

University of Pretoria Yearbook 2021

Plant genetics and crop biotechnology 361 (BTC 361)

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| Qualification | Undergraduate |
| Faculty | Faculty of Natural and Agricultural Sciences |
| Module credits | 18.00 |
| NQF Level | 07 |
| Programmes | BSc Information and Knowledge Systems |
| | BSc Biochemistry |
| | BSc Biotechnology |
| | BSc Chemistry |
| | BSc Entomology |
| | BSc Genetics |
| | BSc Human Genetics |
| | BSc Human Physiology |
| | BSc Microbiology |
| | BSc Plant Science |
| | BSc Zoology |
| | BScAgric Plant Pathology |
| Service modules | Faculty of Engineering, Built Environment and Information Technology |
| Prerequisites | GTS 251 and {GTS 261 GS or BOT 261} |
| Contact time | 1 practical/tutorial per week, 2 lectures per week |
| Language of tuition | Module is presented in English |
| Department | Biochemistry, Genetics and Microbiology |
| Period of presentation | Semester 2 |

Module content

Plant genetics and genomics: gene control in plants, epigenetics, co-suppression, forward and reverse genetics, structural and functional genomics. Plant development: flowering, genetics imprinting. Plant-environment interactions. Crop genetic modification: food security, GMO regulation, plant transformation, whole-chromosome transformation, synthetic biology, homologous recombination. Crop molecular markers: marker types, genotyping, QTL mapping, marker-assisted breeding. Future of crop biotechnology: applications of genomics, biopharming, genetical genomics, systems biology

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