



University of Pretoria Yearbook 2022

Fluid mechanics 310 (MTV 310)

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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