University of Pretoria Yearbook 2022

BScHons (Applied Science) *Metallurgy* (12243007)

Department	Materials Science and Metallurgical Engineering
Minimum duration of study	1 year
Total credits	120
NQF level	08

Programme information

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 civil 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 **or** 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
2. An entrance examination may be required
3. Comprehensive intellectual CV

Other programme-specific information

A limited number of appropriate modules from other departments and from other divisions of Chemical Engineering are allowed. Not all modules listed are presented each year. Please consult the departmental postgraduate brochure.

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: 120

NLO 700 is a compulsory research module (30 credits).
Select one of the other three core modules listed (30 credits) and two modules from the list of electives (60 credits).

Core modules

Basic physical metallurgy 701 (NFM 701) - Credits: 30.00
Basic extractive metallurgy 701 (NHM 701) - Credits: 30.00
Research project 700 (NLO 700) - Credits: 30.00
Basic pyrometallurgy 701 (NPM 701) - Credits: 30.00

Elective modules

Electrometallurgy 700 (NEL 700) - Credits: 30.00
Fabrication engineering 700 (NFE 700) - Credits: 30.00
Physical metallurgy 700 (NFM 700) - Credits: 30.00
Heat treatment 700 (NHB 700) - Credits: 30.00
Hydrometallurgy 700 (NHM 700) - Credits: 30.00
Corrosion 700 (NKR 700) - Credits: 30.00
Mechanical metallurgy 700 (NMM 700) - Credits: 30.00
Minerals processing 700 (NMP 700) - Credits: 30.00
Applied theory of sampling for minerals processing 701 (NMP 701) - Credits: 30.00
Pyrometallurgy 700 (NPM 700) - Credits: 30.00
Froth flotation 700 (NSF 700) - Credits: 30.00
Welding metallurgy 700 (NSW 700) - Credits: 30.00
Refractory materials 700 (NVM 700) - Credits: 30.00
Welding processes 700 (NWP 700) - Credits: 30.00
Design of welded structures 701 (NWP 701) - Credits: 30.00