

<b>Module number</b>	<b>MM1</b>
<b>Module name</b>	<b>Introduction to molecular biology</b>
<b>Program of Study</b>	MSc Mandatory Module
<b>Offered</b>	Once a year, winter semester
<b>Module coordinator</b>	Prof. Dr. Christian Jung
<b>Module advisor</b>	Prof. Dr. Christian Jung
<b>Courses and teachers</b>	<p><b>Lectures:</b>  Introduction to molecular biology I (Prof. Dr. C. Jung with Dr. Carlos Molina)  Introduction to molecular biology II (Prof. Dr. C. Jung with Dr. Carlos Molina)</p> <p><b>Practical course:</b>  (Prof. Dr. C. Jung by Dr. Carlos Molina)</p>
<b>Prerequisites</b>	Fundamental knowledge in molecular biology, molecular genetics and gene technology
<b>Language</b>	English
<b>Module capacity on campus students</b>	20
<b>Module capacity off campus students</b>	-
<b>Registration for the practical course</b>	From September 1st to November 1st via the OLAT e-learning platform
<b>Course types (classroom/ total workload)</b>	Lecture (15h/45h), lecture (15h/45h), practical course (30h/90h)
<b>Schedule</b>	Practical course on five consecutive days at the Plant Breeding Institute
<b>Grading</b>	Oral examination: 75% (Dr. Carlos Molina) Practical report: 25% (Dr. Carlos Molina)
<b>ID-card</b>	Required for exams
<b>European Credit Points</b>	6
<b>Module Objectives</b>	The students understand how to use basic techniques in molecular biology. They understand the theoretical background and they are able to work with these techniques. They are able to perform basic experiments in molecular biology and genetics and they learn how to apply basic techniques for investigating nucleic acids.
<b>Contents</b>	Isolation of nucleic acids, all major nucleic acids techniques, PCR and its derivatives, hybridization techniques and gel electrophoresis, restriction ligation procedures, cloning into different vector systems, fundamentals of bioinformatics, legal aspects of gene technology
<b>Taught skills</b>	Methodical responsibility, key qualifications
<b>Course materials</b>	Textbooks, lab protocols, lecture notes, internet