

Plant Breeding (1002738)

Cursusomvang *(nominale waarden; effectieve waarden kunnen verschillen per opleiding)*

Studiepunten 5.0 **Studietijd 150 u**

Aanbodsessies in academiejaar 2023-2024

A (semester 1) Engels Gent

Lesgevers in academiejaar 2023-2024

Maenhout, Steven LA21 Verantwoordelijk lesgever

Aangeboden in onderstaande opleidingen in 2023-2024

	stptn	aanbodsessie
Master of Science in de bio-ingenieurswetenschappen: landbouwkunde	5	A
Uitwisselingsprogramma bio-ingenieurswetenschappen: landbouwkunde (niveau master-na-bachelor)	5	A

Onderwijsstalen

Engels

Trefwoorden

Variety breeding, selection systems, reproduction systems, back-crossing, hybrid breeding, synthetic varieties, open pollinated and self pollinated crops, resistance breeding, ploidy breeding, plant breeders' rights, genetic variation

Situering

Plant breeding is an outmost important science to develop a sustainable crop and food production. Hence there is a need to teach students strategies, methods and tools that are used to create and to protect modern plant varieties.

Inhoud

1. Introduction: historical evolution, (social) impact of plant breeding and recent developments
2. Opportunities and restrictions of plant breeding
3. Selection for several traits simultaneously
4. Flower biology and reproduction systems
5. Backcrosses and marker assisted backcrossing
6. Hybrid breeding
7. Suicide seeds
8. Open pollinated populations and synthetic varieties
9. Breeding self pollinating crops
10. Ploidy breeding
11. Resistance breeding
12. How to use genetic variability?
13. Plant breeders' rights
14. Visits to research institutes and/or plant breeding companies

Begincompetenties

Good knowledge of botany, plant physiology, crop husbandry, applied genetics and statistics

Eindcompetenties

- 1 analyse plant reproductive systems, modern breeding programmes, strategies, methods, techniques and schemes
- 2 apply the offered knowledge to create new crop varieties as a junior plant breeder in a plant breeding company/institute
- 3 critically reflect on historical evolutions, constraints and on new developments in plant breeding
- 4 analyze and interpret scientific literature on plant breeding

5 explain the principles of, and critically reflect on, plant breeders' rights

Creditcontractvoorwaarde

Toelating tot dit opleidingsonderdeel via creditcontract is mogelijk mits gunstige beoordeling van de competenties

Examencontractvoorwaarde

Dit opleidingsonderdeel kan niet via examencontract gevolgd worden

Didactische werkvormen

Excursie, Hoorcollege, Zelfstandig werk

Toelichtingen bij de didactische werkvormen

excursion: 20%

lecture: 60%

independent work: 20%

Leermateriaal

Syllabus available

Cost: 20.0 EUR.

Referenties

Remarkable and/or very informative journal articles and books, research results.

Vakinhoudelijke studiebegeleiding

The knowledge transfer is based on a no-nonsense long standing experience in plant breeding and variety development

Evaluatiemomenten

periodegebonden en niet-periodegebonden evaluatie

Evaluatievormen bij periodegebonden evaluatie in de eerste examenperiode

Mondelinge evaluatie

Evaluatievormen bij periodegebonden evaluatie in de tweede examenperiode

Mondelinge evaluatie

Evaluatievormen bij niet-periodegebonden evaluatie

Participatie, Werkstuk

Tweede examenkans in geval van niet-periodegebonden evaluatie

Examen in de tweede examenperiode is niet mogelijk

Toelichtingen bij de evaluatievormen

Participation to activities with a permanent evaluation is compulsory. Students with an insufficient dedication regarding these activities and with an unmotivated absence in the excursions can not earn credits for this course.

Eindscoreberekening

The oral exam is the final assessment.

Participation to activities with a permanent evaluation is **compulsary**. Students with an insufficient dedication regarding these activities and with an unmotivated absence in the excursions **can not** earn credits for this course.

Shares in total score: oral exam: 0.60; participation in, and reporting on, excursions; 0.20; reports of reading assignments: 0.20