

Code and link to the course description in Oodi	Course name and ECST Credits	Preferred timing							
		1. academic year				2. academic year			
		autumn		spring		autumn		spring	
		1P	2P	3P	4P	1P	2P	3P	4P
	Obligatory Studies (50 ECTS credits)								
744635S	Protein production and analysis I, 5 ECTS cr, autumn	5							
744627S	Molecular biology II, 5 ECTS cr, autumn	5							
744636S	Protein production and analysis II*, 5 ECTS cr, spring			5					
744628S	Orientation to Research Work and		5		5				
744629S	Orientation to Biochemical Work, Total 10-20 ECTS cr	x	x	x	x				
744691S	MSc thesis (Pro gradu) 30 ECTS cr					15			15
744692S	MSc thesis, additional experimental work (0-30 ECTS, in 5 ECTS blocks)						15	15	
740672S	Maturity test (M.Sc. degree), 0 ECTS cr								x
	Total ECTS credits (Obligatory Studies)								
	Optional Studies (a minimum of 3 of these courses must be taken)								
744640S	Data mining and data-based models, 5 ECTS, spring			5					
743668S	Tumor cell biology 5 ECTS cr, spring			5					
743662S	Extracellular matrix 5 ECTS cr, autumn		5						
743663S	Developmental biology, stem cells and tissue engineering 5 ECTS cr, spring				5				
743664S	Hypoxia response pathway – molecular mechanisms and medical applications, 5 ECTS cr, autumn	5							
743665S	Molecular, cell biological and genetic aspects of diseases 5 ECTS cr, autumn		5						
	Other Optional studies								
902154Y	Scientific communication for biochemists , 5 ECTS, spring			x	x				
747616S	Biochemical methodologies II, 10 ECTS cr, spring				x				
744631S	Dissertation 15 ECTS cr	x	x	x	x	x	x	x	x
743667S	Virology 5 ECTS cr, spring			x					
747614S	Macromolecular x-ray crystallography, 5 ECTS, autumn		x						
747613S	In silico methodologies in biochemistry and molecular medicine 5 ECTS cr, autumn	x	x						
744625S	Scientific presentation 1-2 ECTS cr								
743666S	Introduction to Immunology 5 ECTS cr, spring			x					
740381A	Biochemical and biomedical Innovation, 2-5 ECTS cr	x	x	x					
744637S	Micro/nanofluidics and lab-on-a-chip devices,5 ECTS, autumn		x						

	Other suitable courses taught at any university (for minimum 120 credits of MSc Degree) will be accepted as optional studies. Courses given in research units eg. Biocenter Oulu will be accepted. Courses must be connected to biochemistry or logically support some aspect of it and they will have to be at an appropriate level. The content of the courses must not be too similar to other courses which have counted towards the students BSc degree or towards their MSc. In all cases Education designer Jari Heikkinen should be contacted to confirm acceptance / suitability. We would advise that this is done before the course is taken, especially in the case of courses taken from universities outside Finland.								
	ECTS Credits / Period (15 credits)	15	15	15	15	15	15	15	15
	ECTS Credits / Semester (30 credits)	30		30		30		30	
	ECTS Credits / Academic year (60 credits)	60				60			
	Degree (180 credits)	X		120					

University of Oulu

Programme Structure Diagram 2021–2022

Degree Programme in Biochemistry

Protein science and biotechnology, Master's Programme in Biochemistry, Master of Science (2y) (2 years, 120 ECTS Credits)

Code and link to the course description in Oodi	Course name and ECST Credits	Preferred timing							
		1. academic year				2. academic year			
		autumn	spring	autumn	spring	autumn	spring	autumn	spring
		1P	2P	3P	4P	1P	2P	3P	4P
	Obligatory Studies (50 ECTS credits)								
744635S	Protein production and analysis I, 5 ECTS cr, autumn	5							
744627S	Molecular biology II, 5 ECTS cr, autumn	5							
744636S	Protein production and analysis II*, 5 ECTS cr, spring			5					
747616S	Biochemical methodologies II, 10 ECTS cr, 1st spring				10				
744628S	Orientation to Research Work and			5	5				
744629S	Orientation to Biochemical Work, Total 10-20 ECTS cr	x	x	x	x				
744691S	MSc thesis (Pro gradu) 30 ECTS cr					15			15
744692S	MSc thesis, additional experimental work (0-30 ECTS, in 5 ECTS blocks)						15	15	
740672S	Maturity test (M.Sc. degree), 0 ECTS cr								
	Total ECTS credits (Obligatory Studies)								
	Optional Studies (a minimum of 3 of these courses must be taken)								
744640S	Data mining and data-based models, 5 ECTS, spring			5					

8810772137	Current concepts in stem cell biology and regenerative medicine, 5 ECTS cr, winter								
8810772138	Bioinformatics and systems biology, 6 ECTS cr, winter								
8810772139	New drug discovery, development and evaluation, 5 ECTS cr, winter								
8810772140	Practical training in laboratory methods and correlative imaging, 13 ECTS cr, winter								
8810772133	Molecular oncology, 12 ECTS cr, summer				12				
8810772141	GLP/GSP and bioethics, 6 ECTS cr, summer				6				
8810772134	Trauma research and regenerative medicine, 12 ECTS cr, summer								
8810772135	Signaling pathways in stem cells, development and aging, 12 ECTS cr, winter								
8810772142	Clinical trials and project management and funding, 6 ECTS cr, winter								
8810772136	Infectious diseases and immune defense, 12 ECTS cr, summer				12				
8810780000	Master thesis and disputation including journal club and progress report, 30 ECTS cr, summer								
	***Minimum of 30 ECTS credits has to be obtained at the host institution								
	ECTS Credits / Period (15 credits)	15	15	15	30	15	15	15	0
	ECTS Credits / Semester (30 credits)	30		45		30		15	
	ECTS Credits / Academic year (60 credits)	75				45			
	Degree (180 credits)	120							

dots)

edits)