

# Postgraduate Diploma in Nuclear Science and Technology with Nuclear Technology Management

## About the qualification

**Curriculum: I501P**

**Qualification code: 7DC D02**

**Delivery mode: Distance (Online)**

This programme supplies students all the theoretical knowledge required by the NWU's research Masters of Science in Engineering Sciences with Nuclear Engineering.

The field of Nuclear Engineering comprises the technical aspects, such as nuclear reactor design, and the nuclear technology management aspects, such as nuclear Project Management, nuclear policy and financial management.

The present programme focuses on the theoretical knowledge underlying the said technical aspects, especially nuclear reactor design, while another programme will focus on the technology management aspects.

This programme provides learners with:

- a broader and more in-depth knowledge of Nuclear Engineering sciences;
- advanced education in the field of Nuclear Engineering;
- problem-solving ability;
- integration of knowledge across fields;
- the ability to execute a project in the field of Nuclear Engineering and to communicate the results orally and in writing.

Module code	Descriptive names	Credits
NUCL 511	Nuclear Engineering I	16
NUCL 512	Radiation and the Environment	16
NULC 513	Nuclear Reactor Technology	16
NUCL 514	PWR Technology	16
NUCL 525	Nuclear Project Management	16
NUCL 526	Nuclear Reactor Safety	16
NUCL 527	Nuclear Energy Policy and Business	16
NUCL 528	Research Methodology	16

## Curriculum outcomes

On completion of the qualification, the student should be able to demonstrate:

- A comprehensive and systematic knowledge base in nuclear engineering, as well as a depth of knowledge in nuclear physics and thermal fluid sciences.

- A coherent and critical understanding of the principles and theories of nuclear engineering; an ability to critique current research and advanced scholarship in an area of nuclear engineering; an ability to make sound theoretical judgements based on evidence and an ability to think epistemologically (i.e. from a sound knowledge framework). 17
- An ability to identify, analyse and deal with complex and/or real world problems and issues using evidence-based solutions and theory-driven arguments in the field of nuclear engineering.
- Efficient and effective information-retrieval and processing skills; the identification, critical analysis, synthesis and independent evaluation of quantitative and/or qualitative data; an ability to conduct research.
- An ability to present and communicate academic professional work effectively.

## Compilation of curriculum

In accordance with General Academic Rule 3.1.1., the postgraduate diploma consists of a number of modules with a total credit value of 128 at NQF level 8.

One credit represents 10 notional study hours, which suggests that a student should expect to spend at least 1280 study hours on the programme.

The curriculum comprises of 8 core modules.

Components	Composition	Credits
8 x modules	Core compulsory	16 each
<b>Total credits for curriculum</b>		<b>128</b>

### Duration

- The minimum term of study is one (1) year
- For the maximum duration refer to General Academic Rule 1.14.

### Minimum admission requirements for the qualification

- Three-year BSc degree (with Mathematics or Physics, at least at second year level); or
- BTech (Engineering).