

University of Pretoria Yearbook 2018

Digital communications 732 (ETD 732)

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| Qualification | Postgraduate |
| Faculty | Faculty of Engineering, Built Environment and Information Technology |
| Module credits | 32.00 |
| Programmes | BEngHons Electronic Engineering |
| Prerequisites | No prerequisites. |
| Contact time | 32 contact hours per semester |
| Language of tuition | Module is presented in English |
| Department | Electrical, Electronic and Computer Engineering |
| Period of presentation | Semester 1 |

Module content

Digital Communications ETD 732 is a first semester graduate course in Electronic Engineering, presented by the Signal Processing and Telecommunications Group, in collaboration with the Centre for Radio and Digital Communication (CRDC). The content of the course is as follows: Introduction to digital communications, digital communications applications and services. Review of: probability and stochastic processes, source coding, characterisation of communication signals and systems and optimum receivers for the AWGN channel. Advanced synchronisation systems: Carrier and symbol recovery. Shannon's channel capacity theorem and introduction to coding. Signal design for band-limited channels. Digital modulation techniques. Communication through band-limited linear filter channels. Introduction to adaptive equalisation. Spread spectrum signals for digital communications. Simulation of digital communication systems. Digital realisation of digital communication subsystems. Digital communication laboratory.

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