# University of Pretoria Yearbook 2019

# Chemical engineering 211 (CIR 211)

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| **Qualification** | Undergraduate |
| **Faculty** | Faculty of Engineering, Built Environment and Information Technology |
| **Module credits** | 12.00 |
| **Programmes** | BEng Chemical Engineering |
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| **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).