

Course Structure Diagram 2016 - 2017
Bachelor of Science (BSc) in Biochemistry
3 years, 180 ECTS credits
(Students starting their studies in autumn 2016)

Year/Semester

3 / Spring	Intermediate studies 6 ECTS cr			Optional studies 24 ECTS cr
3 / Autumn	Intermediate studies 6 ECTS cr	Bachelor's thesis 10 ECTS cr	Language and Comm. Studies 3 ECTS cr	Optional studies 11 ECTS cr
2 / Spring	Basic studies 19 ECTS cr	Intermediate studies 6 ECTS cr		Optional studies 5 ECTS cr
2 / Autumn	Intermediate studies 22 ECTS cr			Optional studies 8 ECTS cr
1 / Spring	Basic studies 22.5 ECTS cr	Language and Comm. Studies 1,5 ECTS cr		Intermediate studies 6 ECTS cr
1 / Autumn	Basic studies 28.5 ECTS cr			Language and Comm. Studies 1.5 ECTS cr

Code	Entire, courses, part of courses and scope	1st year		2nd year		3rd year	
		autumn	spring	autumn	spring	autumn	spring
	Basic studies 70 ECTS credits (obligatory)						
740076Y	Orientation, 2 ECTS cr, yr1 autumn	1.5	0.5				
750121P	Cell biology 5 ECTS cr, yr1 autumn	5					
780117P	General and inorganic chemistry A 5 ECTS cr, yr1 autumn	5					
780118P	General and inorganic chemistry B 5 ECTS cr, year1 autumn	5					
780123P	Introductory laboratory course in chemistry 5 ECTS cr, yr1 autumn	5					
740143P	Biomolecules for biochemists 8 ECTS cr, yr1 autumn-yr1 spring	3	5				
740144P	Biochemical methods I 8 ECTS cr, yr1 autumn-yr1 spring	2	6				
780116P	Introduction to organic chemistry 5 ECTS cr, yr1 autumn-yr1 spring	2	3				
740150P	Transferable skills for biochemists 2 ECTS cr, yr1 spring		2				
740146P	Metabolism I 6 ECTS cr, yr1 spring		6				
740145P	Physical biochemistry 6 ECTS cr, yr2 spring				6		
757122P	Concepts of genetics for biochemists 3 ECTS cr, yr2 spring				3		

806118P	Introduction to statistics 5 ECTS cr, yr2 spring				5		
806119P	A second course in statistics 5 ECTS cr, yr2 spring				5		
	Total ECTS credits (Basic studies)	28.5	22.5	0	19	0	0
	Intermediate Studies 56 ECTS (obligatory)						
740363A	Microbiology, 6 ECTS cr, yr1 spring		6				
740361A	Molecular biology 8 ECTS cr, yr2 autumn			8			
740367A	Metabolism II, 6 ECTS cr, yr2 autumn			6			
740364A	Protein chemistry I, 8 ECTS cr, yr2 autumn			8			
740362A	Cellular biology, 6 ECTS cr, yr2 spring				6		
740366A	Cellular communication, 6 ECTS cr, yr3 autumn					6	
740376A	ESSAY (B.Sc. Thesis), 10 ECTS cr, yr3 autumn					10	
740377A	Maturity test, 0 ECTS cr, yr3 spring						0
740372A	Final examination, 6 ECTS cr, yr3 spring						6
	Total ECTS credits (Intermediate studies)	0	6	22	6	16	6
	Language and Communication Studies 6 ECTS cr (obligatory)						
902100Y	English for biochemists I, 3 ECTS cr, yr1 autumn-yr1 spring	1.5	1.5				
901050Y	Second official language (Swedish), written skills, 1 ECTS cr, yr3 autumn					1	
901051Y	Second official language (Swedish), oral skills, 2 ECTS cr, yr3 autumn					2	
	Total ECTS credits (Language and Communication Studies)	1.5	1.5	0	0	3	0
	Optional Studies minimum 48 ECTS cr (Recommended)						
780119P	Introduction to analytical chemistry, 5 ECTS cr, yr2 autumn – yr3 autumn			5			
781305A	Organic chemistry I, 5 ECTS cr, yr2 autumn – yr3 autumn					5	
755323A	Animal physiology, lectures, 5 ECTS cr, yr2 spring				5		
740074Y	Tutorial / confidential posts, 1,5 ECTS cr, yr2 autumn-yr3 autumn						
755327A	Animal physiology exercises, 5 ECTS cr, yr3 autumn						
781307A	Laboratory course in organic chemistry I, 5 ECTS cr, yr3, autumn					5	
030005P	Sources of Scientific Information 1 ECTS cr, yr3 autumn						
740379A	Introduction to immunology, 3 ECTS cr, yr3 autumn-spring					1	2
040911S	Using animals in research - carrying out procedures 3 ECTS cr, yr3 spring						3
740368A	Radiochemistry and radiation safety, 5 ECTS cr, yr 3 spring						5

