Introduction to dynamic meteorology 263 (WKD 263)

Qualification	Undergraduate
Faculty	Faculty of Natural and Agricultural Sciences
Module credits	12.00
Programmes	BSc Geography
	BSc Physics
Prerequisites	WTW 126 and WTW 128 (students should simultaneously be enrolled for WTW 218).
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 2

Module content

Vector algebra, curl of a vector, total and partial derivatives, second law of motion. Spherical coordinates Acceleration in rotating co-ordinates, fundamental forces, momentum equation. Three dimensional flow balance, conservation of mass, heat equation, thermodynamic energy equation. Introduction to finite difference methods. Numerical estimation of the geostrophic wind, vorticity and divergence. Advection of temperature. Development of a two-dimensional temperature advection model.