

# University of Pretoria Yearbook 2019

## Heat and mass transfer 420 (MHM 420)

<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>	No prerequisites.
<b>Contact time</b>	3 lectures per week, 1 practical per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Mechanical and Aeronautical Engineering
<b>Period of presentation</b>	Semester 2

### Module content

Fundamentals of Thermal Radiation; blackbody radiation, radiative properties, Kirchhoff's law. Radiation Heat Transfer; the view factor, gray surfaces, radiation shields. Boiling and condensation; pool and film boiling, film condensation, dropwise condensation. Heat exchangers; types, analysis, design, and selection. Mass transfer: Fick's Law, mass diffusion, mass convection, simultaneous heat and mass transfer, porous catalysts.

The information published here is subject to change and may be amended after the publication of this information. The [General Regulations \(G Regulations\)](#) apply to all faculties of the University of Pretoria. It is expected of students to familiarise themselves well with these regulations as well as with the information contained in the [General Rules](#) section. Ignorance concerning these regulations and rules will not be accepted as an excuse for any transgression.