

# University of Pretoria Yearbook 2019

## Antenna theory 780 (EMA 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>Programmes</b>             | <a href="#">BEngHons Electronic Engineering</a>                                      |
| <b>Prerequisites</b>          | Microwaves and antennas EMZ 320 or equivalent                                        |
| <b>Contact time</b>           | 32 contact hours per semester                                                        |
| <b>Language of tuition</b>    | Module is presented in English                                                       |
| <b>Department</b>             | Electrical, Electronic and Computer Engineering                                      |
| <b>Period of presentation</b> | Semester 2                                                                           |

### Module content

Types of antennas and radiation mechanisms, parameters of antennas, radiation integrals, near and far field radiation, duality theorem, wire antennas, antenna arrays, mutual coupling and mutual impedance, surface equivalence theorem, reaction theorem, moment methods in antenna analysis, travelling wave antennas, microstrip antennas, horn antennas, physical optics, reflector antennas, antenna synthesis.

The information published here is subject to change and may be amended after the publication of this information. The [General Regulations \(G Regulations\)](#) apply to all faculties of the University of Pretoria. It is expected of students to familiarise themselves well with these regulations as well as with the information contained in the [General Rules](#) section. Ignorance concerning these regulations and rules will not be accepted as an excuse for any transgression.