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# University of Pretoria Yearbook 2019

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## Analogue electronics 310 (ENE 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 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>	ELI 220 GS
<b>Contact time</b>	1 tutorial per week, 3 lectures per week, 1 practical per week
<b>Language of tuition</b>	Separate classes for Afrikaans and English
<b>Department</b>	Electrical, Electronic and Computer Engineering
<b>Period of presentation</b>	Semester 1

### Module content

Amplifier concepts: gain, input impedance, output impedance, bandwidth, cascaded stages. Amplifier power dissipation and power efficiency. Operational amplifiers: non-ideal, limitations, low power, programmable. Diode operational circuits: Logarithmic amplifiers, peak detector, clamp, absolute value, voltage regulators. Feedback and stability in amplifiers. Operational circuits: Instrumentation amplifiers, multipliers, oscillators, filters, translinear circuits, and sampling electronics.

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