

# University of Pretoria Yearbook 2022

## Detailed design 420 (SDO 420)

**Qualification** Undergraduate

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

**Module credits** 24.00

**NQF Level** 08

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

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

**Prerequisites** (SHC 410), (SIN 411), (SIN 413), (SGM 323), (SVC 412)

**Contact time** 1 practical per week, 1 tutorial per week, 5 lectures per week

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

**Department** Civil Engineering

**Period of presentation** Semester 2

### Module content

The module focuses on design applications. The aim is to extend and consolidate knowledge of basic engineering disciplines and apply this in an integrated and synthesised way on classic design applications. The student is exposed to all the applications of the classic disciplines of structures, geotechnical, hydraulics and transportation and compiles a preliminary design. The various discipline specialists select relevant application examples in each discipline for detail designs such as:

- Structures: Multi storey buildings with reinforced concrete frames and slabs; bridge across a river or road.
- Hydraulics: Pump stations and rising main; hydrological analysis and flood line study.
- Geotechnical: Slimes dams; high embankments.
- Transportation: Traffic impact studies, pavement design and analysis.

The applications selected for each discipline may vary from year to year.

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