

# University of Pretoria Yearbook 2022

## Engineering economics 420 (BIE 420)

**Qualification** Undergraduate

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

**Module credits** 8.00

**NQF Level** 08

**Programmes** [BEng \(Industrial Engineering\)](#)

[BEng \(Industrial Engineering\) ENGAGE](#)

**Prerequisites** No prerequisites.

**Contact time** 1 discussion class per week, 2 lectures per week

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

**Department** Industrial and Systems Engineering

**Period of presentation** Semester 2

### Module content

Money-time relationships and equivalence (interest formulae, effective interest rate, bonds and loans). Bases for comparison of alternatives (present worth, annual worth, Internal rate of return, external rate of return, investment balance diagrams, Decision making among alternatives (useful lives equal to study period, useful lives different among alternatives, mutually exclusive alternatives in terms of combinations of proposals). The influence of inflation on engineering economic calculations. Decision making among alternatives on an after-tax basis. Replacement analysis (the economic life of an asset, retirement without replacement). Risk analysis of cash flows.

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