

University of Pretoria Yearbook 2022

Refractory materials 321 (NVM 321)

Qualification Undergraduate

Faculty Faculty of Engineering, Built Environment and Information Technology

Module credits 8.00

NQF Level 07

Programmes BEng (Metallurgical Engineering)

BEng (Metallurgical Engineering) ENGAGE

Prerequisites (NPT 220) and NPM 321 #

Contact time 2 lectures per week, 2 tutorials per week

Language of tuition Module is presented in English

Department Materials Science and Metallurgical Engineering

Period of presentation Semester 2

Module content

Classification, requirements and properties of refractory materials. Manufacturing principles. Specification and testing of refractory materials. The main refractory systems, i.e silica, aluminosilicates, alumina, magnesia, magnesia-chrome, magnesia-carbon, dolomite, zircon, zirconia, silicon carbide and graphite, and their applications. Principles of ternary phase diagrams and their application in refractory systems, and interactions between slag, metal and refractory materials.

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