

University of Pretoria Yearbook 2021

Mathematics 164 (WTW 164)

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| Qualification | Undergraduate |
| Faculty | Faculty of Natural and Agricultural Sciences |
| Module credits | 16.00 |
| NQF Level | 05 |
| Programmes | BEng Chemical Engineering BEng Chemical Engineering ENGAGE BEng Civil Engineering BEng Civil Engineering ENGAGE BEng Computer Engineering BEng Computer Engineering ENGAGE BEng Electrical Engineering BEng Electrical Engineering ENGAGE BEng Electronic Engineering BEng Electronic 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 BSc extended programme - Physical Sciences BSc Meteorology |
| Service modules | Faculty of Engineering, Built Environment and Information Technology |
| Prerequisites | WTW 114 or WTW 158 |
| Contact time | 1 tutorial per week, 4 lectures per week |
| Language of tuition | Module is presented in English |

Department Mathematics and Applied Mathematics

Period of presentation Semester 2

Module content

*This module is designed for first-year engineering students. Students will not be credited for more than one of the following modules for their degree: WTW 146, WTW 148 and WTW 124,

Vector algebra with applications to lines and planes in space, matrix algebra, systems of linear equations, determinants, complex numbers, factorisation of polynomials and conic sections. Integration techniques, improper integrals. The definite integral, fundamental theorem of Calculus. Applications of integration. Elementary power series and Taylor's theorem. Vector functions, space curves and arc lengths. Quadratic surfaces and multivariable functions.

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