

# University of Pretoria Yearbook 2020

## Laboratory 321 (CLB 321)

**Qualification** Undergraduate

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

**Module credits** 16.00

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

[BEng Chemical Engineering ENGAGE](#)

**Prerequisites** CJJ 310/CJJ 210, CHM 226, CPN 321#, CKN 321#, (CMO 310), CIO 320#

**Contact time** 2 lectures per week, 8 practicals per week

**Language of tuition** Separate classes for Afrikaans and English

**Department** Chemical Engineering

**Period of presentation** Semester 2

### Module content

Laboratory safety and general industrial safety practices. Techniques for planning of experiments. Experimental work illustrating: Analysis: Composition of coal and gas, heat of combustion, viscosity. Mass transfer: Gas absorption, batch distillation, azeotropic distillation, fractional distillation and liquid-liquid extraction. Heat transfer: Condenser, shell and tube heat exchanger, heat loss from insulated pipes. Piping system design: Frictional energy loss through pipes and fittings. Measuring equipment: Rate of flow, temperature. Reporting of laboratory results.

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