COURSE UNIT (MODULE) DESCRIPTION

Course unit (module) title	Code
Molecular Cell Biology	

Lecturer(s)	Department(s) where the course unit (module) is delivered
Coordinator: **Giulio Preta**	Life Sciences Centre, Vilnius University, Saulėtekio 7, 10221 Vilnius, Lithuania

Study cycle	Type of the course unit (module)
Biology	Optional

Mode of delivery	Period when the course unit (module) is delivered	Language(s) of instruction
Oral Lessons in Presence	Autumn	English

Requirements for students	
Prerequisites:	**Additional requirements (if any):**

Course (module) volume in credits	Total student's workload	Contact hours	Self-study hours
5	130h	65h	65h

Purpose of the course unit (module): programme competences to be developed		
An introduction to the molecular biology of the cell. Includes studies about the nature of the organization of the cell, bioenergetics and enzyme function, cell membrane organization and function, cell metabolism, basic genetic mechanisms and specialized functioning of the cells.		
Learning outcomes of the course unit (module)	**Teaching and learning methods**	**Assessment methods**
Understand the dynamic of the cells as a basic unit of life and become familiar with the major concepts in cell and molecular biology including transcription, translation, protein trafficking, membrane organization	Oral lessons+ Specific seminars	Final written test
Be able to design and analyze simple experiments in cell and molecular biology	Exercises	Assay and oral presentation
Be able to critically read and sustain a discussion of scientific papers relating to the field of molecular cell biology	Exercises	Each student will discuss his/her own selected scientific article

Content: breakdown of the topics	Contact hours (acc. hours)							Self-study work: time and assignments	
	Lectures	Tutorials	Seminars	Exercises	Laboratory work	Internship/work placement	**Contact hours**	**Self-study hours**	**Assignments**
General introduction to Molecular Cell Biology	2						2	1	
DNA and Chromosomes	4						4	6	Book chapters

DNA Replication, Repair and Recombination	4						4	6	Book chapters
Transcription and translation	4						4	6	Book chapters
Protein organization and function	4	1	1	1	1		8	6	Book chapters
Membrane structure	4	1	1		4		10	8	Book chapters
Membrane transport	4			1	1		6	6	Book chapters
Intracellular compartments	4						4	6	Book chapters
Intracellular trafficking	4						4	6	Book chapters
Methods in molecular cell biology	4	1			4		9	6	
Molecular biology: from books to the bench	2	2			6		10	8	Article presentation
Total	**34**	**4**	**2**	**2**	**12**	**0**	**65**	**65**	

Assessment strategy	**Weight (%)**	**Assessment period**	**Assessment criteria**
Final oral test **Journal article presentation and discussion (power point)**	**70** **30**	**End of course** **End of course**	

Literature:

Selected scientific manuscripts

Book:

Molecular Cell biology by Harvey Lodish et al.