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# University of Pretoria Yearbook 2019

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## Chemical engineering 211 (CIR 211)

<b>Qualification</b>	Undergraduate
<b>Faculty</b>	<a href="#">Faculty of Engineering, Built Environment and Information Technology</a>
<b>Module credits</b>	12.00
<b>Programmes</b>	<a href="#">BEng Chemical Engineering</a> <a href="#">BEng Chemical Engineering Engage</a>
<b>Prerequisites</b>	CIR 123
<b>Contact time</b>	3 lectures per week, 3 tutorials 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

Vapour pressure, phase changes, equilibrium. Vapour/gas equilibrium; Henry's law. Enthalpy and enthalpy balances. Heat of reaction. Data and data sources, steam tables. Enthalpy and combustion; flame temperature. Heats of solution and mixing. Miscible and immiscible liquid mixtures; dew point, bubble point. Simultaneous mass and enthalpy balances. PVT properties of real gases, PVT-diagrams of pure compounds. Vapour liquid equilibrium for ideal mixtures (Raoult's law).

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