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

Prerequisites	WTW 158
Contact time	2 tutorials per week, 4 lectures per week
Language of tuition	Both Afr and Eng
Academic organisation	Civil Eng
Period of presentation	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.