University of Pretoria Yearbook 2018

Programming and information technology 213 (MPR 213)

Qualification	Undergraduate
Faculty	Faculty of Engineering, Built Environment and Information Technology
Module credits	16.00
Programmes	BEng Chemical Engineering
	BEng Chemical Engineering ENGAGE
	BEng Civil Engineering
	BEng Civil Engineering ENGAGE
	BEng Industrial Engineering
	BEng Industrial Engineering ENGAGE
	BEng Mechanical Engineering
	BEng Mechanical Engineering ENGAGE
	BEng Metallurgical Engineering
	BEng Metallurgical Engineering ENGAGE
	BEng Mining Engineering
	BEng Mining Engineering ENGAGE
Prerequisites	No prerequisites.
Contact time	2 practicals per week, 4 lectures per week
Language of tuition	Separate classes for Afrikaans and English
Department	Mechanical and Aeronautical Engineering
Period of presentation	Semester 1

Module content

Spreadsheet applications: Formulas and calculations, named ranges, plotting and trend lines, goal seek, linear programming, importing and exporting data, data navigation and filtering. Programming fundamentals: Names and objects, conditional and unconditional looping, branching, functions, modules, packages, reading and writing data files, graphical output (plotting). Solving simple problems using a high level programming language to develop, code and debug programs. Solving complex problems by breaking it down into a number of simple problems using concepts such as functions, modules and available packages. Programming principles are developed through solving mathematics and physics problems.

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