



# University of Pretoria Yearbook 2017

## Plant genetics and crop biotechnology 361 (BTC 361)

<b>Qualification</b>	Undergraduate
<b>Faculty</b>	Faculty of Natural and Agricultural Sciences
<b>Module credits</b>	18.00
<b>Programmes</b>	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
<b>Service modules</b>	Faculty of Engineering, Built Environment and Information Technology
<b>Prerequisites</b>	GTS 251 and {GTS 261 GS or BOT 261} and {GTS 351 and GTS 352 are recommended}
<b>Contact time</b>	2 lectures per week, 1 practical per week
<b>Language of tuition</b>	Module is presented in English
<b>Academic organisation</b>	Genetics
<b>Period of presentation</b>	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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