

University of Pretoria Yearbook 2017

BEngHons Chemical Engineering (12240022)

Duration of study 1 year

Total credits 128

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.

Admission requirements

Subject to the stipulations of Reg. G.1.3 and G.54, a BEng degree or equivalent qualification is required for admission.

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

- 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).
- 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.
- 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% 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).



Curriculum: Final year

Minimum credits: 128

Core modules

Process integration 732 (CIP 732)

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|------------------------|--------------------------------|
| Module credits | 32.00 |
| Prerequisites | No prerequisites. |
| Contact time | 44 contact hours per semester |
| Language of tuition | Module is presented in English |
| Academic organisation | Chemical Engineering |
| Period of presentation | Semester 1 |

Chemical engineering 702 (CIR 702)

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|------------------------|--------------------------------|
| Module credits | 32.00 |
| Prerequisites | No prerequisites. |
| Contact time | 8 contact hours per semester |
| Language of tuition | Module is presented in English |
| Academic organisation | Chemical Engineering |
| Period of presentation | Year |

Carbon materials science research and technology 732 (CMS 732)

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|------------------------|--------------------------------|
| Module credits | 32.00 |
| Prerequisites | No prerequisites. |
| Contact time | 10 lectures per week |
| Language of tuition | Module is presented in English |
| Academic organisation | Chemical Engineering |
| Period of presentation | Semester 1 or Semester 2 |

Product design 732 (CPO 732)

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|------------------------|--------------------------------|
| Module credits | 32.00 |
| Prerequisites | No prerequisites. |
| Contact time | 24 contact hours per semester |
| Language of tuition | Module is presented in English |
| Academic organisation | Chemical Engineering |
| Period of presentation | Semester 1 |



Polymer materials science and research 732 (CPW 732)

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|-------------------------------|--------------------------------|
| Module credits | 32.00 |
| Prerequisites | No prerequisites. |
| Contact time | 32 contact hours per semester |
| Language of tuition | Module is presented in English |
| Academic organisation | Chemical Engineering |
| Period of presentation | Semester 1 |

Bio-reaction engineering 732 (CRH 732)

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|-------------------------------|--------------------------------|
| Module credits | 32.00 |
| Prerequisites | No prerequisites. |
| Contact time | 32 contact hours per semester |
| Language of tuition | Module is presented in English |
| Academic organisation | Chemical Engineering |
| Period of presentation | Semester 1 |

Module content

In depth understanding of the important metabolic pathways in microorganisms, black box models for describing stoichiometry of bioreactions, metabolic flux analysis as the basis for metabolic (genetic) engineering, kinetics of microbial conversions and basic bioreactor design.

Research orientation 700 (CRO 700)

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|-------------------------------|--------------------------------|
| Module credits | 32.00 |
| Prerequisites | No prerequisites. |
| Contact time | 32 contact hours per semester |
| Language of tuition | Module is presented in English |
| Academic organisation | Chemical Engineering |
| Period of presentation | Semester 1 and Semester 2 |

Module content

Design, construction and testing of experimental setup. Initial test experiments, calibrations and modifications. Preliminary results. Experimental plan and schedule for the research dissertation. Detailed predictions on anticipated measurements. Directly relevant literature (core essentials taken from CIR 702).

Process control system research and development 732 (CSP 732)

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| Module credits | 32.00 |
| Prerequisites | No prerequisites. |
| Contact time | 32 contact hours per semester |
| Language of tuition | Module is presented in English |



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| Academic organisation | Chemical Engineering |
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| Period of presentation | Semester 1 |
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Additive technology 732 (CYM 732)

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| Module credits | 32.00 |
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| Prerequisites | No prerequisites. |
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| Contact time | 32 contact hours per semester |
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| Language of tuition | Module is presented in English |
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| Academic organisation | Chemical Engineering |
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| Period of presentation | Semester 1 |
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Water quality management and research 780 (WQB 780)

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| Module credits | 32.00 |
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| Prerequisites | No prerequisites. |
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| Contact time | 32 contact hours per semester |
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| Language of tuition | Module is presented in English |
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| Academic organisation | Chemical Engineering |
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| Period of presentation | Semester 1 or Semester 2 |
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Fluoro-materials science research and technology 732 (CFT 732)

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| Module credits | 32.00 |
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| Prerequisites | No prerequisites. |
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| Contact time | 2 lectures per week |
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| Language of tuition | Module is presented in English |
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| Academic organisation | Chemical Engineering |
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| Period of presentation | Semester 2 |
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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.