BSc in Chemistry and Biological Chemistry (CHEM)

AY2021 - 2022 Intake

FYP with Professional Attachment

		Number of Academic Units (AU)							
	v (c. 1	Major Red	Major Requirement Interdisciplinary		ciplinary	Broadening			
Programme	Core (C) Major PE (MPE) Co		Common Core (CC)	Foundational Core (FC)	and Deepening Electives	Total			
	1	24		9		3	36		
Chemistry and	2	21		8	3	6	38		
Biological	3	18			7	9	34		
Chemistry	4		22			9	31		
	Total	63	22	17	10	27	139		

Common Core (University-level) CC0001 Inquiry and Communication in the Interdisciplinary World 2						
	Common Co	re (University-level)				
		2				
	CC0002 Navigating the Digital World 2					
	CC0003 Ethic	cs & Civics in a Multi-Cultural World	2	47		
	CC0005 Heal	thy Living & Wellbeing	3	17		
nterdisciplinary		ainability: Society, Economy & Environment	3			
Collaborative		nce & Technology for Humanity	3			
Core (ICC)		eer and Entrepreneurial Development for the Future	2			
	Foundationa	ıl Core (College-level)				
		nmunication Across the Sciences	2	4.0		
		duction to Data Science and Artificial Intelligence	3	10		
		fessional Attachment	5			
	CHEM Core	1		<u> </u>		
	CM1021	Basic Inorganic Chemistry with Laboratory	4			
	CM1031	Basic Organic Chemistry with Laboratory	4			
	MH1802	Calculus for the Sciences	4			
	CM1041	Basic Physical Chemistry with Laboratory	4			
	CM1051	Basic Biological Chemistry	3			
	MH1804	Mathematics for Chemistry	2			
	PH1801	Foundation of Physics 1	3			
	CM2011	Analytical Chemistry	3			
	CM2021	Inorganic and Bioinorganic Chemistry	3			
	CM2061	Chemistry & Biological Chemistry Laboratory 1	3			
Major	PS0001	Introduction to Computational Thinking	3	63		
Requirement	CM2031	Organic and Bioorganic Chemistry	3			
	CM2041	Physical and Biophysical Chemistry 1	3			
	CM2062	Chemistry & Biological Chemistry Laboratory 2	3			
	CM3011	Chemical Spectroscopy and Applications	3			
	CM3041	Physical and Biophysical Chemistry 2	3			
	CM3062	Chemistry & Biological Chemistry Laboratory 4	3			
	CM3021	Organometallic Chemistry	3			
	CM3031	Organic Reaction Mechanisms and Synthesis	3			
	CM3061	Chemistry & Biological Chemistry Laboratory 3	3			
		Prescribed Electives (MPE)	-			
	CM4080	Honours Project 1	10			
	4 x MPEs	<u>, </u>	12	22		
	Deeme-! 51	asticus (DDF)		27		
roadening and	Deepening Ele	ectives (BDE)		27		
otal				139		

