Microprocessors 310 (EMK 310)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
NQF Level	07
Programmes	BEng (Computer Engineering)
	BEng (Computer Engineering) ENGAGE
	BEng (Electrical Engineering)
	BEng (Electrical Engineering) ENGAGE
	BEng (Electronic Engineering)
	BEng (Electronic Engineering) ENGAGE
Prerequisites	ERS 220 GS, ELI 220 GS, ENE 310/ ENE 310#
Contact time	1 practical per week, 1 tutorial per week, 3 lectures per week
Language of tuition	Module is presented in English
Department	Electrical, Electronic and Computer Engineering
Period of presentation	Semester 1

Module content

The module provides a project-based introduction to embedded design. General microprocessor architecture and firmware development are explored with a specific focus on memory and address decoding, general embedded programming principles, microprocessor input/output and interfacing with the real world, and the functioning and application of peripheral devices such as timers, ADCs, serial communication ports and PWM. Embedded design tools are introduced through the use of a microcontroller development board and integrated development environment (IDE) that serve as the primary learning platform. Students are exposed to current and new trends in the microcontroller industry.

Regulations and rules

The regulations and rules for the degrees published here are subject to change and may be amended after the publication of this information.

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.

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 (HEQF) 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.