

# University of Pretoria Yearbook 2022

## Statics 122 (SWK 122)

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| <b>Qualification</b>   | Undergraduate   |
| <b>Faculty</b>         | Faculty of Engineering, Built Environment and Information Technology  |
| <b>Module credits</b>  | 16.00   |
| <b>NQF Level</b>       | 05  |
| <b>Programmes</b>      | BEng (Mechanical Engineering)<br>BEng (Chemical Engineering)<br>BEng (Chemical Engineering) ENGAGE<br>BEng (Civil Engineering)<br>BEng (Civil Engineering) ENGAGE<br>BEng (Computer Engineering)<br>BEng (Computer Engineering) ENGAGE<br>BEng (Electrical Engineering)<br>BEng (Electrical Engineering) ENGAGE<br>BEng (Electronic Engineering)<br>BEng (Electronic Engineering) ENGAGE<br>BEng (Industrial Engineering)<br>BEng (Industrial Engineering) ENGAGE<br>BEng (Mechanical Engineering) ENGAGE<br>BEng (Metallurgical Engineering)<br>BEng (Metallurgical Engineering) ENGAGE<br>BEng (Mining Engineering)<br>BEng (Mining Engineering) ENGAGE<br>BSc (Engineering and Environmental Geology)<br>BSc (Geology)<br>BSc extended programme - Physical Sciences |
| <b>Service modules</b> | Faculty of Natural and Agricultural Sciences  |
| <b>Prerequisites</b>   | WTW 158   |
| <b>Contact time</b>    | 2 tutorials per week, 4 lectures per week   |

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**Language of tuition**      Module is presented in English

**Department**      Civil Engineering

**Period of presentation**      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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