

2.00 credits

30.0 h

Q2

Teacher(s)	Chaumont François ;
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>
Main themes	Different processes of development and morphogenesis are studied. The mechanisms of embryos edification, vegetative and reproductive systems are analysed. Tropisms phenomena and movements are envisaged. The effect of environment and phytohormones on plant development are studied. Finally the student is introduced to scientific communication through the critical analysis of the form and the content of articles on the development and morphogenesis processes tackled during the course.
Learning outcomes	<p>At the end of this learning unit, the student is able to :</p> <ul style="list-style-type: none"> - Understand the organ formation and plant development all through its life - Understand how an organism fixed to the substrate adapts its edification processes to face environmental variations. - Discover the physiological, cell and molecular mechanisms that control the plant development. <p>1 - At the end of the course, the students should be able to understand the biological strategies and experimental methodologies used to understand the plant development and morphogenesis.</p>
Evaluation methods	<p>The assessment will take into account:</p> <ul style="list-style-type: none"> - the preparation and presentation of the themes in front of the class (flipped classroom) - a detailed analysis of a literature article on a topic related to the course. Each student will prepare a written (report) and oral (presentation to other students) synthesis and answer questions from the teacher and the students. - the written answers to two questions on concepts related to the study of plant morphogenesis and development. <p>The students will be asked to self-assess themselves on flipped classroom work and this self-assessment can be used to adapt the teacher's grade.</p>
Teaching methods	The course includes modules during which the teacher introduces the basic concepts and some themes, and other modules organized in flipped classroom. In this context, the students are divided into working groups and assigned a theme. They will develop the theoretical aspects of this theme and analyze and present an article from the literature on the subject.
Content	Different processes of plant development and morphogenesis are studied at the genetic and molecular level. What are the molecular and cellular mechanisms that allow the plant to develop and adapt to environmental conditions? How can we discover and understand them? The themes studied include the mechanisms of embryo building, the vegetative and reproductive system, the process tropisms and the effects of the environment on plant development, the essential role of phytohormones (auxin, brassinosteroids...) and the mechanisms associated with their perception, transport, and regulation. The general principles of the experimental approaches needed to investigate these mechanisms are described.
Inline resources	Moodle
Bibliography	Ouvrages de référence mentionnés au premier cours
Other infos	Precursory courses: Basic courses in plant biology and physiology.
Faculty or entity in charge	BIOL

Programmes containing this learning unit (UE)				
Program title	Acronym	Credits	Prerequisite	Learning outcomes
Bachelor in Biology	BIOL1BA	2	LBIO1112 AND LBIO1240 AND LBIO1242 AND LBIO1221	