



Applications: <http://studies.nwu.ac.za/postgraduate-studies/higher-degree-admissions>

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**Masters Programme in
Environmental Management
(M.Env.Man.)**

With Specialization in Air Quality and Climate Change



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

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BACKGROUND

Climate change and air quality in environmental management faces significant current and future challenges, especially in South Africa (being one of the developing countries in the world). It is recognized that dealing with climate change and air pollution challenges will require a holistic approach from stakeholders from various disciplines. The learning outcomes of this programme will allow graduates to successfully equip themselves with environmental management and air quality management skills especially those in the sector responsible for management, governance and strategic decision making.

MISSION STATEMENT

The programme aims to build capacity and skills within the air quality and climate change sectors. 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

This course consists of 3 modules:

- OMBO886 - Atmospheric Emissions and Impacts – 40 Credits
- OMBO887 - Air Quality and Climate Change Law and Governance – 40 Credits
- OMBO873 - Dissertation - 100 Credits.

PROGRAMME ARRANGEMENTS

- Two year part-time Programme
- 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

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:

- Air quality & climate change policy implementation interface:
 - Effectiveness
 - Performance of policy instruments
 - Air quality and climate change governance and legislation
 - Designing interventions that could potentially mitigate air quality and climate change impacts at a local and global level.

ATMOSPHERIC EMISSIONS AND IMPACTS (Module OMBO886)

Principal Instructors: Prof Roelof Burger

The Main Module Outcomes are:

- Progressive and integrated knowledge and critical understanding with regard to air quality and climate change, to specifically enable engagement with and critique of current research and practices in air quality and climate change,

- Transdisciplinary perspectives that lead to an integrated understanding of air quality and climate change impacts and potential holistic mitigation strategies,
- Under supervision, an ability to select and effectively apply emission inventories, ambient monitoring, and numerical or statistical modelling in order to evaluate air pollution and climate change impacts,
- An ability to design interventions that could potentially mitigate air quality and climate change impacts at a local and global level, based on an understanding of hierarchical relations within these systems, and the ability to address the intended and unintended consequences of such interventions,
- An ability to use the resources of academic, professional and occupational discourses to communicate and defend substantial ideas that are the products of knowledge production or development in air quality and climate change,
- Flexibility and adaptability to apply their specialized knowledge and professional skills to practical contexts, including the South African air quality and climate change legislative environments,
- Management of a group in an unfamiliar context in order to solve contextual problems in air quality and climate change, monitoring the progress of the group and taking responsibility for task outcomes and application of appropriate resources
- Advanced and integrated knowledge and critical understanding to explain, apply and critically evaluate key terminologies, concepts, principles, processes, legislation and other requirements related to air quality and climate change legislation correctly;
- An integrated knowledge and engagement in air quality and climate change legislation and governance (including international obligations, policies, laws, regulations, norms and standards, etc.) relevant to air quality and climate change as well as the ability to critically evaluate, apply and effectively communicate these concepts for various purposes.
- Demonstrate integrated literacy by performing a gap analysis on current air quality and climate change practices versus legal requirements and how the legislative requirements related to air quality and climate change apply to the related challenges;
- Demonstrate the ability to act as innovative thinkers, capable of critical analysis, creative solving of complex problems and the generation of original ideas and concepts relating to complex nature of air quality and climate change legislation and governance including roles of the various role-players applicable, and how it relates to unfamiliar contexts and other fields of environmental management.
- The ability to demonstrate principled leadership and make autonomous ethical decisions which affect certain practices or professional issues towards selecting, reviewing, evaluating and applying appropriate legislative requirements related to air quality and climate change, and to reflect on and propose recommendations to effectively manage air quality within the South African legal framework.

AIR QUALITY AND CLIMATE CHANGE LAW AND GOVERNANCE (Module OMBO887)

**Principal Instructors: Mr. Phathu Mukwevho,
Prof Roelof Burger**

The Main Module Outcomes are: