



University of Pretoria Yearbook 2022

Basic extractive metallurgy 701 (NHM 701)

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| Qualification | Postgraduate |
| Faculty | Faculty of Engineering, Built Environment and Information Technology |
| Module credits | 30.00 |
| NQF Level | 08 |
| Programmes | BScHons (Applied Science) (Metallurgy) |
| Prerequisites | No prerequisites. |
| Contact time | 48 contact hours per semester |
| Language of tuition | Module is presented in English |
| Department | Materials Science and Metallurgical Engineering |
| Period of presentation | Semester 1 or Semester 2 |

Module content

This module covers the fundamental principles of hydrometallurgy and minerals processing. In the minerals processing part of the module, students are given perspective on the scope of and functions in mineral processing, different unit operations and processing options for different deposits. Themes are comminution, classification, concentration, and solid-liquid separation. In the hydrometallurgy portion the merits and limitations of hydrometallurgy when compared with other metallurgical processes (e.g. pyrometallurgy) are considered; and different feed materials for hydrometallurgical processes; different unit processes in hydrometallurgy; fundamental thermodynamic and kinetic concepts as used in leaching; different leach reactors and their applications; solution purification and metal recovery processes; selecting a suitable flowsheet for a given feed material to produce a final metal product are discussed.

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