



DEPARTMENT OF BIOLOGICAL AND ENVIRONMENTAL SCIENCES

BIO530 Plant Molecular Biology and Biotechnology, 15 higher education credits

Växtmolekylärbologi och -bioteknologi, 15 högskolepoäng

Second Cycle

Confirmation

This course syllabus was confirmed by Faculty of Science on 2010-10-26 and was last revised on 2017-03-22 by Department of Biological and Environmental Sciences to be valid from 2017-03-22, spring semester of 2017.

Field of education: Science 100%

Department: Department of Biological and Environmental Sciences

Position in the educational system

The course Plant Molecular Biology and Biotechnology, 15 higher education credits, is a second cycle, single subject course.

Main field of studies

Biology

Specialization

A1N, Second cycle, has only first-cycle course/s as entry requirements

Entry requirements

Passed 60 hp Biology base course and 30 hp Basic Chemistry or equivalent.

Learning outcomes

After completing the course the students should:

- have a deeper knowledge of various cellular, biochemical, genetic and molecular processes within plants,
- understand the basic concepts and techniques important for understanding these processes, as well as the scientific principles that underlie and drive the rapid development of plant biotechnology and molecular biology

- in particular, have a better understanding of the development and use of genetically modified plants in modern agriculture, both present and future.

Course content

Some of the principle subjects taught will include:

- Gene structure, organization and expression in plants
- Plant transformation, regeneration and molecular/biochemical analysis of transgenic plants.
- Plant genetics and biotechnology including discussions on genetically modified plants in agriculture and other commercial applications.
- Functional genomics
- Plant responses to environmental biotic stresses

Form of teaching

The course consists of lectures, laboratory work, group discussion and individual written and oral assignments

Language of instruction: English

Assessment

The final grade will be based on an exam midway through the course and a written/oral presentation at the end of the course. To pass the course, students must also attend all laboratories and submit an acceptable report for each.

A student who has failed the exam twice has the right to change examiner, unless weighty argument can be adduced. The application shall be sent to the board of the department and has to be in writing.

Grades

The grading scale comprises: Pass with Distinction (VG), Pass (G) and Fail (U).

For pass (G) it is required that the student pass (60% of total points) the written exam and written/oral presentation, with each part contributing 50% to the final grade. The student must also perform all laboratory work and hand in acceptable lab reports. Pass with distinction (VG) additionally requires VG on the exam and the written/oral presentation (over 85% of total points).

Course evaluation

A written course evaluation will be arranged at the end of the course and the results will be made available for the students and used for further development of the course.

Additional information

This course will replace BIN742. BIO530 and BIN742 can not be included in the same degree or be included in two different degrees where one of the degrees builds upon the other.