



University of Pretoria Yearbook 2019

Programming and information technology 213 (MPR 213)

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| 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 | 4 lectures per week, 2 practicals 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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