

# University of Pretoria Yearbook 2016

## Mechanics 122 (SWK 122)

**Qualification** Undergraduate

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

**Module credits** 16.00

**Programmes** BEng Chemical Engineering

BEng Chemical Engineering Engage

BEng Civil Engineering

BEng Civil Engineering Engage

BEng Computer Engineering

BEng Computer Engineering Engage

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

BSc Chemistry

BSc Environmental and Engineering Geology

BSc Extended programme - Physical Sciences

BSc Geography

BSc Geology

BSc Meteorology

**Service modules** Faculty of Natural and Agricultural Sciences

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<b>Prerequisites</b>	WTW 158
<b>Contact time</b>	2 tutorials per week, 4 lectures per week
<b>Language of tuition</b>	Both Afr and Eng
<b>Academic organisation</b>	Civil Eng
<b>Period of presentation</b>	Semester 1 or Semester 2

### Module content

Equivalent force systems, resultants. Newton's laws, units. Forces acting on particles. Rigid bodies: principle of transmissibility, resultant of parallel forces. Vector moments and scalar moments. Relationship between scalar- and vector moments. Couples. Equivalent force systems on rigid bodies. Resultants of forces on rigid bodies. Equilibrium in two and three dimensions. Hooke's law. Trusses and frameworks. Centroids and second moments of area. Beams: distributed forces, shear force, bending moment, method of sections, relationship between load, shear force and bending moment.

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