

Module Name Peptide Biochemistry						
Type of Module ○ Advanced Module				Module Code Peptide Biochemistry		
Identification Number MN-B-SM (Z 4)	Workload 360 h	Credit Points 12 CP	Term 2 nd term of studying	Offered Every Summer term	Start summer term only	Duration 7 weeks
1	Course Types a) Lectures b) Practical/Lab c) Seminar		Contact Time 25 h 154 h 4 h	Private Study 50 h 103 h 24 h	Planned Group Size* max. 10 max. 2 max. 4	
2	Module Objectives and Skills to be Acquired Students who successfully completed this module <ul style="list-style-type: none"> • have a general understanding about the recent developments in the field of peptides including synthetic methodologies, biology of peptides and the application of peptides and peptide conjugates in medicinal or analytical context. • have acquired working skills to tackle the synthesis of peptides and peptide libraries, to apply deconvolution techniques, and to investigate peptide structure by biophysical methods. • can independently carry out small scientific projects related to the topic of the module. • 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 the skills acquired in this module to other fields of biochemistry. 					
3	Module Content <ul style="list-style-type: none"> • Synthesis of peptides and proteins (i.e. solid phase peptide synthesis, native chemical ligation, Staudinger ligation, etc.) • Peptide modifications (i.e. mimetics, labeling strategies, cyclic peptides) • Peptide libraries and arrays, deconvolution • Analytical methods (mass spectrometry, Edman degradation, fluorescence techniques, CD spectroscopy) • Antimicrobial peptides, peptide hormones, cell-penetrating peptides, peptide targeting sequences • Peptides in diagnostics and therapy 					
4	Teaching Methods Lectures; Practical/Lab (Project work); Seminar; Computer exercises, Guidance to independent research; Training on presentation techniques in oral and written form					
5	Prerequisites (for the Module) Enrollment in the Master´s degree course “Biological Sciences”, in the Master’s degree course “Biochemistry” or in the Master’s degree course “Chemistry”					

6	<p>Type of Examination</p> <p>The final examination consists of two parts: oral examination on topics of lectures, seminars and the practical/lab part (20-30 min; 50 % of the total module mark) written report (50 % of the total module mark)</p>
7	<p>Credits Awarded</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>Subject module in the Master's degree course "Biochemistry", combined advanced and experimental module in the Master's degree course "Chemistry"</p>
9	<p>Proportion of Final Grade</p> <p>In the Master's degree course "Biological Sciences": 15 % of the overall grade (see also appendix of the examination regulations)</p>
10	<p>Module Coordinator</p> <p>Prof. Dr. Ines Neundorf, phone 470-8847, e-mail: ines.neundorf@uni-koeln.de</p>
11	<p>Further Information</p> <p>Subject module of the Master's degree course "Biological Sciences", Participating faculty: Prof. Dr. I. Neundorf</p> <p>Literature:</p> <ul style="list-style-type: none"> • Information about textbooks and other reading material will be given on the ILIAS representation of the course (https://www.ilias.uni-koeln.de/ilias/goto_uk_cat_2815610.html) <p>General time schedule: Week 1-5 (Mon.-Fri.): Lectures, practical/lab, preparation for the seminar talk (topic and date will be arranged individually); Week 6 (Mon.-Fri.): Writing seminar paper; Week 7 (Mon.-Fri.): Preparation for the written examination</p> <p>Note: The module contains hand-on laboratory work conducted by small groups of students and individually and is taught in course rooms and research laboratories. The module does not contain computer-based practicals/ research as a main component.</p> <p>Introduction to the module: May 23, 2022 at 8:30 a.m., room 493, 4th floor, Zülpicher Str. 47 (building 300, Institute for Biochemistry) or online (in this case, further information/link will be sent to your Smail-Account) for preparation to the module before this introduction see ILIAS link under literature.</p> <p>Oral examination: July 15, 2022, second/supplementary examination August 26, 2022; the latter date may vary if students and module coordinator agree. More details will be given at the beginning of the module.</p>

* 2 students from the Master's degree course "Biological Sciences", 4 students from the Master's degree course "Biochemistry" and 4 students from the Master's degree course "Chemistry".