	emistry and Biological Chemistry) Study Plan for AY2021-2022 intake						
	Professional Attachment Option						
Year 1 Sem Course	nester 1	Туре	AU	Year 1 Sen Course	nester 2	Туре	AU
CM1021	Basic Inorganic Chemistry with Laboratory	С	4	CM1041	Basic Physical Chemistry with Laboratory		4
CM1031	Basic Organic Chemistry with Laboratory	С	4	CM1051	Basic Biological Chemistry	С	3
MH1802	Calculus for the Sciences	С	4	MH1804	Mathematics for Chemistry	С	2
CC0001	Inquiry and Communication in an	CC	2	PH1801	Foundation of Physics 1	С	3
CC0002	Interdisciplinary World Navigating the Digital World	CC	2	CC0003	Ethics & Civics in a Multicultural World	CC	2
CC0005	Healthy Living and Wellbeing	CC	3		Broadening and Deepening Electives 1	BDE	3
HW0001	Introduction to Academic Communication	*					
			19	-			17
*for studer	nts who have not cleared QET						
Year 2 Sem Course	nester 1	Type	AU	Year 2 Sen Course	nester 2	Type	AU
CM2011	Analytical Chemistry	Type C	3	CM2031	Organic and Bioorganic Chemistry	С	3
CM2021	Inorganic and Bioinorganic Chemistry	С	3	CM2041	Physical and Biophysical Chemistry 1	С	3
CM2061	Chemistry & Biological Chemistry Laboratory 1	С	3	CM2062	Chemistry & Biological Chemistry Laboratory 2	С	3
PS0001	Introduction to Computational Thinking	С	3	CC0007	Science & Technology for Humanity	CC	3
ML0004	Career & Entrepreneurial Development for the Future World	CC	2	PS0002	Introduction to Data Science and Artificial Intelligence	FC	3
CC0006	Sustainability: Society, Economy & Environment	CC	3		Broadening and Deepening Electives 3	BDE	3
	Broadening and Deepening Electives 2	BDE	3				
			20				18
Year 3 Sem Course	nester 1	Туре	AU	Year 3 Sen Course	nester 2	Type	AU
CM3011	Chemical Spectroscopy and Applications	С	3	CM3021	Organometallic Chemistry	С	3
CM3041	Physical and Biophysical Chemistry 2	С	3	CM3031	Organic Reaction Mechanisms and Synthesis	С	3
CM3062	Chemistry & Biological Chemistry Laboratory 4	С	3	CM3061	Chemistry & Biological Chemistry Laboratory 3	С	3
	Broadening and Deepening Elective 4	BDE	3	HW0218	Effective Communication 2	FC	2
	Broadening and Deepening Elective 5	BDE	3		Broadening and Deepening Electives 6	BDE	3
				Year 3 Spe		Type CCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCCC	_
				CM4082	Professional Attachment	FC	5
			15				19
Year 4 Sem	nester 1			Year 4 Sen	nester 2		
Course		Туре	AU	Course			AU
CM4XXX	CHEM MPE	MPE	3	CM4080	Honours Project 1		10
CM4XXX CM4XXX	CHEM MPE CHEM MPE	MPE MPE	3 3		Broadening and Deepening Electives 9	BDE	3
CM4XXX	CHEM MPE	MPE	3				
	Broadening and Deepening Electives 7	BDE	3				
	Broadening and Deepening Electives 8	BDE	3				
			18		Total (AU)		13 139

BSc in Chemistry and Biological Chemistry (CHEM)

AY2021 - 2022 Intake

Total

with Professional Internship

	1	Number of Academic Units (AU)								
D	Year of	Major Red	quirement	Broadening and						
Programme	Study	Core (C)		Common Core (CC)	Foundational Core (FC)	Deepening Electives (BDE)	Total			
	1	24		9		3	36			
Chemistry and	2	21		8	3	6	38			
Biological	3	18			2	17	37			
Chemistry	4		12		10	6	28			
	Total	63	12	17	15	32	139			

