



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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