

Molecular Plant Physiology (C002775)

Due to Covid 19, the education and evaluation methods may vary from the information displayed in the schedules and course details. Any changes will be communicated on Ufora.

Course size (nominal values; actual values may depend on programme)
Credits 5.0 Study time 135 h Contact hrs 46.0 h

Course offerings and teaching methods in academic year 2020-2021

Deze cursus is 2-jaarlijks en wordt niet aangeboden

Lecturers in academic year 2020-2021

Van Der Straeten, Dominique WE11 lecturer-in-charge

Offered in the following programmes in 2020-2021 crdts offering

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Teaching languages

English

Keywords

Plant physiology, Arabidopsis, abscission, nastic responses, tropisms, senescence, proteasome, developmental responses to abiotic stresses, cuticle

Position of the course

This course impinges on the knowledge and competences acquired upon successful completion of Plant Physiology I (Bachelor 2), Plant Physiology II (Bachelor 3) and Physiological Regulation in Plants (Masters 1).

Contents

A choice of topics, amongst which:

- 1 Starch metabolism in plants
- 2 Molecular analysis of plant movements: nastic responses
- 3 3. Molecular analysis of plant movements: tropisms
- 4 The central regulatory role of the 26S proteasome in the control of plant phenotype
- 5 Interactions with herbivorous species
- 6 The molecular basis of senescence and abscission
- 7 Salicylic acid synthesis and metabolism
- 8 Shade avoidance and UV-B photomorphogenesis
- 9 Plant ABC transporters
- 10 Flooding and submergenceresponses in plants
- 11 Structure and function of the plant cuticle

Students may also propose a subject, to be discussed with the lecturers.

Initial competences

Having successfully completed the subjects Plant Physiology I (Bachelor 2) and Plant Physiology II (Bachelor 3) and/or Physiological regulation in plants (Master 1), or equivalent courses.

Final competences

- 1 To have acquired a profound insight in recent developments in the field of molecular plant physiology.
- 2 To be acquainted with the possibilities and applications offered by molecular biotechnology to unravel these processes.
- 3 To critically evaluate scientific papers in this research area.
- 4 To report on self-summarized papers in a group, as a training in scientific communication and discussion.

Conditions for credit contract

Access to this course unit via a credit contract is determined after successful competences assessment

Conditions for exam contract

This course unit cannot be taken via an exam contract

Teaching methods

Lecture, microteaching, self-reliant study activities, online lecture, online seminar

Extra information on the teaching methods

In principle, all teaching activities will be held on campus. Under COVID19 restrictions, didactic work forms may be subject to amendments. This can include online classes and/or tutorials, or through a rotation system (partially on campus, partially online).

Learning materials and price

Review and research articles Estimated cost: 10 EUR

References

Review and research articles

Course content-related study coaching

Interactive support through Ufora. Individual coaching for students with specific questions.

Evaluation methods

continuous assessment

Examination methods in case of periodic evaluation during the first examination period

Examination methods in case of periodic evaluation during the second examination period

Examination methods in case of permanent evaluation

Participation, assignment

Possibilities of retake in case of permanent evaluation

examination during the second examination period is possible

Extra information on the examination methods

Assignments: subjects are chosen based on a list provided by the lecturers, prepared and presented. Participation to all presentations of fellow students. Input to the discussions, degree of participation to all presentations. Examination during the second examination period is possible, provided fulfillment of an alternative task.

Calculation of the examination mark

Continuous evaluation (100%).