Faculty of Natural and Agricultural Sciences

Diplomas
BSc Degrees
BSc Agriculture Degrees
BSc Extended Programmes

- Computer Science and Information Systems
- Business Mathematics and Informatics
- Mathematical and Statistical Sciences
- Physical and Chemical Sciences
- Biological Sciences
- Geo- and Spatial Sciences
- Agricultural Sciences
- Indigenous Knowledge Systems

Contact us:
018 299 2711
natural-sciences.nwu.ac.za
@NWU_FNAS

NWU Faculty of Natural and Agricultural Sciences

To speak to a subject advisor visit: natural-sciences.nwu.ac.za/advisors

With study sites in Mafikeng, Potchefstroom and Vanderbijlpark
**Chemistry**: The study of the properties and interactions of matter.

**Biochemistry**: The study of the chemical basis of living phenomena.

**Physics**: The study of natural laws.

**Statistics**: The study of numerical datasets and the interpretation thereof.

**Mathematics and Applied Mathematics**: The study of numbers, quantities and space.

**Botany**: The study of plants ranging from unicellular algae to flowering plants.

**Zoology**: The study of the interactions of animals with their environment.

**Microbiology**: The study of cellular organisms including archaea, bacteria, fungi and protists and acellular entities such as viruses.

**Geology and Soil Science**: The study of earth matter and related processes.

**Geography**: The study of the patterns, processes and interactions of human and physical landscapes, and the management of human activities to ensure environmental sustainability.

**Agriculture**: The cultivation and breeding of animals, plants and fungi for products used to sustain and enhance life.

**Quantitative Risk Management**: Represents the discipline which deals with the ability of an organisation to quantify and manage its risk.

**Financial Mathematics**: A field of applied mathematics, concerned with mathematical modeling of financial markets.

**Actuarial Science**: A discipline that deals with assessing the risks in the insurance and finance fields using various mathematical and statistical methods.

**Data-Mining**: The process of discovering patterns in large data sets involving methods at the intersection of machine learning, statistics, and database systems.

**Computer Science and Information Systems**: The study of computers, algorithms and information processing.

**Urban and Regional Planning**: The planning of cities and regions.
Faculty of Natural and Agricultural Sciences

BSc Degrees (3 Years)

Chemistry & Physics (PC/MC)
Chemistry, Mathematics & Applied Mathematics (PC)
Physics & Mathematics (MC/PC)
Physics & Applied Mathematics (MC/PC)
Physics & Computer Science (MC/PC)
Computer Science & Statistics (PC/VC)
Computer Science & Mathematics (MC/PC)
Geography & Applied Mathematics (PC)
Statistics & Mathematics (PC)
Mathematics (PC)
Applied Mathematics & Chemistry (MC)
Chemistry & Mathematics (MC)
Applied Mathematics & Electronics (MC)
Applied Mathematics & Mathematics (MC)
Electronics & Mathematics (MC)
Electronics & Physics (MC)
Chemistry & Computer Science (MC)
Computer Science & Electronics (MC)

*Biochemistry & Chemistry (MC/PC)

Admission Requirements:
Mathematics Level 5 (60-69%)
Programmes marked with a * mathematics requirement is Level 4 (50-59%)
Physical Science Level 4 (50-59%)
APS: 26

Take Note: (MC) = Mafikeng (PC) = Potchefstroom (VC) = Vanderbijlpark
Faculty of Natural and Agricultural Sciences

BSc Degrees (3 Years)

Admission Requirements:
Mathematics Level 5 (60-69%)
APS: 26

Computer Science & Economics (PC/VC)
Mathematics & Economics (PC)

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FACULTY OF NATURAL AND AGRICULTURAL SCIENCES

BSc in Agriculture (4 Years)
With Specialisation In:

- Agricultural Economics (MC)
- Animal Science (MC)
- Agronomy & Horticulture (MC)
- Animal Health (MC)

ADMISSION REQUIREMENTS:
- English Level 4 (50-59%)
- Mathematics Level 4 (50-59%)
- Physical Science OR Life Sciences Level 4 (50-59%)
- APS: 22

Agricultural Economics and Agronomy (PC)
Soil Science and Agronomy (PC)

ADMISSION REQUIREMENTS:
- English Level 4 (50-59%)
- Mathematics Level 4 (50-59%)
- Physical Science Level 4 (50-59%)
- APS: 22
BSc in Biological Sciences (3 Years)

Microbiology & Biochemistry (MC/PC)
Microbiology & Botany (MC/PC)
Zoology & Botany (PC)
Zoology & Microbiology (PC)
Microbiology & Physiology (PC)
Zoology & Biochemistry (PC)
Chemistry & Physiology (PC)
Botany & Biochemistry (MC/PC)
Zoology & Physiology (PC)

ADMISSION REQUIREMENTS:
Mathematics Level 4 (50-59%)
Physical Science Level 4 (50-59%)
APS: 26

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FACULTY OF
NATURAL AND AGRICULTURAL SCIENCES

BSc IN ENVIRONMENTAL SCIENCES (3 YEARS)

Geology & Geography (PC)
Geology & Botany (PC)
Zoology & Geography (PC)
Geography & Botany (MC/PC)
Zoology & Geology (PC)
Geology & Microbiology (PC)
Tourism & Zoology (PC)
Tourism & Geography (PC)
Tourism & Botany (PC)