Category			AU	Total Al
	Common	Core (University-level)		
	CC0001 In	quiry and Communication in the Interdisciplinary	2	
	CC0002 Na	avigating the Digital World	2	
	CC0003 Et	hics & Civics in a Multi-Cultural World	2	17
	CC0005 He	ealthy Living & Wellbeing	3	17
Interdisciplinary	CC0006 Su	ustainability: Society, Economy & Environment	3	
Collaborative	CC0007 Sc	cience & Technology for Humanity	3	
Core (ICC)	ML0004 C	areer and Entrepreneurial Development for the	2	
	Foundatio	onal Core (College-level)		
	HW0218 C	Communication Across the Sciences	2	45
	PS0002 Inf	troduction to Data Science and Artificial	3	15
	CM4081 P	rofessional Internship	10	
	CHEM Cor			
	CM1021	Basic Inorganic Chemistry with Laboratory	4	
	CM1031	Basic Organic Chemistry with Laboratory	4	
	MH1802	Calculus for the Sciences	4	
	CM1041	Basic Physical Chemistry with Laboratory	4	
	CM1051	Basic Biological Chemistry	3	
	MH1804	Mathematics for Chemistry	2	
	PH1801	Foundation of Physics 1	3	
	CM2011	Analytical Chemistry	3	
	CM2021	Inorganic and Bioinorganic Chemistry	3	
Major	CM2061	Chemistry & Biological Chemistry Laboratory 1	3	63
Requirement	PS0001	Introduction to Computational Thinking	3	
riequirement	CM2031	Organic and Bioorganic Chemistry	3	
	CM2041	Physical and Biophysical Chemistry 1	3	
	CM2062	Chemistry & Biological Chemistry Laboratory 2	3	
	CM3011	Chemical Spectroscopy and Applications	3	
	CM3041	Physical and Biophysical Chemistry 2	3	
	CM3062	Chemistry & Biological Chemistry Laboratory 4	3	
	CM3021	Organometallic Chemistry	3	
	CM3031	Organic Reaction Mechanisms and Synthesis	3	
	CM3061	Chemistry & Biological Chemistry Laboratory 3	3	
	CHEM Ma	jor Prescribed Electives (MPE)		
	4 x MPEs		12	12

139

Suggested	mistry and Biological Chemistry) Study Plan for AY2021-2022 intake ssional Internship						
Year 1 Sen Course	nester 1	Туре	AU	Year 1 Sen Course	nester 2	Туре	AU
CM1021	Basic Inorganic Chemistry with Laboratory	С	4	CM1041	Basic Physical Chemistry with Laboratory	С	4
CM1031	Basic Organic Chemistry with Laboratory	С	4	CM1051	Basic Biological Chemistry	С	3
MH1802	Calculus for the Sciences	С	4	MH1804	Mathematics for Chemistry	С	2
CC0001	Inquiry and Communication in an Interdisciplinary World	CC	2	PH1801	Foundation of Physics 1	С	3
CC0002	Navigating the Digital World	CC	2	CC0003	Ethics & Civics in a Multicultural World	CC	2
CC0005	Healthy Living and Wellbeing	CC	3		Broadening and Deepening Electives 1	BDE	3
HW0001	Introduction to Academic Communication	*					
*for stude	nts who have not cleared QET		19				17
Year 2 Sen	nester 1	T		Year 2 Sen	nester 2	T	
Course CM2011	Analytical Chemistry	Type C			Organic and Biographic Chemistry		AU 3
CM2021	Inorganic and Bioinorganic Chemistry	C	AU Course 3 CM2031 Organic and Bioorganic Chemistry 3 CM2041 Physical and Biophysical Chemistry 1 Chemistry & Biological Chemistry Laboratory 2 3 CC0007 Science & Technology for Humanity Introduction to Data Science and		C	3	
CM2061	Chemistry & Biological Chemistry Laboratory 1	С	3	CM2062		С	3
PS0001	Introduction to Computational Thinking	С	3	CC0007	Science & Technology for Humanity	CC	3
ML0004	Career & Entrepreneurial Development for the Future World	CC	2	PS0002	Introduction to Data Science and Artificial Intelligence	FC	3
CC0006	Sustainability: Society, Economy &	CC	3		Broadening and Deepening Electives 3	BDE	3
	Environment Broadening and Deepening Electives 2	BDE	3				
			20				18
Year 3 Sen	nester 1			Year 3 Sen	nester 2		
Course		Туре	AU	Course		Type	AU
CM3011	Chemical Spectroscopy and Applications	С	3	CM3021	Organometallic Chemistry	С	3
CM3041	Physical and Biophysical Chemistry 2	С	3	CM3031	Organic Reaction Mechanisms and Synthesis Chemistry & Biological Chemistry	С	3
CM3062	Chemistry & Biological Chemistry Laboratory 4	С	3	CM3061	Laboratory 3	С	3
	Broadening and Deepening Elective 4	BDE	3	HW0218	Effective Communication 2	FC	2
	Broadening and Deepening Elective 5 Broadening and Deepening Elective 6	BDE BDE	3 3		Broadening and Deepening Electives 7 Broadening and Deepening Electives 8		3 3
	broadening and beepening Liective o	DDL	3		Broadening and Deepening Electives 9	BDE	2
			18				19
Year 4 Sen Course	nester 1	Туре	AU	Year 4 Sen Course	nester 2	Type	AU
CM4081	Professional Internship	FC	10	CM4XXX	CHEM MPE	MPE	3
				CM4XXX	CHEM MPE	MPE	3
				CM4XXX CM4XXX	CHEM MPE CHEM MPE	C CC BDE Type C C CC FC BDE Type C C C Type Type C C C Type MPE	3 3
				CIVI4AAA	Broadening and Deepening Electives 10		3
					Broadening and Deepening Electives 11	Type C C C C C C C C C C C C C C C C C C C	3
			10				18
					Total (ALI)		120
					Total (AU)	C CC FC BDE Type C C C FC BDE BDE BDE Type MPE MPE MPE MPE MPE BDE	139

