

## COURSE UNIT DESCRIPTION - MASTER THESIS

Course unit title		Code	
MASTER THESIS			
Lecturer(s)		Department(s)	
Advisor (holding PhD) appointed by the Study Programme Committee		n/a	
Cycle	Level of the course unit	Type of the course unit	
Full-time studies (2 <sup>nd</sup> stage)	1 out of 1	Compulsory	
Mode of delivery	Period of delivered	Language(s) of instruction	
Consultations, seminars, research work	3 <sup>st</sup> semester, autumn	Lithuanian(English)	
Prerequisites and corequisites			
<b>Prerequisites:</b> Successful completion of all compulsory and elective course units according to the study plan and examination regulations and an achievement of an overall minimum amount of 220 credit points		<b>Corequisites (if any):</b> None	
Number of credits allocated to the course unit	Student's total workload	Contact hours	Self-study and research hours
30	800	90	710
Purpose of the course unit: programme competences to be developed			
Upon the successful completion of this course, students will acquire: <i>Subject-specific competences:</i> <ul style="list-style-type: none"> <li>• knowledge and understanding in molecular biology and related sciences, necessary for independent scientific research;</li> <li>• ability to creatively apply the theoretical knowledge, methods and technologies in research and practical work;</li> <li>• skills to work in interdisciplinary areas and integrate knowledge of different scientific fields;</li> <li>• skills to identify and formulate ways of solution of the problem, to solve problems of unfamiliar character, collect, generalize and critically evaluate scientific information;</li> <li>• skills to identify scientific and professional interests in the field of molecular biology and related fields; learning skills to study autonomously;</li> </ul> <i>General competences:</i> <ul style="list-style-type: none"> <li>• skills to work in the research team;</li> <li>• skills communicate concepts and knowledge of molecular biology to specialists and non- specialists;</li> <li>• skills of personal effectiveness and responsibility for the decisions taken.</li> </ul>			
Learning outcomes of the course unit	Teaching and learning methods	Assessment methods	
Upon the successful completion of these research practices, students will acquire or further develop ability: <ul style="list-style-type: none"> <li>• Deep knowledge in molecular biology and related sciences, necessary for independent scientific research;</li> <li>• Knowledge of methods and technologies of molecular biology and related sciences and their application in research and practical work;</li> <li>• Ability to analyze, interpret, critically and systemically evaluate the research results</li> </ul>	Individual research work in a laboratory; self-study.	Master Thesis defence	

<p>present science-based conclusions;</p> <ul style="list-style-type: none"> <li>• Ability to identify and solve molecular biology-related problems and their complexity in biotechnology, biomedicine, biopharma, environmental safety and other areas;</li> <li>• Ability to plan and conduct research in the field of molecular biology and related fields;</li> <li>• Ability to integrate the knowledge of different sciences, work in the interdisciplinary areas and use the knowledge of different scientific fields in solving problems of the research;</li> <li>• Ability to present research results, exchange ideas with scientific colleagues, including carrying out scientific research within a research group/team;</li> <li>• Readiness to study continuously and autonomously, ability to evaluate critically the novelties in the field of molecular biology and related sciences, ability to improve and update knowledge and skills and to seek new ones;</li> <li>• Ability to be responsible for the decisions taken.</li> </ul>		
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Content: breakdown of the topics	Contact hours							Self-study work: time and assignments	
	Lectures	Tutorials	Seminars	Exercises	Laboratory work	Internship/work placement	Contact hours	Self-study hours	Assignments
Introductory lecture on the Thesis preparation and defense	1						1		
Master Thesis		89					89	710	Experimental or computer modelling research in the field of molecular biology; Participation in the laboratory every day life (seminars, scientific discussions, presentation of master research reports in the laboratory); self-directed learning
<b>Total</b>	<b>1</b>	<b>89</b>					<b>90</b>	<b>710</b>	

Assessment strategy	Weight, %	Assessment period	Assessment criteria
Defense of Master Thesis	100	Winter session	<p>The requirements for the preparation of Master Thesis are accessible at virtual learning environment <a href="http://vma.esec.vu.lt/">http://vma.esec.vu.lt/</a></p> <p>Final grade is the average of marks (based on 1-10 scale) for oral presentation (25%), answers to questions of members of defence committee (25%), written Thesis (25%) and reviewer's evaluation (25%).</p>

			2-4 (insufficient) 5 (sufficient) 6 (satisfactory) 7 (highly satisfactory) 8 (good) 9 (very good) 10 (excellent)
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Author	Year of publication	Title	Publishing place and house or web link
<b>Main reading list</b>			
Current research papers in the field of selected theme			
Janice R. Matthews and Robert W. Matthews.	2008	Successful Scientific Writing: A Step-by-Step Guide for the Biological and Medical Sciences, Third Edition	Cambridge University Press