

# University of Pretoria Yearbook 2016

## 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 Technology Information and Knowledge Systems BSc Biochemistry BSc Biotechnology BSc Environmental Sciences BSc Genetics BSc Geoinformatics BSc Human Genetics BSc Human Physiology BSc Medical Sciences BSc Microbiology BSc Plant Science 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>	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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