740371A	Physiological biochemistry, 4 ECTS cr, yr3 spring						4
755320A	Developmental biology-histology, 5 ECTS cr, yr3 spring						5
740380A	Virology, 3 ECTS cr, yr3 spring						3
	Other Free Choise Courses			3			2
740383A 740382A	Orientation to research work (740383A) / Orientation to biochemical work (740382A), 0-6 op 1.-3.v						
740381A	Biochemical and biomedical Innovation, 2-5 op, 1.-3.v						
	BSc degree in biochemistry includes 48 credits of optional studies. Recommended optional courses are put together in the time table so that they do not clash with obligatory courses. However, students are free to select other university courses either in Finland or abroad. The content of courses must not be too similar to obligatory courses. Courses taken outside University of Oulu should be agreed with Amanuensis Jari Heikkinen in advance.						
	Total ECTS credits (Optional Studies)	0	0	8	5	11	24
	Minor Studies (minium25 ECTS cr, Basic/Intermediate Studies)						
	BSc studies must include a minor subject that comprises at least 25op of basic / intermediate studies. Students are advised to do the minor subject in either chemistry or biology (compulsory studies in these subjects can be included in the 25 ECTS cr total).						
	Total ECTS credits / Semester	30	30	30	30	30	30
	Total ECTS credits / Academic Year		60		60		60
	Total ECTS credits /Bachelor's degree						180

Course Structure Diagram 2016 - 2017
Bachelor of Science (BSc) in Biochemistry with International Exchange
3 years, 180 ECTS credits
(Students starting their studies in autumn 2016)

Year/Semester

3 / Spring	Intermediate studies 6 ECTS cr	Optional studies 24 6 ECTS cr		
3 / Autumn	Intermediate studies 6 ECTS cr	Bachelor's thesis 10 ECTS cr	Language and Comm. Studies 36 ECTS cr	Optional studies 11 ECTS cr
2 / Spring	Basic studies 19 ECTS cr	Intermediate studies 6 ECTS cr	Optional studies 5 ECTS cr	
2 / Autumn	Intermediate studies 22 ECTS cr		Optional studies 8 ECTS cr	
1 / Spring	Basic studies 23 ECTS cr		Intermediate studies 6 ECTS cr	
1 / Autumn	Basic studies 28 ECTS cr		Language and Comm. Studies 3 ECTS cr	

Code	Entire, courses, part of courses and scope	1st year		2nd year		3rd year	
		autumn	spring	autumn	spring	autumn	spring
	Basic studies 70 ECTS credits (obligatory)						
740076Y	Orientation, 2 ECTS cr, yr1 autumn	1.5	0.5				
750121P	Cell biology 5 ECTS cr, yr1 autumn	5					
780117P	General and inorganic chemistry A 5 ECTS cr, yr1 autumn	5					
780118P	General and inorganic chemistry B 5 ECTS cr, yr1 autumn	5					
780123P	Introductory laboratory course in chemistry 5 ECTS cr, yr1 autumn	5					
740143P	Biomolecules for biochemists 8 ECTS cr, yr1 autumn-yr1 spring	3	5				
740144P	Biochemical methods I 8 ECTS cr, yr1 autumn-yr1 spring	2	6				
780116P	Introduction to organic chemistry 5 ECTS cr, yr1 autumn-yr1 spring	2	3				
740150P	Transferable skills for biochemists 2 ECTS cr, yr1 spring		2				
740146P	Metabolism I 6 ECTS cr, yr1 spring		6				
740145P	Physical biochemistry 6 ECTS cr, yr2 spring				6		
757122P	Concepts of genetics for biochemists 3 ECTS cr, yr2 spring				3		
806118P	Introduction to statistics 5 ECTS cr, yr2 spring				5		
806119P	A second course in statistics 5 ECTS cr, yr2 spring				5		

