



# University of Pretoria Yearbook 2023

## Dynamics 210 (MSD 210)

**Qualification** Undergraduate

**Faculty** Faculty of Engineering, Built Environment and Information Technology

**Module credits** 16.00

**NQF Level** 06

**Programmes** BEng (Electrical Engineering)

BEng (Electrical Engineering) ENGAGE

BEng (Electronic Engineering)

BEng (Electronic Engineering) ENGAGE

BEng (Industrial Engineering)

BEng (Industrial Engineering) ENGAGE

BEng (Mechanical Engineering)

BEng (Mechanical Engineering) ENGAGE

BEng (Metallurgical Engineering)

BEng (Metallurgical Engineering) ENGAGE

BEng (Mining Engineering)

BEng (Mining Engineering) ENGAGE

**Prerequisites** FSK 116 or FSK 176 and SWK 122 and WTW 256 #

**Contact time** 2 tutorials 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

Kinetics of systems of particles, Newton's 2nd law generalised for a system of particles, rate of change of momentum and angular momentum relations, work-energy relations, conservation laws, steady mass flow. Plane kinematics of rigid bodies, rotation, translation, general 2D motion, relative motion analysis. Moments and products of inertia. Plane kinetics of rigid bodies, equations of motion, rotation, translation, general 2D motion, work-energy relations. Vibration and time response.



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### Regulations and rules

The regulations and rules for the degrees published here are subject to change and may be amended after the publication of this information.

The [General Academic Regulations \(G Regulations\)](#) and [General Student Rules](#) apply to all faculties and registered students of the University, as well as all prospective students who have accepted an offer of a place at the University of Pretoria. On registering for a programme, the student bears the responsibility of ensuring that they familiarise themselves with the General Academic Regulations applicable to their registration, as well as the relevant faculty-specific and programme-specific regulations and information as stipulated in the relevant yearbook. Ignorance concerning these regulations will not be accepted as an excuse for any transgression, or basis for an exception to any of the aforementioned regulations.

### University of Pretoria Programme Qualification Mix (PQM) verification project

The higher education sector has undergone an extensive alignment to the Higher Education Qualification Sub-Framework (HEQF) across all institutions in South Africa. In order to comply with the HEQSF, all institutions are legally required to participate in a national initiative led by regulatory bodies such as the Department of Higher Education and Training (DHET), the Council on Higher Education (CHE), and the South African Qualifications Authority (SAQA). The University of Pretoria is presently engaged in an ongoing effort to align its qualifications and programmes with the HEQSF criteria. Current and prospective students should take note that changes to UP qualification and programme names, may occur as a result of the HEQSF initiative. Students are advised to contact their faculties if they have any questions.