



University of Pretoria Yearbook 2022

Mid-latitude and polar meteorology 315 (WKD 315)

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| Qualification | Undergraduate |
| Faculty | Faculty of Natural and Agricultural Sciences |
| Module credits | 18.00 |
| NQF Level | 07 |
| Programmes | BSc (Meteorology) BSc (Applied Mathematics) BSc (Geography and Environmental Science) BSc (Physics) |
| Prerequisites | WKD 261 and WKD 265 |
| Contact time | 1 tutorial per week, 4 lectures per week |
| Language of tuition | Module is presented in English |
| Department | Geography Geoinformatics and Meteorology |
| Period of presentation | Quarter 1 |

Module content

Mean state, major patterns of atmospheric variability in the mid-latitudes and polar regions. Air masses. Synoptic scale cold, warm, occluded and quasistationary fronts, frontogenesis. Mid-latitude depressions, Norwegian cyclone model, conveyor belts. Basic cyclone model, Shapiro-Keyser model hybrid models, cyclogenesis. Polar weather systems; katabatic winds, barrier winds, cold-air damming, polar lows. Jet stream and jet streaks. Extreme weather and impacts. Conceptual models.

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