

University of Pretoria Yearbook 2024

e-Business and network security 410 (EHN 410)

Qualification Undergraduate

Faculty [Faculty of Engineering, Built Environment and Information Technology](#)

Module credits 16.00

NQF Level 08

Programmes [BEng \(Computer Engineering\) 4-year programme](#)

[BEng \(Computer Engineering\) 5-year programme](#)

Prerequisites No prerequisites.

Contact time 1 tutorial per week, 3 lectures per week, 9 hours practical per semester

Language of tuition Module is presented in English

Department Electrical, Electronic and Computer Engineering

Period of presentation Semester 1

Module content

The overall objectives of the module are to address the fundamental issues of (i) threats to the security of a system, posed by adversaries and malicious parties, (ii) the services required by users of a secure system, and (iii) the mechanisms to counter these threats. More specifically, this module covers computer and network security concepts, number theory, block cyphers and the data encryption standard, finite fields, advanced encryption standard, block cypher operation, random bit generation and stream cyphers, public-key cryptography and RSA, cryptographic hash functions, message authentication codes, digital signatures, key management and distribution, user authentication, network access control and cloud security, transport-level security, wireless network security, electronic mail security, and IP security.

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.