# University of Pretoria Yearbook 2022

# BEdHons *Life Sciences Education* (09240002)

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| **Department** | Science, Mathematics and Technology Education |
| **Minimum duration of study** | 1 year |
| **Total credits** | 128 |
| **NQF level** | 08 |

## Admission requirements

1. Relevant bachelor's degree and a relevant Teacher's Diploma (e.g. BA + HED) **or** relevant bachelor's degree and a Postgraduate Certificate in Education **or** relevant four-year bachelor's degree in Education (e.g. BEd) **or** relevant M+4 Teacher's Diploma and relevant Advanced Diploma in Education.

## Additional requirements

Selection is based on:

- Meeting the minimum academic requirements required for admission;
- Previous academic performance;
- Applicable academic and/or teaching background;
- Availability of supervision for the required research project;
- Proven academic potential which may include academic communication and computer application skills;
- Additionally, an interview may be requested;
- The requirements of professional registration bodies;
- The discretion of the head of department.

## Examinations and pass requirements

Subject to exceptions approved by the Dean, on the recommendation of the relevant head of department, a student may not sit for an examination for the honours degree more than twice in the same module.

**Chancellor's examination**
A final-year student who has failed a maximum of three semester modules or their equivalent, with a final mark of at least 40% in each, may be admitted by the Dean to a Chancellor's examination/s in these modules during January of the following year, provided that this will enable the student to comply with all the requirements for the degree.

## Research information

A research project is compulsory and must be handed in for examination, as prescribed by the particular department.

# Pass with distinction

The degree is conferred with distinction on a student who has obtained an average of at least 75%, with a minimum of 70% in each module (no rounding).

# Curriculum: Final year

**Minimum credits: 128**

When the full-time option is chosen, all "Fundamental" and "Core" modules must be selected. When the part-time option is chosen, NMQ 745, EDS 711, CDD 710 and API 711 must be selected in the 1st year and NMQ 755, LSN 730, SMP 780 and SCU 731 must be selected in the final year.

## Fundamental modules

### Part 1: Research proposal 755 (NMQ 755)

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|---|---|
| **Module credits** | 16.00 |
| **NQF Level** | 08 |
| **Language of tuition** | Module is presented in English |
| **Department** | Humanities Education |
| **Period of presentation** | Semester 1 |

**Module content**

Guided literature research, formulation of a conceptual framework and development of a research proposal for a supervised research project of limited scope.

### Part 2: Research report 780 (SMP 780)

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| **Module credits** | 16.00 |
| **NQF Level** | 08 |
| **Prerequisites** | NMQ 755 |
| **Language of tuition** | Module is presented in English |
| **Department** | Science Mathematics and Technology Education |
| **Period of presentation** | Semester 2 |

**Module content**

Supervised research project of limited scope. Research proposal development; Use quantitative and/or qualitative methods. Writing a research report.

## Core modules

### Assessment approaches and instruments 711 (API 711)

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|---|---|
| **Module credits** | 16.00 |
| **NQF Level** | 08 |
| **Prerequisites** | No prerequisites. |
| **Language of tuition** | Module is presented in English |
| **Department** | Science Mathematics and Technology Education |

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|---|---|
| **Period of presentation** | Semester 2 |

**Module content**

Foundations, principles and ethics of assessment practices. International trends. Quantitative and qualitative modes of assessment and appropriate instruments. Generating evidence for assessment. Assessment and quality assurance. Techniques of computer-based assessment.

## Curriculum development 710 (CDD 710)

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|---|---|
| **Module credits** | 16.00 |
| **NQF Level** | 08 |
| **Prerequisites** | No prerequisites. |
| **Language of tuition** | Module is presented in English |
| **Department** | Science Mathematics and Technology Education |
| **Period of presentation** | Semester 1 or Semester 2 |

**Module content**

Principles and foundations of curriculum/programme design and development. International and national models and trends in curriculum/programme development. Principles of outcomes-based programming in the SAQA context. Curriculum development models and instruments in action. Situation and task analysis needs assessment. Development. Dissemination. Implementation as a change process. Assessment and evaluation.

## Philosophy and social imperatives of education 711 (EDS 711)

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|---|---|
| **Module credits** | 16.00 |
| **NQF Level** | 08 |
| **Prerequisites** | No prerequisites. |
| **Language of tuition** | Module is presented in English |
| **Department** | Educational Psychology |
| **Period of presentation** | Semester 1 |

**Module content**

Meta-theories in education. Empiricism; rational empiricism; critical rationalism; critical theory; phenomenology; hermeneutics; system theory; philosophies in education: traditional philosophies; indigenous (African) philosophies. The influence of modernism and postmodernism on education. Sociological imperatives for education. Theories of societal change and roles and values of education. Comparative perspectives on learning theories and their meaning for education.

## Life science education 730 (LSN 730)

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|---|---|
| **Module credits** | 16.00 |
| **NQF Level** | 08 |
| **Prerequisites** | No prerequisites. |
| **Language of tuition** | Module is presented in English |

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|---|---|
| **Department** | Science Mathematics and Technology Education |
| **Period of presentation** | Semester 1 or Semester 2 |

**Module content**

The nature and structure of life science: implications for life sciences teaching; learning excellence in life sciences; development and administration of a school's life sciences department; planning of learning activities in life sciences; experimentation and research methodology; practical work, demonstrations and microscope work; management and use of organisms in the laboratory; the life sciences club; excursions and fieldwork; safety in the laboratory.

## Educational research methodology 745 (NMQ 745)

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|---|---|
| **Module credits** | 16.00 |
| **NQF Level** | 08 |
| **Language of tuition** | Module is presented in English |
| **Department** | Science Mathematics and Technology Education |
| **Period of presentation** | Semester 1 |

**Module content**

The nature of educational enquiry: contexts of research, research ethics, truth, rationality, subjectivity and objectivity; Quantitative and qualitative modes of enquiry, research designs and data collection techniques. Various approaches to qualitative research including case study research, historical research, ethnographic research, and action research. Basic concepts and principles of quantitative research. Statistical techniques in the educational research process. Survey methodology and questionnaire design. Classification and graphical representation of data. Descriptive measures. Statistical inference. Data-processing procedures. Parametric versus non-parametric tests. Some test statistics (e.g. F-Test and T-test). Formulating a research methodology for a limited project.

## Sciences curriculum 731 (SCU 731)

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|---|---|
| **Module credits** | 16.00 |
| **NQF Level** | 08 |
| **Language of tuition** | Module is presented in English |
| **Department** | Science Mathematics and Technology Education |
| **Period of presentation** | Semester 2 |

**Module content**

The nature of the natural sciences, technology and mathematics: public understanding of scientific, mathematical and technological endeavours and their impact on society. Ethical implications of practices and advances in these fields. Indigenous Knowledge Systems (IKS), ethno-mathematics and technologies and ways of knowing. Implications for teaching and learning content, and anticipated outcomes. The purpose and nature of curricula to develop scientific ways of understanding the world.

The regulations and rules for the degrees published here are subject to change and may be amended after the publication of this information.

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.