

## MISSION STATEMENT:

The programme aims to build capacity and skills in Environmental Water Requirements (EWR). This is achieved through multi-disciplinary and international training collaboration. Particular emphasis is placed on the development of analytical skills and critical thinking through high quality research outputs. This will enable students to compete with confidence as environmental practitioners in the national and international labour market.

## COURSE STRUCTURE:

The course consists of three modules:

- Management of ecological drivers in aquatic systems (OMBO 880) - 40 credits
- Management of ecological responders in aquatic systems (OMBO 881) - 40 credits
- Mini-dissertation (OMBO 873) - 100 credits

## PROGRAMME ARRANGEMENTS:

- Two year programme in a part-time format
- Three five day contact sessions per year in Potchefstroom

## ENTRY REQUIREMENTS:

- Appropriate honours degree or equivalent
- Ten students admitted annually based on qualifications and work experience

## MINI-DISSERTATION

(Module OMBO 873)

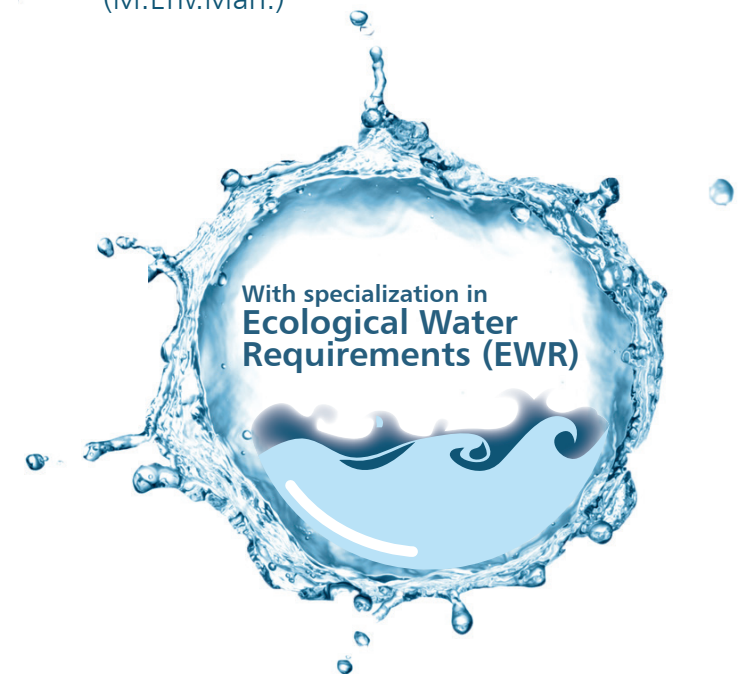
Students will be required to complete a research project in the form of a mini-dissertation under the supervision of an academic staff member. Candidates are expected to deliver at least one publication in a peer reviewed journal flowing from the research. Research topics and designs should ideally be chosen to complement the existing research focus of the programme.

The following are the main areas of research:

- **Water Management Policy Implementation Interface:**
  - Effectiveness
  - Performance of policy instruments
- **Ecological Drivers of Aquatic Systems:**
  - Water quality
  - Surface and ground water hydrology
- **Ecological Responders in Aquatic Systems**
  - Diatoms
  - Macro invertebrates
  - Fish

# MASTERS PROGRAMME IN ENVIRONMENTAL MANAGEMENT

(M.Env.Man.)



Presented by the  
**Research Unit for Environmental Science  
and Management**

**"But man is a part of nature, and his war against nature is inevitably a war against himself." - Rachel Carson**



NORTH-WEST UNIVERSITY  
YUNIBESITHI YA BOKONE-BOPHIRIMA  
NOORDWES-UNIVERSITEIT  
**POTCHEFSTROOM CAMPUS**



## MANAGEMENT OF ECOLOGICAL DRIVERS IN AQUATIC SYSTEMS

(Module OMBO 880)

### Principal instructors:

Prof Nico Smit, Prof Ingrid Dennis

### The main module outcomes are:

- Contextualise and critically comment on ecological water requirements within the framework of integrated water resource management.
- Evaluate and apply the methods and procedures needed to implement the surface and groundwater hydrology components of Resource Directed Measures (RDM).
- Demonstrate a critical understanding of geomorphological processes and be able to synthesise and integrate geomorphology into an ecological water requirement (EWR) assessment.
- Demonstrate a critical understanding of the various physicochemical constituents in aquatic ecosystems; the effect of these variables on aquatic organisms/communities; and to evaluate the different water quality measurement, monitoring and management options in aquatic ecosystems.

## MANAGEMENT OF ECOLOGICAL RESPONDERS IN AQUATIC SYSTEMS

(Module OMBO 881)

### Principal instructors:

Prof Victor Wepener, Prof Francois Retief

### The main module outcomes are:

- Demonstrate an understanding of the ecology of inland waters and evaluate mutual interactions between organisms as well as their interactions with the abiotic environment.
- Demonstrate creative skills and knowledge to coordinate, integrate and implement quality and quantity ecological water requirement (EWR) determinations.
- Evaluate the planning behind different water resource management options used to determine the needs of users and to ensure sustainable resource use.
- Contextualise environmental water requirements within the realm of water resource management, and to synthesise the various aspects of water resource management that needs to be considered in order to integrate and implement environmental flow requirements and the alternative mechanisms to achieve water resource protection.

## APPLICATIONS:

### Contact the University Admissions Office:

Tel: 018 - 299 4044 / 018 - 285 2619  
e-mail: [PostGrad-EnquiriesPOTCH@nwu.ac.za](mailto:PostGrad-EnquiriesPOTCH@nwu.ac.za)  
web: [www.nwu.ac.za/postgrad-application-process](http://www.nwu.ac.za/postgrad-application-process)

The Annual closing date for applications is end of October

## COURSE FEES:

### Contact the University Student Accounts Office:

Tel: 018 - 299 2670/1/2/3  
e-mail: [puk-studyfees@nwu.ac.za](mailto:puk-studyfees@nwu.ac.za)  
web: [www.nwu.ac.za/far/index.html](http://www.nwu.ac.za/far/index.html)

## BURSARIES AND LOANS:

### Contact the University Financial Support Bureau:

Tel: 018 - 299 2045 / 018 - 299 2051  
e-mail: [PUK-PostGradBurs@nwu.ac.za](mailto:PUK-PostGradBurs@nwu.ac.za)  
web: [www.nwu.ac.za/postgraduate-bursaries](http://www.nwu.ac.za/postgraduate-bursaries)

## CONTACT DETAILS:

### Administrative Officer: Ms Coréne van der Merwe

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### Program co-ordinator: Prof Francois Retief

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### Research Director: Prof Nico Smit

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