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# University of Pretoria Yearbook 2021

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## Thermodynamics 223 (CTD 223)

<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>NQF Level</b>	06
<b>Programmes</b>	<a href="#">BEng Chemical Engineering</a> <a href="#">BEng Chemical Engineering ENGAGE</a>
<b>Prerequisites</b>	CIR 211, MPR 212/213, (WTW 258)
<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 2

### Module content

Simple applications of the first and second laws of thermodynamics. The concepts of work, heat, enthalpy and entropy. The calculation of internal energy, enthalpy and entropy using the equations of state. Simple heat engine cycles. Refrigeration and gas liquefaction. Process efficiency by means of energy. Introduction to non-ideality in VLE and mixing behaviour.

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