

# University of Pretoria Yearbook 2021

## Computer applications in civil engineering 420 (SCA 420)

<b>Qualification</b>	Undergraduate
<b>Faculty</b>	<a href="#">Faculty of Engineering, Built Environment and Information Technology</a>
<b>Module credits</b>	16.00
<b>NQF Level</b>	08
<b>Programmes</b>	<a href="#">BEng Civil Engineering</a> <a href="#">BEng Civil Engineering ENGAGE</a>
<b>Prerequisites</b>	(SHC 410), (SIN 411), (SIN 413), (SGM 323), (SVC 412)
<b>Contact time</b>	2 practicals per week, 2 tutorials per week, 3 lectures per week
<b>Language of tuition</b>	Separate classes for Afrikaans and English
<b>Department</b>	Civil Engineering
<b>Period of presentation</b>	Semester 2

### Module content

In this module commercially available computer packages will be used to develop models based on Finite Elements, Finite Differences and other approaches. Limitations and simple checks to ensure consistency of commonly used design software packages will be illustrated. Basic principles and techniques will be discussed and the effect of aspects such as meshing, element choice, boundary conditions and material properties will be investigated. Applications within the various fields of Civil Engineering will be considered. Results obtained from models will be compared to actual experimental results. This module will contain groupwork and multi-disciplinary problems will be solved.

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