative weighted average of at least 70% for the diploma
and
no modules failed in the Advanced Diploma
or
four-year engineering-based university degree not recognised by ECSA for registration as a professional engineer

1. An entrance examination may be required
2. Comprehensive intellectual CV

Other programme-specific information

The curriculum comprises four core modules, two elective modules and a compulsory research project.

Any specific module is offered on the condition that a minimum number of students are registered for the module, as determined by the relevant head of department and the Dean.

All students must complete the module MSS 732 Research study 732.

A limited number of appropriate modules from other departments are allowed. Not all modules listed are presented each year. Please consult the postgraduate brochure found on the departmental website for further information.

Examinations and pass requirements

Refer also to G18 and G26.

i. The examination in each module for which a student is registered, takes place during the normal examination period after the conclusion of lectures (i.e. October/November or May/June).
ii. G18(1) applies with the understanding that under exceptional circumstances an extension of a maximum of three years may be approved: provided that the Dean, on reccommendation of the relevant head of department, may approve a stipulated limited extension of this period.
iii. A student must obtain at least 50% in an examination for each module where no semester or year mark is required. A module may only be repeated once.
iv. In modules where semester or year marks are awarded, a minimum examination mark of 40% and a final mark of 50% is required.
v. No supplementary or special examinations are granted at postgraduate level.

Pass with distinction

A student passes with distinction if he or she obtains a weighted average of at least 75% (not rounded) in the

first 128 credits for which he or she has registered (excluding modules which were discontinued timeously). The degree is not awarded with distinction if a student fails any one module (excluding modules which were discontinued timeously). The degree must be completed within the prescribed study period.

Curriculum: Final year

Minimum credits: 128

Core modules: 96 credits
Elective modules: 32 credits

Additional information:

- MSS 732 is a compulsory module and should be selected by all students as a core module.
- Students must select two elective modules (32 credits) focussing on either the management or technical domain:
  - For the Management focus, the following two modules are compulsory: ISE 780 and IPK 780.
  - For the Technical focus, two honours modules from the following list must be selected: MCT 780, MEV 781, MIC 780, MIP 782, MUU 781.
- **Please note:** A student must pass any two of the 16-credit core modules (i.e. excluding MSS 732) in the first semester of study in the programme to be allowed to continue with the programme.
- Consult the Department Brochure for additional information.

Core modules

Engineering technology economics 780 (IKN 780) - Credits: 16.00
Maintenance and asset management 780 (IMC 780) - Credits: 16.00
Maintenance practice 780 (MIP 780) - Credits: 16.00
Reliability engineering 781 (MIR 781) - Credits: 16.00
Research study 732 (MSS 732) - Credits: 32.00

Elective modules

Project management 780 (IPK 780) - Credits: 16.00
Systems thinking and engineering 780 (ISE 780) - Credits: 16.00
Non-destructive testing 780 (MCT 780) - Credits: 16.00
Vibration-based condition monitoring 781 (MEV 781) - Credits: 16.00
Condition-based maintenance 780 (MIC 780) - Credits: 16.00
Engineering modelling 780 (MIL 780) - Credits: 16.00
Maintenance logistics 782 (MIP 782) - Credits: 16.00
Fossil fuel power stations 781 (MUU 781) - Credits: 16.00

General Academic Regulations and Student Rules

The General Academic Regulations (G Regulations) and General Student Rules apply to all faculties and registered students of the University, as well as all prospective students who have accepted an offer of a place at the University of Pretoria. On registering for a programme, the student bears the responsibility of ensuring that they familiarise themselves with the General Academic Regulations applicable to their registration, as well as the relevant faculty-specific and programme-specific regulations and information as stipulated in the relevant yearbook. Ignorance concerning these regulations will not be accepted as an excuse for any transgression, or basis for an exception to any of the aforementioned regulations. The G Regulations are updated annually and may be amended after the publication of this information.

Regulations, degree requirements and information

The faculty regulations, information on and requirements for the degrees published here are subject to change and may be amended after the publication of this information.

University of Pretoria Programme Qualification Mix (PQM) verification project

The higher education sector has undergone an extensive alignment to the Higher Education Qualification Sub-Framework (HEQSF) across all institutions in South Africa. In order to comply with the HEQSF, all institutions are legally required to participate in a national initiative led by regulatory bodies such as the Department of Higher Education and Training (DHET), the Council on Higher Education (CHE), and the South African Qualifications Authority (SAQA). The University of Pretoria is presently engaged in an ongoing effort to align its qualifications and programmes with the HEQSF criteria. Current and prospective students should take note that changes to UP qualification and programme names, may occur as a result of the HEQSF initiative. Students are advised to contact their faculties if they have any questions.