

# University of Pretoria Yearbook 2017

## Fundamental and applied mineralogy 255 (GLY 255)

**Qualification** Undergraduate

**Faculty** [Faculty of Natural and Agricultural Sciences](#)

**Module credits** 12.00

**Programmes** [BSc Engineering and Environmental Geology](#)  
[BSc Geology](#)

**Prerequisites** CMY 117, CMY 127, GLY 155, GLY 163, WTW 158 and PHY 114

**Contact time** 2 practicals per week, 4 lectures per week

**Language of tuition** Module is presented in English

**Academic organisation** Geology

**Period of presentation** Quarter 1

### Module content

Fundamental concepts in mineralogy, and practical applications of mineralogy, including: the basics of crystal structure; the crystallographic groups; the rules of atomic substitution; phase transitions and phase diagrams; the structure and uses of olivine, pyroxene, feldspar, amphibole, mica, aluminosilicates, garnet, cordierite, and more uncommon mineral groups such as oxides, sulphides and carbonates; the calculation of mineral formulae from chemical analyses using various methods. Practical sessions: the basics of optical mineralogy and the use of transmitted light microscopy for thin section examination of minerals and rocks; the practicals will develop mineral identification skills for the minerals covered in the lectures, and cover basic textural identification.

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