

# University of Pretoria Yearbook 2017

## Structural mechanics 310 (MSY 310)

<b>Qualification</b>	Undergraduate
<b>Faculty</b>	<a href="#">Faculty of Engineering, Built Environment and Information Technology</a>
<b>Module credits</b>	16.00
<b>Programmes</b>	<a href="#">BEng Mechanical Engineering</a> <a href="#">BEng Mechanical Engineering ENGAGE</a>
<b>Prerequisites</b>	MOW 227, WTW 256
<b>Contact time</b>	1 practical per week, 3 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Academic organisation</b>	Mechanical and Aeronautical En
<b>Period of presentation</b>	Semester 1

### Module content

Statistically determinate force systems. Statistically determinate stress systems. Stress-strain relations. Statistically indeterminate stress systems. Torsion. Bending stress, slope and deflection. Statistically indeterminate beams. Energy methods. Buckling instability. Stress and strain transformations. Experimental strain measurements. Yield criteria and stress concentration. Elementary plasticity. Fracture mechanics. Fatigue. Variation of stress and strain. Thick-walled cylinders.

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