

# University of Pretoria Yearbook 2019

## Microwaves and antennas 320 (EMZ 320)

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| <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>Programmes</b>             | <a href="#">BEng Electronic Engineering</a><br><a href="#">BEng Electronic Engineering Engage</a> |
| <b>Prerequisites</b>          | EMZ 310 GS, ENE 310 GS  |
| <b>Contact time</b>           | 1 tutorial per week, 1 practical per week, 3 lectures per week                                    |
| <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

Smith Chart;transients; Waveguides, stripline, microstripline; Network analysis,S-parameters, signal flow diagrams, matching networks; Power divider; Filter implementation, Richard's transformation, Kuroda's identities; Antenna fundamentals, port and radiation characteristics, Friis transmission equation, halfwave dipole, aperture antennas, linear arrays, microstrip patch antenna and arrays; Antenna applications, satellite, base stations, adaptive beams; Radar range equation.

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