University of Pretoria Yearbook 2020

BScHons Applied Science Mechanics (12243006)

Minimum duration of study	1 year
Total credits	128
NQF level	08

Programme information

The curriculum is determined in consultation with the relevant heads of departments. A student is required to pass modules to the value of at least 128 credits.

The degree is awarded on the basis of examinations only.

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. 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 excluding the National Diploma; i.e. one offered by a department of mechanical engineering at 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** four-year engineering-based university degree not recognised by ECSA for registration as a professional engineer
2. An entrance examination may be required
3. Comprehensive intellectual CV

Other programme-specific information

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

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. A student registered for the honours degree must complete his or her studies within two years (full-time), or within three years (part-time) after first registration for the degree: Provided that the Dean, on recommendation 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% 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

MSS 732 is a compulsory module and should be selected by all students as a core module.

When selecting your other core and elective modules, please consult the Departmental Brochure.

Core modules

Maintenance practice 780 (MIP 780) - Credits: 16.00
Reliability engineering 781 (MIR 781) - Credits: 16.00
Aerodynamics 780 (MLD 780) - Credits: 16.00
Flight mechanics 780 (MLV 780) - Credits: 16.00
Research study 732 (MSS 732) - Credits: 32.00
Fatigue 780 (MSV 780) - Credits: 16.00
Fluid mechanics 780 (MSX 780) - Credits: 16.00
Numerical methods 780 (MWN 780) - Credits: 16.00

Elective modules

Control Systems 780 (MBB 780) - Credits: 16.00
Non-destructive testing 780 (MCT 780) - Credits: 16.00
Advanced finite element methods 781 (MEE 781) - Credits: 16.00
Mechatronics 780 (MEG 780) - Credits: 16.00
Vibration-based condition monitoring 781 (MEV 781) - Credits: 16.00
Advanced heat and mass transfer 780 (MHM 780) - Credits: 16.00
Condition-based maintenance 780 (MIC 780) - Credits: 16.00
Maintenance logistics 782 (MIP 782) - Credits: 16.00
Unmanned aircraft systems technology 783 (MLD 783) - Credits: 16.00
Avionics 784 (MLD 784) - Credits: 16.00
Air conditioning and refrigeration 780 (MLR 780) - Credits: 16.00
Optimum design 780 (MOO 780) - Credits: 16.00
Fracture mechanics 780 (MSF 780) - Credits: 16.00
Numerical thermoflow 780 (MSM 780) - Credits: 16.00
Numerical thermoflow 781 (MSM 781) - Credits: 16.00
Advanced thermodynamics and energy systems 781 (MTX 781) - Credits: 16.00
Reactor coolant flow and heat transfer 782 (MUA 782) - Credits: 16.00
Reactor engineering science 783 (MUA 783) - Credits: 16.00
Reactor physics 784 (MUA 784) - Credits: 16.00
Reactor materials engineering 785 (MUA 785) - Credits: 16.00
Reactor materials engineering 786 (MUA 786) - Credits: 16.00
Fossil fuel power stations 781 (MUU 781) - Credits: 16.00
Vehicle dynamics 780 (MVI 780) - Credits: 16.00

The information published here is subject to change and may be amended after the publication of this information. The General Regulations (G Regulations) apply to all faculties of the University of Pretoria. It is expected of students to familiarise themselves well with these regulations as well as with the information contained in the General Rules section.

Ignorance concerning these regulations and rules will not be accepted as an excuse for any transgression.