

# University of Pretoria Yearbook 2020

## Transfer processes 311 (COP 311)

<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 Chemical Engineering</a> <a href="#">BEng Chemical Engineering ENGAGE</a>
<b>Prerequisites</b>	WTW 238, (WTW 263)
<b>Contact time</b>	3 tutorials per week, 4 lectures per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Chemical Engineering
<b>Period of presentation</b>	Semester 1

### Module content

Momentum transfer. Fluid statics. Control volume approach for conservation of mass, energy, and momentum. Application to pumps and turbines. Navier-Stokes equations, derivation and applications. Laminar and turbulent boundary layer theory. Heat transfer: fundamentals of heat transfer. Differential equations of heat transfer. Steady state conduction. Introduction to unsteady state conduction. Convection heat transfer and the thermal boundary layer. Radiation heat transfer. Mass transfer: fundamentals of mass transfer. Diffusion and the diffusion coefficient. Differential equations of mass transfer. Steady state molecular diffusion in one or more dimensions.

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.