

# University of Pretoria Yearbook 2021

## 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** 1 tutorial per week, 2 lectures 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, doloma, 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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