	Total ECTS credits (Basic studies)	28.5	22.5	0	19	0	0
	Intermediate Studies 56 ECTS (obligatory)						
740363A	Microbiology, 6 ECTS cr, yr1 spring		6				
740361A	Molecular biology 8 ECTS cr, yr2 autumn			8			
740367A	Metabolism II, 6 ECTS cr, yr2 autumn			6			
740364A	Protein chemistry I, 8 ECTS cr, yr2 autumn			8			
740362A	Cellular biology, 6 ECTS cr, yr2 autumn				6		
740366A	Cellular communication, 6 ECTS cr, yr3 autumn					6	
740376A	ESSAY (B.Sc. Thesis, 10 ECTS cr, yr3 autumn					10	
740377A	Maturity test, 0 ECTS cr, yr3 spring						0
740372A	Final examination, 6 ECTS cr, yr3 spring						6
	Total ECTS credits (Intermediate studies)	0	6	22	6	16	6
	Language and Communication Studies 6 ECTS cr (obligatory)						
902100Y	English for biochemists I, 3 ECTS cr, yr1 autumn-yr1 spring	1.5	1.5				
901050Y	Second official language (Swedish), written skills, 1 ECTS cr, yr3 autumn					1.5	
901051Y	Second official language (Swedish), oral skills, 2 ECTS cr, yr3 autumn					1.5	
	Total ECTS credits (Language and Communication Studies)	1.5	1.5	0	0	3	0
	Appropriate language studies up to 10 credits, yr2 autumn-yr3 autumn						
	Appropriate compulsory language studies (up to 10 credits) should be taken prior the exchange period. The courses can be selected from repertoire of Language and Communication and/or Open university. Autumn yr2-autumn yr3 is the ideal period for these studies. If appropriate language course is a subject to a charge Dean for Education will accept the course before it starts. The language courses given by the host university at the beginning of exchange period will be accepted too.						
	Biochemical studies in the host university 12-30 credits, spring yr3						24
	Recommended optional studies						
780119P	Introduction to analytical chemistry, 5 ECTS cr, yr2 autumn-yr3 autumn						
781305A	Organic chemistry I, 5 ECTS cr, yr2 autumn			5			
755323A	Animal physiology, lectures , 5 ECTS cr, yr2 spring*				5		

740074Y	Tutoring / confidential posts, 1,5 ECTS cr, yr2 autumn-yr3 autumn						
755327A	Animal physiology exercises, 5ECTS cr, yr3 autumn					5	
781307A	Laboratory course in organic chemistry I, 5 ECTS cr, yr3, autumn					5	
030005P	Sources of Scientific Information 1 ECTS cr, yr3 autumn					1	
740379A	Introduction to immunology, 3 ECT cr, yr3 autumn						
	* One course in physiology is required. An alternative to animal physiology is physiological biochemistry but this is normally taken Spring yr3.						
	Other Free Choice Courses			3			
740383A 740382A	Orientation to research work (740383A) / Orientation to biochemical work (740382A), 0-6 op 1.-3.v						
740381A	Biochemical and biomedical Innovation, 2-5 op, 1.-3.v						
	BSc degree in biochemistry includes 48 credits of optional studies. Recommended optional courses are put together in the time table so that they do not clash with obligatory courses. However, students are free to select other university courses either in Finland or abroad. The content of courses must not be too similar to obligatory courses. Courses taken outside University of Oulu should be agreed with Amanuensis Jari Heikkinen in advance.						
	Total ECTS credits (Other Optional Studies)	0	0	8	5	11	24
	Total ECTS credits / Semester	30	30	30	30	30	30
	Total ECTS credits / Academic Year		60		60		60
	Total ECTS credits /Bachelor's degree						180