

Introduction to Biogas Technology Anaerobic Digestion Training Course

UJ PEETS prides itself in providing technical short courses to technical professionals.

The management of organic fraction of municipal solid waste, sewage sludge, agricultural waste and organic fraction industrial processes is a challenge due to their environmental pollution and non-recyclable characteristics. One of the approaches for deriving value from organic waste is through anaerobic digestion to generate biogas and organic fertiliser.

Through the effective management of organic waste, waste to landfill is reduced, economic return is possible, job creation, clean air, reduction of GHG emission and clean renewable energy are generated. Presently, there is limited knowledge on the potential of organic waste in South Africa. Municipal officials, farmers, hospitality industries, supermarket and general public needs to know the value in their organic waste and extract this value before disposing it.

Effective management of organic waste and appropriate policy development will not only increase the air quality of the country, it creates knowledge and technical know-how that could be exported to other African countries with similar waste management problems.

This workshop is aimed at developing the fundamental knowledge about organic waste and the role of anaerobic digestion to extract value from organic waste. In addition, the program sets the foundational knowledge required for more advance anaerobic digestion course and prepares the students for advanced theoretical and practical courses. At the end of this course, participants should understand the present management of organic waste, the potential value inherent in the organic waste, how anaerobic digestion can be used to extract value from organic waste, the existing legislation around organic waste management, and the role of biogas and the by-products of anaerobic digestion within the green economy.

TOPICS COVERED

SECTION 1

- Introduction to organic waste management
- The science and technology for biogas production
- Anaerobic digestion plants
- Digester types and components
- State of AD technology in South Africa

SECTION 2

- Substrate for biogas production
- Substrate handling and preparation
- Biogas cleaning and application
- Digestate management and application
- Field trip

SECTION 3

- Pre-feasibility analysis
- Design considerations
- Basic plant sizing
- Start-up and operations
- Regulatory framework & safety

ENVIRONMENT



WHO SHOULD ATTEND

NQF level 5 students, municipal officials, farmers, consultants, environmental enthusiasts and financial sectors.

YOU WILL LEARN ABOUT

Participants of this course will learn about different types of anaerobic digestion technologies, design principles and major components for utilization of biogas. Participants will also learn about substrate suitability, their preparation for anaerobic digestion as well as the theoretical biogas and digestate potential.

COURSE DURATION

Presented both online and as a one-week contact course, the course aims to introduce participants to the fundamentals of organic waste management and the role of anaerobic digestion in value recovery from organic waste. Through the knowledge gained from this course, participants will be able to identify viable organic waste suitable for anaerobic digestion, understand the principle of converting organic waste to biogas, the application of biogas and the environmental, ecological and socio-economic benefits of this technology pathway.

How to apply?

The SLP is housed within the University of Johannesburg's Faculty of Engineering and Built Environment. The entry level is NFQ 5.

- New Applications, please follow this [link](#) and use the Token: **FEBESLP**.
- If you are already registered at UJ or have been registered please follow this [link](#) and use your **student number and pin** to log in.
- Email the copies of your academic transcript, your highest obtained certificate and ID document to ujappdocs@listsrv.uj.ac.za and **CC** Ms Maggy Ngolwane (maggyn@uj.ac.za) with **your student number as the subject line** – to expedite your application. Ms Maggy Ngolwane is handling applications and registrations for the course.

Duration & Fees

The SLP will be rolled out during 2021 (dates to be advised) and is a self-taught 5-day online course, which you can do at your own pace over the course of 5 days. Interactive material such as online recorded lectures and reading material will be provided. You will spend around 100 hours of personal study on the course. The fee for the online course is a total of **R9 500**.

**For further enquiries
contact Elmarie Potgieter
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Other courses you may be interested in:

- Domestic anaerobic digestion
- Commercial anaerobic digestion
- Wastewater treatment anaerobic digestion