BSc in Chemistry and Biological Chemistry (CHEM)

AY2021 - 2022 Intake

with Professional Internship and FYP

			N	umber of Aca	demic Units	(AU)	
Programme	Year of	Major Red	quirement	Interdisc	ciplinary	Broadening and	
rogramme	Study Major PE Common Core Foundatio		Foundational Core (FC)	Deepening Electives (BDE)	Total		
	1	24		9		3	36
Chemistry and	2	21		8	3	6	38
Biological	3	18	3		2	13	36
Chemistry	4		19		10		29
	Total	63	22	17	15	22	139

BSc in Chemistry and Biological Chemistry (CHEM)

ategory			AU	Total AU		
	Common	Core (University-level)				
	CC0001 In	2				
	CC0002 N	CC0002 Navigating the Digital World 2				
	CC0003 Et	hics & Civics in a Multi-Cultural World	2	1 47		
	CC0005 H	ealthy Living & Wellbeing	3	17		
Interdisciplinary	CC0006 St	ustainability: Society, Economy & Environment	3			
Collaborative	CC0007 Sc	cience & Technology for Humanity	3			
Core (ICC)	ML0004 C	areer and Entrepreneurial Development for the	2			
	Foundation	onal Core (College-level)				
	HW0218 (Communication Across the Sciences	2	4.5		
	PS0002 In	troduction to Data Science and Artificial	3	15		
	CM4081 P	rofessional Internship	10			
	CHEM Cor	ro	1	<u> </u>		
	CM1021	Basic Inorganic Chemistry with Laboratory	4			
	CM1031	Basic Organic Chemistry with Laboratory	4			
	MH1802	Calculus for the Sciences	4			
	CM1041	Basic Physical Chemistry with Laboratory	4			
	CM1051	Basic Biological Chemistry	3			
	MH1804	Mathematics for Chemistry	2			
	PH1801	Foundation of Physics 1	3			
	CM2011	Analytical Chemistry	3			
	CM2021	Inorganic and Bioinorganic Chemistry	3			
	CM2061	Chemistry & Biological Chemistry Laboratory 1	3	63		
Major	PS0001	Introduction to Computational Thinking	3			
Requirement	CM2031	Organic and Bioorganic Chemistry	3			
•	CM2041	Physical and Biophysical Chemistry 1	3			
	CM2062	Chemistry & Biological Chemistry Laboratory 2	3			
	CM3011	Chemical Spectroscopy and Applications	3			
	CM3041	Physical and Biophysical Chemistry 2	3			
	CM3062	Chemistry & Biological Chemistry Laboratory 4	3			
	CM3021	Organometallic Chemistry	3			
	CM3031	Organic Reaction Mechanisms and Synthesis	3			
	CM3061	Chemistry & Biological Chemistry Laboratory 3	3			
		jor Prescribed Electives (MPE)				
	CM4080	Honours Project 1	10			
	4 x MPEs		12	22		
roadening and [Deenening I	Electives (RDE)		22		
Toducining and t	occpening i	LICCUIVES (DDL)		1 22		
otal				139		