Geography & Computer Science (MC/PC)
Botany & Chemistry (MC/PC)
Microbiology & Chemistry (MC/PC)
Zoology & Chemistry (PC)
Geology & Chemistry (PC)

ADMISSION REQUIREMENTS:
Mathematics Level 4 (50-59%)
Physical Sciences Level 4 (50-59%)
APS: 26

Chemistry & Geography (MC)

ADMISSION REQUIREMENTS:
Mathematics Level 5 (60-69%)
Physical Sciences Level 4 (50-59%)
APS: 26

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FACULTY OF
NATURAL AND AGRICULTURAL SCIENCES

BSc in Information Technology (3 Years)

Presented on the Potchefstroom and Vanderbijlpark Campuses.

ADMISSION REQUIREMENTS:
Mathematics Level 4 (50-59%)
APS: 26

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BUSINESS MATHEMATICS AND INFORMATICS
(3 YEAR BSc DEGREES)

- BSc in Financial Mathematics (PC/VC)
- BSc in Quantitative Risk Management (PC/VC)
- BSc in Business Analytics (Data-Mining) (PC/VC)
- BSc in Actuarial Science (PC)

ADMISSION REQUIREMENTS:
Mathematics
Level 6 (70% and higher)
APS: 32

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BSc in Urban & Regional Planning (4 Years)

ADMISSION REQUIREMENTS:
- Mathematics Level 5 (60-69%)
- APS: 28
- Selection Test

TAKE NOTE:
This programme is offered only on the Potchefstroom Campus. A maximum of 35 students are accepted annually. Applications close on 30 June annually. Late applications will be considered on merit if place is available. The NWU admissions office will contact students regarding the selection test. For more information contact Urban & Regional Planning: 018 299 2486.
What is Indigenous Knowledge?

Indigenous knowledge (IK) refers to the unique knowledge that has been developed in the local setting by a particular culture as they solved their survival challenges and sought for meaning in life. The fact that indigenous cultures and people have survived for centuries is a testimony that they had scientific knowledge of how to harness their environmental resources to meet their needs. IK includes various interconnected aspects of local cultures such as arts, crafts, music and dance; agriculture, food preparation and preservation; hunting, animal husbandry and leatherwork; nutrition, health & herbal medicine; dressmaking, leatherwork & beading; woodwork, architecture, commerce, leadership & management; etc.

ADMISSION REQUIREMENTS:

English Level 4 (50-59%)
Matriculation Exemption OR
Recognition of Prior Learning OR
GCE certification and an application for conditional exemption with HESA.

APS: 20

TAKE NOTE:
This degree is only available on the MC and presented only in English.
BSc Extended Degrees (4 Years)

Financial Mathematics (VC)
Business Analytics (Data-Mining) (VC)
Quantitative Risk Management (VC)

Information Technology (VC)

ADMISSION REQUIREMENTS:
Mathematics Level 4 (50-59%)
APS: 28

ADMISSION REQUIREMENTS:
Mathematics Level 3 (40-49%)
APS: 24

TAKE NOTE:
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BSc Extended Degrees (4 Years)

ADMISSION REQUIREMENTS:
- English Level 3 (40-49%)
- Mathematics Level 3 (40-49%)
- Physical Science OR Life Science Level 3 (40-49%)
- APS: 22

Faculty of Natural and Agricultural Sciences

Applied Mathematics & Chemistry (MC)
Applied Mathematics & Electronics (MC)
Computer Science & Mathematics (MC)
Chemistry & Computer Science (MC)
Chemistry & Mathematics (MC)
Physics & Applied Mathematics (MC)
Physics & Mathematics (MC)
Biochemistry & Chemistry (MC)
Chemistry & Physics (MC)
Physics & Computer Science (MC)
Applied Mathematics & Mathematics (MC)
Computer Science & Electronics (MC)
Electronics & Physics (MC)
Electronics & Mathematics (MC)
Botany & Chemistry (MC)
Geography & Botany (MC)
Computer Science & Geography (MC)
Microbiology & Chemistry (MC)
Chemistry & Geography (MC)
Microbiology & Biochemistry (MC)
Botany & Biochemistry (MC)
Botany & Microbiology (MC)

TAKE NOTE: These programmes are only available on the Mafikeng Campus and presented in English only.
FACULTY OF
NATURAL AND AGRICULTURAL SCIENCES

UNIVERSITY DIPLOMAS (3 YEARS)

ADMISSION REQUIREMENTS:
- English Level 3 (40-49%)
- Physical Science Level 3 (40-49%)
- OR Life Science Level 3 (40-49%)
- OR Agricultural Science Level 4 (50-59%)
- Mathematics Level 3 (40-49%)
- OR Mathematical Literacy Level 5 (60-69%)
- APS: 19

TAKE NOTE: These diplomas are available on the Mafikeng Campus only and are presented in English only.

Animal Science (MC)

Plant Science (with Crop Production) (MC)

Animal Health (MC)

ADMISSION REQUIREMENTS:
- English Level 3 (40-49%)
- Physical Science Level 3 (40-49%)
- OR Life Science Level 3 (40-49%)
- Mathematics Level 3 (40-49%)
- APS: 19