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# University of Pretoria Yearbook 2016

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## DSP programming 300 (ESP 300)

<b>Qualification</b>	Undergraduate
<b>Faculty</b>	<a href="#">Faculty of Engineering, Built Environment and Information Technology</a>
<b>Module credits</b>	4.00
<b>Programmes</b>	<a href="#">BEng Electrical Engineering</a> <a href="#">BEng Electrical Engineering Engage</a>
<b>Prerequisites</b>	EPW 200
<b>Contact time</b>	36 other contact sessions per week
<b>Language of tuition</b>	Both Afr and Eng
<b>Academic organisation</b>	Electrical, Electronic and Com
<b>Period of presentation</b>	Year

### Module content

This module will deal only with the practical aspects of DSP applications: Universal applications of DSP (Space, medical, commercial, telecommunications, military, industrial and scientific); ADC and DAC; Discrete Fourier-Transform (DFT); Fast Fourier-Transform (FFT); z-Transform; Correlation and Convolution; Digital filter design; FIR and IIR filters; Adaptive digital filters; Computer architecture for DSP; Analysis of finite wordlength effects; Data, audio and video processing and compression. Simulation (MATLAB) and real-time implementation of selected signal processing algorithms on DSP hardware. Programming and mapping of DSP algorithms onto DSP hardware.

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