



University of Pretoria Yearbook 2024

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
a relevant Advanced Diploma qualification (NQF Level 7), excluding the National Diploma; i.e. one offered by a department of industrial engineering at 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

a 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.

- 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).
- 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 recommendation of the relevant head of department, may approve a stipulated limited extension of this period.
- 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.
- In modules where semester or year marks are awarded, a minimum examination mark of 40% and a final mark of 50% is required.
- 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.

Please note that not all modules listed are presented each year. Please consult the departmental postgraduate brochure.

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

Quality management 780 (BGH 780) - Credits: 16.00

Systems engineering 780 (BSS 780) - Credits: 32.00

Reliability engineering 780 (BTH 780) - 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.