

# University of Pretoria Yearbook 2016

## 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.

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.