

3.00 credits

22.5 h + 15.0 h

Q1

Teacher(s)	Lobet Guillaume ;Lutts Stanley (coordinator) ;Quinet Muriel ;
Language :	French
Place of the course	Louvain-la-Neuve
Prerequisites	<i>The prerequisite(s) for this Teaching Unit (Unité d'enseignement – UE) for the programmes/courses that offer this Teaching Unit are specified at the end of this sheet.</i>
Learning outcomes	
Evaluation methods	<p>The final mark is made up of the mark of the theoretical exam (written exam) and the mark of the practical work (reports, oral or poster presentation). The mark of the theoretical examination is worth 15/20 of the final mark and the mark of the practical work is worth 5/20 of the final mark.</p> <p>Participation in the practical work, tutorials and exercise sessions is compulsory and indispensable to validate the teaching unit. Any unjustified absence will result in a penalty in the examination of the unit, which may go as far as the cancellation of the examination mark for the year of study concerned (0/20). In case of repeated absences, even if justified, the teacher may propose to the jury to oppose the registration for the examination relating to the EU in accordance with article 72 of the RGEE</p>
Teaching methods	Lectures in auditorium and practicals in greenhouses
Content	<p>The first part concerns the mechanisms of perception and communication that guarantee the integration of organ growth, the phenological development of the plant and the response to external constraints. The messengers considered are phytohormones and secondary metabolites. The themes developed are the regulation of phenological development and the elicitation of natural defense mechanisms. These parts introduce biotechnology, ecophysiology, horticulture and phytopathology. The second part concerns the notions of efficiency defined at the plant level . The three efficiencies considered are the water use efficiency (conductances, climate, photosynthesis, soil), the light use efficiency (interception and translocation, climate, photosynthesis) and the nitrogen use efficiency (biochemistry (collection and use), photosynthesis and soil). The third part concerns the functioning of the plant under abiotic constraints. The topics are deficiencies (water, nitrogen, phosphorus) and excesses (water, salt, metals)as well as the impact of temperature.</p>
Inline resources	<a href="https://plantmodelling.shinyapps.io/PlaNet_Maize/">https://plantmodelling.shinyapps.io/PlaNet_Maize/</a>
Faculty or entity in charge	AGRO

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Bioengineering	BIR1BA	3	LBIR1251	