

Neurobiology in <i>Drosophila</i>					
Identification number	Workload	Credit points	Term of studying	Frequency of occurrence	Duration
MN-B-SM (N 4)	360 h	12 CP	1 st or 2 nd term of studying	Summer term, 1 st half	7 weeks
1	Type of lessons		Contact times	Self-study times	Intended group size
	a) Lectures		24 h	50 h	max. 6
	b) Practical/Lab		150 h	99 h	max. 6
	c) Seminar		7 h	30 h	max. 6
2	Aims of the module and acquired skills Students who successfully complete this module ... <ul style="list-style-type: none"> • will have gained a general understanding of neural cells and their function • achieved basic understanding of the relationship between anatomy and function in the <i>Drosophila</i> brain • gained insights into neuron-glia interaction and how this controls behaviour • learned state-of-the-art techniques in neurobiology • learned how to address neurobiological questions experimentally and plan experiments • gained insights in data evaluation, statistical methods and data management • 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. • are able to transfer skills acquired in this module to other fields of biology. 				
3	Contents of the module <ul style="list-style-type: none"> • From genes to behavior: concepts of neurogenesis, neural function, and circuit formation • Molecular neurobiology • Staining methods, immunohistochemistry, state-of-the-art microscopy techniques and bio-informatic image processing methods • Basic and advanced methods in cell and molecular biology and protein biochemistry • Behavioural assays of larval and/or adult locomotion in flies • Basic and advanced <i>Drosophila</i> genetics • Scientific writing (grant proposal, paper) and presentation (oral, seminar, poster) 				
4	Teaching/Learning methods <ul style="list-style-type: none"> • Lectures; Practical/Lab (Project work); Seminars; Guidance to independent research; Training on presentation techniques in oral and written form; training on paper/grant writing 				
5	Requirements for participation Enrollment in the Master's degree course "Biological Sciences"				
6	Type of module examinations The final examination consists of three parts: oral examination on topics of lectures, seminars and the practical/lab part (50 % of the total module mark), oral presentation (25 % of the total module mark), and seminar paper in form of a poster (25 % of the total module mark)				

7	<p>Requisites for the allocation of credits</p> <p>Regular and active participation; Each examination part at least "sufficient" (see appendix of the examination regulations for details)</p>
8	<p>Compatibility with other Curricula</p> <p>None</p>
9	<p>Significance of the module mark for the overall grade</p> <p>15 % of the overall grade (see also appendix of the examination regulations)</p>
10	<p>Module coordinator</p> <p>Dr. Thomas Riemensperger, phone 470-76283, e-mail: triemens@uni-koeln.de</p>
11	<p>Additional information</p> <p>Subject module of the Master´s degree course "Biological Sciences", Focus of research:(N) Neurobiology</p> <p>Participating faculty: PD Dr. B. Altenhein, Dr. E. Erhardt, Prof. Dr. K. Ito, Dr. T. Riemensperger</p> <p>Literature:</p> <ul style="list-style-type: none"> • Luo, L. (2016) Principles of Neurobiology. Garland Science (Chapter 1-3, 13) • more literature will be specified at the introductory meeting <p>General time schedule:Week 1 (Mon.-Fri., 9 a.m. - 5 p.m.): Seminars, lectures, introduction to paper/grant writing, practice; Week 2-6 (Mon.-Fri., 9 a.m. - 5 p.m.): practical/lab; Week 7 (Mon.-Fri.): Preparation for the oral examination and final presentation</p> <p>Note: The module contains hand-on laboratory work conducted individually and is taught in research laboratories. The module does not contain computer-based practicals/research as a main component.</p> <p>Introduction to the module: April 02, 2020 at 10 a.m., Cologne Biocenter, room 2.009 (second floor)</p> <p>Oral examination: May 22, 2020, second/supplementary examination July 31, 2020; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.</p>