# Adaptive systems 732 (ETA 732)

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| **Qualification** | Postgraduate |
| **Faculty** | Faculty of Engineering, Built Environment and Information Technology |
| **Module credits** | 32.00 |
| **NQF Level** | 08 |
| **Prerequisites** | ETD 732 |
| **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 or Semester 2 |

**Module content**

Adaptive systems ETA732 covers the fundamentals of adaptive systems within the context of adaptive signal processing. The basic linear filtering problem with associated models and filter structures is introduced. Furthermore, the topics of stationary processes and models, spectrum analysis, eigen analysis, Wiener filters, linear prediction, Kalman filters, stochastic gradient methods and least squares methods are covered. Blind adaptive methods are presented within the context of the blind deconvolution problem. Lattice filter methods are covered as an extention to the basic topics of this course. Adaptive systems ETA732 will supply the student with valuable tools for the solution of statistical detection and estimation problems in the diverse fields of communications, control, radar, sonar, seismology and biomedical engineering.

**General Academic Regulations and Student Rules**
The General Academic Regulations (G Regulations) and General Student Rules apply to all faculties and registered students of the University, as well as all prospective students who have accepted an offer of a place at the University of Pretoria. On registering for a programme, the student bears the responsibility of ensuring that they familiarise themselves with the General Academic Regulations applicable to their registration, as well as the relevant faculty-specific and programme-specific regulations and information as stipulated in the relevant yearbook. Ignorance concerning these regulations will not be accepted as an excuse for any transgression, or basis for an exception to any of the aforementioned regulations. The G Regulations are updated annually and may be amended after the publication of this information.

**Regulations, degree requirements and information**
The faculty regulations, information on and requirements for the degrees published here are subject to change and may be amended after the publication of this information.

**University of Pretoria Programme Qualification Mix (PQM) verification project**

The higher education sector has undergone an extensive alignment to the Higher Education Qualification Sub-Framework (HEQSF) across all institutions in South Africa. In order to comply with the HEQSF, all institutions are legally required to participate in a national initiative led by regulatory bodies such as the Department of Higher Education and Training (DHET), the Council on Higher Education (CHE), and the South African Qualifications Authority (SAQA). The University of Pretoria is presently engaged in an ongoing effort to align its qualifications and programmes with the HEQSF criteria. Current and prospective students should take note that changes to UP qualification and programme names, may occur as a result of the HEQSF initiative. Students are advised to contact their faculties if they have any questions.