

University of Pretoria Yearbook 2021

Industrial waste engineering 787 (WAI 787)

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| Qualification | Postgraduate |
| Faculty | Faculty of Engineering, Built Environment and Information Technology |
| Module credits | 32.00 |
| NQF Level | 08 |
| Programmes | BSchHons Applied Science Environmental Technology BSchHons Applied Science Water Utilisation |
| Prerequisites | Admission to relevant programme. |
| Contact time | 32 contact hours per semester |
| Language of tuition | Module is presented in English |
| Department | Chemical Engineering |
| Period of presentation | Semester 2 |

Module content

Identification of source materials, physical and chemical properties of waste. Release and transport mechanisms from source to air, groundwater, soil. Primary pathways of contaminants including sorption, volatilisation, biotic and abiotic transformations. Toxicology: absorption, distribution, biochemical transformation, and secretion of chemicals. Acute and chronic toxicity quantification and evaluation of risk. Hazard identification, exposure assessment, toxicity assessment and risk characterisation. Minimum requirements for the handling, classification and disposal of hazardous waste. Minimum requirements for waste disposal by landfill. Minimum requirements for water monitoring at waste management facilities. Recycling and resource management. Waste prevention, minimisation and optimisation.

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