

# University of Pretoria Yearbook 2021

## Chemical engineering 211 (CIR 211)

**Qualification** Undergraduate

**Faculty** [Faculty of Engineering, Built Environment and Information Technology](#)

**Module credits** 12.00

**NQF Level** 06

**Programmes** [BEng Chemical Engineering](#)

[BEng Chemical Engineering ENGAGE](#)

**Prerequisites** CIR 123

**Contact time** 3 lectures per week, 3 tutorials per week

**Language of tuition** Module is presented in English

**Department** Chemical Engineering

**Period of presentation** 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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