

# University of Pretoria Yearbook 2022

## Solution algorithms in operations research 780 (BAR 780)

<b>Qualification</b>	Postgraduate
<b>Faculty</b>	<a href="#">Faculty of Engineering, Built Environment and Information Technology</a>
<b>Module credits</b>	32.00
<b>NQF Level</b>	08
<b>Prerequisites</b>	BAN 313 or BAN 780
<b>Contact time</b>	2 other contact sessions per week
<b>Language of tuition</b>	Module is presented in English
<b>Department</b>	Industrial and Systems Engineering
<b>Period of presentation</b>	Semester 1 or Semester 2

### Module content

When developing decision-support models using optimisation, the computational burden is often so great that exact optimal solutions are not attainable, or not efficiently found, especially in combinatorial and discrete optimisation problems. Often approximate solutions are adequate and can provide superior solutions to the current state-of-practice decision approaches. The module introduces a selection of heuristics and metaheuristics applied to a variety of problems frequently faced by Industrial Engineers. The module also introduces a methodology to test and validate heuristics to ensure robust and reliable application.

The regulations and rules for the degrees published here are subject to change and may be amended after the publication of this information.

The [General Academic Regulations \(G Regulations\)](#) and [General Student Rules](#) apply to all faculties and registered students of the University, as well as all prospective students who have accepted an offer of a place at the University of Pretoria. On registering for a programme, the student bears the responsibility of ensuring that they familiarise themselves with the General Academic Regulations applicable to their registration, as well as the relevant faculty-specific and programme-specific regulations and information as stipulated in the relevant yearbook. Ignorance concerning these regulations will not be accepted as an excuse for any transgression, or basis for an exception to any of the aforementioned regulations.