



University of Pretoria Yearbook 2017

Plant genetics and crop biotechnology 361 (BTC 361)

Qualification Undergraduate

Faculty Faculty of Natural and Agricultural Sciences

Module credits 18.00

Programmes BSc Information and Knowledge Systems

BSc Biochemistry

BSc Biotechnology

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} and {GTS 351 and GTS 352 are recommended}

Contact time 2 lectures per week, 1 practical per week

Language of tuition Module is presented in English

Academic organisation Genetics

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: signal perception, cell death, control of cell division. 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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