



University of Pretoria Yearbook 2021

Fluid mechanics 310 (MTV 310)

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| Qualification | Undergraduate |
| Faculty | Faculty of Engineering, Built Environment and Information Technology |
| Module credits | 16.00 |
| NQF Level | 07 |
| Programmes | BEng Mechanical Engineering BEng Mechanical Engineering ENGAGE BEng Mining Engineering BEng Mining Engineering ENGAGE |
| Prerequisites | No prerequisites. |
| Contact time | 1 practical per week, 3 lectures per week |
| Language of tuition | Module is presented in English |
| Department | Mechanical and Aeronautical Engineering |
| Period of presentation | Semester 1 |

Module content

Introduction: Liquids and gases, pressure, viscosity, temperature. Fluid statics and pressure measurement. Introduction to control volume method for mass, momentum and energy conservation. Bernoulli equation. Differential approach: Navier-Stokes and continuity equations. Similarity and dimensional analysis. Flow in pipes and channels: friction coefficients and Reynolds number, pressure drop; laminar, turbulent and transitional flow. Flow over bodies: drag and lift. Experimental techniques in fluid mechanics.

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