University of Pretoria Yearbook 2022

BScHons (Applied Science) (Industrial Systems) (12243002)

Department	Industrial and Systems Engineering
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 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

The programme consists of two compulsory modules (48 credits) with any relevant core module as prerequisite and the remainder of credits either core and/or elective modules. Students are allowed 16 relevant credits from outside the department. Students are advised to select modules in line with their desired research stream:

- Resource Optimisation (RO)
- Business Process Optimisation (BPO)
- Supply Chain Engineering (SCE)

Please refer to the Programme Guide for further information, available here.

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

BCS 780 and BAN 780 are compulsory modules.

Core modules

Industrial analysis 780 (BAN 780) - Credits: 16.00
Enterprise engineering and research methods 781 (BBA 781) - Credits: 32.00
Industrial and systems engineering research 780 (BCS 780) - Credits: 32.00
Supply chain processes 781 (BLK 781) - Credits: 16.00
Operations research 780 (BOZ 780) - Credits: 32.00
Manufacturing planning systems 782 (BPZ 782) - Credits: 32.00
Simulation modelling 780 (BUY 780) - Credits: 32.00
Supply chain design 780 (BVK 780) - Credits: 16.00

Elective modules

Reliability engineering 780 (BTH 780) - Credits: 16.00