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# University of Pretoria Yearbook 2017

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## Electromagnetism 310 (EMZ 310)

<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 Electrical Engineering</a> <a href="#">BEng Electrical Engineering ENGAGE</a> <a href="#">BEng Electronic Engineering</a> <a href="#">BEng Electronic Engineering ENGAGE</a>
<b>Prerequisites</b>	WTW 238GS, WTW 263GS, EIR 211/221GS
<b>Contact time</b>	3 lectures per week, 1 tutorial per week, 1 practical per week
<b>Language of tuition</b>	Separate classes for Afrikaans and English
<b>Academic organisation</b>	Electrical, Electronic and Com
<b>Period of presentation</b>	Semester 1

### Module content

Transmission line equations, wave propagation, input impedance, power flow; Electrostatics, charge and current, laws of Coulomb and Gauss, scalar potential, properties of materials, boundary conditions, capacitance, Magnetostatics, laws of Biot-Savart and Ampère, magnetic properties of materials, boundary conditions; Plane wave propagation, polarisation, power density; Wave reflection and transmission, normal and oblique incidence.

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