

# University of Pretoria Yearbook 2022

## Synoptic-scale circulation dynamics and vorticity in mid-latitudes 352 (WKD 352)

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| <b>Qualification</b>          | Undergraduate  |
| <b>Faculty</b>                | <a href="#">Faculty of Natural and Agricultural Sciences</a> |
| <b>Module credits</b>         | 18.00  |
| <b>NQF Level</b>              | 07   |
| <b>Programmes</b>             | <a href="#">BSc (Meteorology)</a>                            |
|                               | <a href="#">BSc (Applied Mathematics)</a>                    |
|                               | <a href="#">BSc (Geography and Environmental Science)</a>    |
|                               | <a href="#">BSc (Physics)</a>                                |
| <b>Prerequisites</b>          | WKD 261 and WKD 263.   |
| <b>Contact time</b>           | 1 tutorial per week, 4 lectures per week                     |
| <b>Language of tuition</b>    | Module is presented in English                               |
| <b>Department</b>             | Geography Geoinformatics and Meteorology                     |
| <b>Period of presentation</b> | Quarter 3  |

### Module content

Scale analyses and simplification of the basic equations. The geostrophic, thermal and gradient wind. The vorticity equation and divergence. Potential vorticity. Vertical motion and surface pressure tendency. Vorticity in barotropic fluids. Vorticity and divergence fields in a present and future climate

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