



---

# University of Pretoria Yearbook 2016

---

## Linear systems 220 (ELI 220)

<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 Computer Engineering</a> <a href="#">BEng Computer Engineering Engage</a> <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>	EIR 211/221 GS
<b>Contact time</b>	1 practical per week, 1 tutorial per week, 3 lectures per week
<b>Language of tuition</b>	Both Afr and Eng
<b>Academic organisation</b>	Electrical, Electronic and Com
<b>Period of presentation</b>	Semester 2

### Module content

Frequency domain analysis of linear time-invariant systems. Laplace, Fourier and Z-transforms applied to periodic, aperiodic and sampled signals; exponential and trigonometric Fourier series. Nyquist sampling theorem, transfer functions, poles and zeros, bandwidth and rise time, frequency response, impulse response, Bode diagrams, natural frequency, natural and forced response. Instability and oscillations. Computer simulation.

---

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.