



University of Pretoria Yearbook 2021

Microwaves and antennas 320 (EMZ 320)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
NQF Level	07
Programmes	BEng Electronic Engineering BEng Electronic Engineering ENGAGE
Prerequisites	EMZ 310 GS, ENE 310 GS
Contact time	1 practical per week, 1 tutorial per week, 3 lectures per week
Language of tuition	Module is presented in English
Department	Electrical, Electronic and Computer Engineering
Period of presentation	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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