Module Name

Molecular Plant and Microbial Sciences - Lecture

Type of Module	**Module Code**
Advanced Module	AM-B-P 1

Identification Number	**Workload**	**Credit Points**	**Term**	**Offered Every**	**Start**	**Duration**
MN-B-P 1	180 Hours	6 CP	1. – 3. Semester	WiSe	Winter Term Only	1 Semester

1	**Course Types**	**Contact Time**	**Private Study**	**Planned Group Size**
	a) Lecture	49 h	131 h	50-70 Students

2 Module Objectives and Skills to be Acquired

Students who successfully completed this module …

- have acquired an understanding of advanced concepts and technologies related to the molecular basis of plant and microbe functions.
- possess the ability to develop hypotheses through problem analysis and will be able to develop experiments to test these hypotheses.
- will be familiar with the current discourse on molecular biological methods in plant and microbial sciences and, with their professional knowledge, will be able to contribute to social debate.
- have built cross-linked knowledge that is sustainable and applicable for designing and breeding plants that react in a predictable way to future challenges.
- will be in a position to be able to assess the developments in the area of molecular biology including those within a socio-economic context.

3 Module Content

- Plant and microbial genomics
- Plant genetics and development
- Plant cell biology
- Plant physiology and biochemistry
- Plant population biology
- Plant evolution
- Plant biotechnology
- Plant domestication, agriculture and food security
- Plant-microbe interactions
- Plant immunology

4 Teaching Methods

- Research-oriented, interactive lectures (incl. *e.g.* audience response systems and concept mapping)

5 Prerequisites (for the Module)

Formally: none

Additional academic requirements:

The knowledge of plant and microbial biology on the level of a general plant biology text book (*e.g.* Biochemistry & Molecular Biology of Plants by Buchanan *et al.* or Plant Biology by Harberd *et al.*) is required.

6	**Type of examination** Two hours written examination about topics of the lectures (100 % of the total module mark)
7	**Credits Awarded** Written examination at least “sufficient”
8	**Compatibility with other Curricula** None
9	**Proportion of Final Grade** 6/114
10	**Module Coordinator** Prof. Dr. Gunther Döhlemann, phone 470 1647, e-mail: g.doehlemann@uni-koeln.de
11	**Further Information** **Participating faculty**: apl. Prof. Dr. B. Becker, Dr. A. Boisson-Dernier, Prof. Dr. M. Bucher, Prof. Dr. J. de Meaux, Prof. Dr. G. Döhlemann, PD Dr. T. Gigolashvili, Prof. Dr. U. Höcker, Prof. Dr. M. Hülskamp, Prof. Dr. S. Kopriva, PD Dr. S. Krueger, PD Dr. A. Linstädter, Dr. M. Stetter, Prof. Dr. B. Thomma, Prof. Dr. A. Zuccaro **Literature:** • Information about textbooks and other reading material will be given on the ILIAS representation of the course **General time schedule:** Weeks 1-14: Tue. and Thu. from 11:00 to 12:30 a.m.; Week 15 (Mon.-Fri). Preparation for the written examination