

Tutorial in Molecular and Developmental Genetics						
Identification number	Workload	Credit points	Term of studying	Frequency of occurrence	Duration	
MN-B- GD 2	180 h	6 CP	1 <sup>st</sup> term or higher term of studying	Winter term	15 weeks	
1	<b>Type of lessons</b> Seminar/Tutorial		<b>Contact times</b> 60 h	<b>Self-study times</b> 120 h	<b>Intended group size</b> 24	
2	<b>Aims of the module and acquired skills</b> Students who successfully completed this module ... <ul style="list-style-type: none"> <li>• have acquired detailed knowledge of molecular genetics and the cellular repertoire to respond to stress, environmental signals and developmental programs operating at different levels in the cell from gene expression to protein function and signaling.</li> <li>• are able to independently address and solve biological problems, including choice of accurate methods, appropriate data analysis and processing of data for publication.</li> <li>• have learned how to present research results in oral and written form and to critically discuss scientific publications related to the topic of the module on a professional level.</li> <li>• are able to transfer skills acquired in this module to other fields of biology</li> </ul>					
3	<b>Contents of the module</b> <ul style="list-style-type: none"> <li>• Genetic screens, mutant selection and gene targeting in model organisms</li> <li>• Spatial control of protein localization</li> <li>• Transcriptional and post-transcriptional regulation, post-translational regulation by protein modification</li> <li>• Selective ubiquitin-mediated protein degradation and degradation of abnormal proteins in yeast and mammals; assembly and function of the 26S proteasome</li> <li>• Addressing and solving scientific problems</li> </ul>					
4	<b>Teaching/Learning methods</b> <ul style="list-style-type: none"> <li>• Interactive tutorials; Seminar; Guidance to independent research, Training on presentation techniques in oral and written form</li> </ul>					
5	<b>Requirements for participation</b> Enrollment in the Master's degree course "Biological Sciences"; Simultaneous participation in the lecture module "Principles of Molecular Genetics, Development and Aging"					
6	<b>Type of module examinations</b> Seminar paper (= poster; 100 % of the total module mark)					
7	<b>Requisites for the allocation of credits</b> Regular and active participation; Passed oral presentations; Seminar paper at least "sufficient"					

*Tutorial in Molecular and Developmental Genetics (MN-B-GD 2) continued*

8	<b>Compatibility with other Curricula*</b> None
9	<b>Significance of the module mark for the overall grade</b> 7.5 % of the overall grade
10	<b>Module coordinator</b> Prof. Dr. Niels Gehring, phone 470 3873, e-mail: ngehring@uni-koeln.de
11	<b>Additional information</b> <b>Participating faculty:</b> Dr. V. Böhm, Prof. Dr. J. Dohmen, Prof. Dr. N. Gehring, Prof. Dr. M. Hammerschmidt, Prof. Dr. K. Hofmann, Dr. M. Kroiher, Dr. H.-M. Pogoda, Prof. Dr. S. Roth, Prof. Dr. K. Schnetz <b>Literature:</b> <ul style="list-style-type: none"><li>• Information about textbooks and other reading material will be given on the ILIAS representation of the course (<a href="https://www.ilias.uni-koeln.de/ilias/goto_uk_crs_3516850.html">https://www.ilias.uni-koeln.de/ilias/goto_uk_crs_3516850.html</a>)</li></ul> <b>General time schedule:</b> Weeks 1-14: Seminars/tutorials and oral presentations (starting at 2:00 p.m. at different dates, more details will be given in the introduction to the module). <b>Introduction to the module:</b> November 02, 2020 at 2:00 p.m., online (further information/link will be sent to your Smail-Account)