



# University of Pretoria Yearbook 2022

## Fundamental and applied mineralogy 255 (GLY 255)

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| <b>Qualification</b>          | Undergraduate  |
| <b>Faculty</b>                | <a href="#">Faculty of Natural and Agricultural Sciences</a>   |
| <b>Module credits</b>         | 12.00  |
| <b>NQF Level</b>              | 06   |
| <b>Programmes</b>             | <a href="#">BSc (Chemistry)</a><br><a href="#">BSc (Engineering and Environmental Geology)</a><br><a href="#">BSc (Geology)</a><br><a href="#">BSc (Physics)</a> |
| <b>Prerequisites</b>          | CMY 117, CMY 127, GLY 155, GLY 163, (WTW 158 or WTW 114) and PHY 114   |
| <b>Contact time</b>           | 2 practicals per week, 4 lectures per week   |
| <b>Language of tuition</b>    | Module is presented in English   |
| <b>Department</b>             | Geology  |
| <b>Period of presentation</b> | 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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