Suggested	emistry and Biological Chemistry) Study Plan for AY2021-2022 intake						
with Profe.	ssional Internship and FYP						
Year 1 Sen Course	nester 1	Туре	AU	Year 1 Sen Course	nester 2	Туре	AU
CM1021	Basic Inorganic Chemistry with Laboratory	С	4	CM1041	Basic Physical Chemistry with Laboratory	С	4
CM1031	Basic Organic Chemistry with Laboratory	С	4	CM1051	Basic Biological Chemistry	С	3
MH1802	Calculus for the Sciences	С	4	MH1804	Mathematics for Chemistry	С	2
CC0001	Inquiry and Communication in an	CC	2	PH1801	Foundation of Physics 1	С	3
CC0002	Interdisciplinary World Navigating the Digital World	CC	2	CC0003	Ethics & Civics in a Multicultural World	CC	2
CC0005	Healthy Living and Wellbeing	CC	3		Broadening and Deepening Electives 1	BDE	3
HW0001	Introduction to Academic Communication	*					
*for stude	nts who have not cleared QET		19				17
Year 2 Sen				Year 2 Sen	nester 2		
Course		Туре	AU	Course		Туре	AU
CM2011	Analytical Chemistry	С	3	CM2031	Organic and Bioorganic Chemistry	С	3
CM2021	Inorganic and Bioinorganic Chemistry Chemistry & Biological Chemistry	С	3	CM2041	Physical and Biophysical Chemistry 1 Chemistry & Biological Chemistry	С	3
CM2061	Laboratory 1	С	3	CM2062	Laboratory 2	С	3
PS0001	Introduction to Computational Thinking	С	3	CC0007	Science & Technology for Humanity	СС	3
ML0004	Career & Entrepreneurial Development for the Future World	CC	2	PS0002	Introduction to Data Science and Artificial Intelligence	FC	3
CC0006	Sustainability: Society, Economy & Environment	CC	3		Broadening and Deepening Electives 3	BDE	3
	Broadening and Deepening Electives 2	BDE	3				
			20				18
Year 3 Sen	nester 1			Year 3 Sen	nester 2		
Course		Туре	AU	Course		Туре	AU
CM3011	Chemical Spectroscopy and Applications	С	3	CM3021	Organometallic Chemistry	С	3
CM3041	Physical and Biophysical Chemistry 2	С	3	CM3031	Synthesis	С	3
CM3062	Chemistry & Biological Chemistry Laboratory 4	С	3	CM3061	Chemistry & Biological Chemistry Laboratory 3	С	3
	Broadening and Deepening Elective 4	BDE	3	HW0218	Effective Communication 2	FC	2
				CMAYYY			2 3
	Broadening and Deepening Electives 7	BDE	2	CIVI4XXX	CHEWINTE	IVIF	3
			20	-			16
Voor 4 Son	nortor 1			Voor 4 Son	nortor 2		
Course	nester 1	Type	AU	Course	nester 2	Туре	AU
CM4081	Chemical Spectroscopy and Applications C 3 CM3021 Organometallic Chemistry C C CM3021 Organometallic Chemistry C C CM3021 Organic Reaction Mechanisms and Synthesis C CM3031 Organic Reaction Mechanisms and Synthesis C CM3031 Organic Reaction Mechanisms and C CM3031 Organic Reaction M	MPE	10				
				CM4XXX	CHEM MPE	MPE	3
				CM4XXX CM4XXX	CHEM MPE CHEM MPE	MPE MPE	3 3
			10				19
					Total (AU)		139