

University of Pretoria Yearbook 2022

Mid-latitude and polar meteorology 315 (WKD 315)

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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