

Module Title: Concepts in Genetics and Genomics							
Module ID/Code: NPW-045 [780800450]							
1. Content and intended learning outcomes							
Learning content:	Part 1: Advanced textbook knowledge on basic concepts of molecular genetics by student presentations covering among others the following topics: Mendelian genetics; DNA structure, replication and recombination; chromosome structure and sequence organization; genetic code and transcription; translation and proteins; mutations, DNA repair and transposition; regulation of gene expression in prokaryotes and eukaryotes. As a group work selected topics will be engrossed using research papers. Each student group will present the research topic in form of a poster. (Poster session at the end of the course.) Part 2: After each session students have to answer specific questions as homework, which will be discussed in the next session.						
Learning outcomes							
After a successful completion of the course, the students... - understand advanced concepts of molecular genetics. - can explain and summarize concepts of molecular genetics. - are able to plan and prepare scientific presentations and posters. - can analyse and evaluate the outcome of classical and molecular genetics experiments.							
2. Prerequisites							
obligatory							
recommended	Knowledge of basic concepts of genetics						
Maximum number of students	12 students						
3. Study program allocation							
Study program						Compulsory/ Elective	Semester
M.Sc. Crop Sciences						E Focus MCS	2.
4. Teaching and learning methodes							
Type of course	Interval	Topic	Language of instruction	Group size	SWS	Workload [h]	
						Contact time	Self-study
S*	during the semester	Presentation of advanced genetics concepts	English	12	2,0	30,0	30,0
C*	during the semester	Preparing and presenting a poster on an advance topic of genetics	English	12	2,0	30,0	30,0
T*	during the semester	Exercises in advanced genetics	English	12	2,0	30,0	30,0
5. Course cycle				6. Workload [h]		7. Duration	8. Credits (ECTS)
SS				180		1	6,0
9. Requirements for the rewarding of credits (ECTS)							
Types of Assessment	Prerequisites for admission to the Assessment			Graded yes/no	Language (exam)	Weighting factor	
Presentation [780800459]	Regular participation			graded	English	50%	
Written exam [780800458]	Oral presentation and poster preparation and presentation			graded	English	50%	
Academic Achievements							

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10. Module coordination
Module coordinator
Dr. Caroline Marcon
Teaching person
Dr. Caroline Marcon; Prof. Dr. Frank Hochholdinger
Institute/ Department
Agrar-, Forst- und Ernährungswissenschaften
11. Further information
Textbook: Concepts of genetics Klug W.S. et al.