



## Phytomedicine and Natural Products

Presented by the Department of Plant and Soil Sciences, University of Pretoria

### BLENDED LEARNING

The **Phytomedicine and Natural Products** short course aims to provide practical and theoretical skills to scientists and researchers specialising in the discovery of new natural products from plants and their use that would be of benefit to, especially the health and agricultural sectors. You will be provided with the skills to undertake research within the discipline of Phytomedicine and Natural Products, as articulated during the course.

When completing this course, you will have the benefit of attending a specialised course in life sciences. You will, therefore, be able to work at the interface between a specialised research environment and the more practical immediate problem-solving arena within a phyto-drug industry.

This multidisciplinary and collaborative course will incorporate plant science, phytochemistry, pharmacology, plant pathology, as well as safety and efficacy issues of commonly used phyto-drugs – with emphasis on pharmaceutical and agricultural applications.

This course is delivered as a blended learning solution consisting of online components of self-directed learning supplemented by face-to-face contact sessions.

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*Shifting knowledge to insight*



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## Course content

### Day 1

- Principal modes of extraction employed in traditional Phytopharmacy
- Thin layer chromatographic separation of compounds in extracts
- Formulation and preparation of Herbal Medicines

### Day 2

- Antibacterial activity of plant extracts using Microdilution assay

### Day 3

- Observations and discussion of results
- Theme 1: Discussion with Prof. Meyer
- Theme 2: Discussion with Dr. Tshikalange
- Theme 3: Discussion with Prof. Lall
- Theme 4: Discussion with Dr. Kritzing

## Learning outcomes

After successfully completing this course, you will have

- comprehensive insight into the field of Phytomedicine and Natural Products and a familiarity with the relevant literature
- gained knowledge on pharmacological action of low and high molecular plant constituents
- learnt different bioassays used in the laboratory to scientifically prove or reject the claims made on traditional use of medicinal plants for various ailments. This includes antimicrobial bioassays and antityrosinase assays
- learnt practical aspects related to the manufacture of plant based drugs, quality control and phyto-drug formulation, and
- gained knowledge about the antimicrobial efficacy of natural plant products (botanicals) against plant pathogens, as well as the application thereof in promoting food safety and security.

## Who should enrol?

This course is ideal for

- student interested in Medicinal Plant Sciences
- employers at pharmaceutical industries, alternative therapy treatment organisations such as naturopathy, homeopathy, herbal, food and cosmetic industries etc.
- entrepreneurs in pharmaceutical industries, and
- employees in the agricultural industries.

## Admission requirements

Prospective delegates should at least have a Bachelor's Degree or B-Tech, or a matric certificate with five years' experience in the relevant industry will be considered under exceptional

circumstances. Candidates will be selected by a steering committee and preference will be given to applicants who hold a degree or diploma.

## Accreditation and certification

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## Registration and enquiries

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