



# University of Pretoria Yearbook 2017

## Nuclear engineering 420 (MKI 420)

<b>Qualification</b>	Undergraduate
<b>Faculty</b>	<a href="#">Faculty of Engineering, Built Environment and Information Technology</a>
<b>Module content</b>	Basic nuclear physics: definitions and concepts (nuclear reaction, binding energy, cross-sections, moderator, reflector, etc.). Basic reactor physics: diffusion equation and boundary equations, group-diffusion methods, reactor kinetics. Reactor types: pressurised water reactors, boiling water reactors, gas-cooled reactors. Nuclear fuel cycle (including waste disposal). Reactor materials: fuels, moderators, coolants, reflectors, structures, systems or components. Reactor safety: biological effects of radiation, radiation shielding, principles of nuclear plant safety, also with reference to meteorology. Accidents.
<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>	No prerequisites.
<b>Contact time</b>	1 practical per week, 1 discussion class 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 2

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