



University of Pretoria Yearbook 2023

Simulation and computation 710 (STC 710)

Qualification	Postgraduate
Faculty	Faculty of Economic and Management Sciences
Module credits	15.00
NQF Level	08
Programmes	BComHons (Mathematical Statistics) BComHons (Statistics) <i>Statistics and Data Science</i> BScHons (Mathematical Statistics) BScHons (Mathematical Statistics) <i>Statistics and Data Science</i>
Prerequisites	Admission to either BScHons Mathematical Statistics or BComHons Mathematical Statistics or BScHons Statistics and Data Science or BComHons Statistics and Data Science
Contact time	1 lecture per week
Language of tuition	Module is presented in English
Department	Statistics
Period of presentation	Semester 1 or Semester 2

Module content

Efficient programming, Monte Carlo simulation, sampling of discrete and continuous probability models, General transformation methods, Accept-reject methods, Monte Carlo integration, importance sampling, numerical optimisation, Metropolis-Hastings algorithm, GIBBS sampling.

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.