University of Pretoria Yearbook 2022

Fundamental and applied mineralogy 255 (GLY 255)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	12.00
NQF Level	06
Programmes	BSc (Chemistry)
	BSc (Engineering and Environmental Geology)
	BSc (Geology)
	BSc (Physics)
Prerequisites	CMY 117, CMY 127, GLY 155, GLY 163, (WTW 158 or WTW 114) and PHY 114
Contact time	2 practicals per week, 4 lectures per week
Language of tuition	Module is presented in English
Department	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.