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# University of Pretoria Yearbook 2020

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## Metallurgical calculations 210 (NTC 210)

**Qualification** Undergraduate

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

**Module credits** 8.00

**Programmes** [BEng Metallurgical Engineering](#)  
[BEng Metallurgical Engineering ENGAGE](#)

**Prerequisites** (CHM 171) or (CHM 172).

**Contact time** 2 lectures per week, 3 discussion classes per week

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

**Department** Materials Science and Metallurgical Engineering

**Period of presentation** Semester 1

### Module content

The content relates to metallurgical calculations: dimensions, units and their conversion. The mol unit, density, concentration. Specific volume, bulk density, the density of ideal mixtures. Empirical formulae, chemical reaction and stoichiometry, excess reactant, conversion yield, selectivity. Gas laws. Material balances where gases are involved. Fuels and combustion. Introduction to material balances: a strategy for solving problems. Material balances. Basic electrochemistry.

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