# BSc in Chemistry and Biological Chemistry with 2nd Major in Data Analytics (CHDA)

AY2022 - 2023 Intake onwards

FYP with Professional Attachment

			N	umber of Acad	demic Units (Al	J)	
	Year of	Major Re	quirement		ciplinary	Broadening and	
Programme	Study	Core (C)	Major PE (MPE)	Common Core (CC)	Foundational Core (FC)	Deepening Electives (BDE)	Total
	1	17		9		6	32
Chemistry and	2	21		8	3	6	38
Biological	3	18			7	19	44
Chemistry	4		22			6	28
	Total	56	22	17	10	37	142
3Sc in Chemistr	v and Biol	ogical Chemi	strv with 2nd N	Maior in Data	Analytics (CH	DA)	
Category			-		, (	ÂŬ	Total AU
		Core (Universi					
	CC0001 Inc	quiry and Com	munication in th	ne Interdiscipli	nary World	2	
	CC0002 Na	ivigating the D	igital World			2	
	CC0003 Et	hics & Civics ir	n a Multi-Cultura	l World		2	
	CC0005 He	althy Living &	Wellbeing			3	17
nterdisciplinary	CC0006 Su	stainability: So	ociety, Economy	& Environmer	it	3	1/
Collaborative	CC0007 Science & Technology for Humanity					3	
	ML0004 Ca	Career and Entrepreneurial Development for the Future				2	
Core (ICC)	World					2	
	Foundatio	nal Core (Coll					
		•	•			2	
			n Across the Scie			2 3	10
		002 Introduction to Data Science and Artificial Intelligence 082 Professional Attachment					10
	CIV14082 PI	rofessional At	tachment			5	
	CHEM Cor						
	CM1001		of Chemistry I			4	
	CM1002	Foundations	of Chemistry II			4	
	MH1082	Calculus for t	he Sciences			4	
	MH1804^		for Chemistry			2	
	PH1801	Foundations				3	
	CM2011	Analytical and	d Bioanalytical Cl	hemistry		3	
	CM2021	Inorganic and	l Bioinorganic Ch	emistry		3	
	CM2061	Chemistry & I	Biological Chemi	stry Laborator	y 1	3	
	CM2031	Organic and E	Bioorganic Chem	istry		3	56
Maiar	CM2041	Physical and I	Biophysical Chen	nistry 1		3	50
Major	CM2062	Chemistry & I	Biological Chemi	stry Laborator	y 2	3	
Requirement	PS0001^	Introduction	to Computationa	al Thinking		3	
	CM3011 <sup>&amp;</sup>	Chemical Spe	ctroscopy and A	pplications		3	
		-	Biophysical Chen			3	
	CM3062		Biological Chemi	•	y 4	3	
	CM3031 <sup>&amp;</sup>	-	tion Mechanisms	-	-	3	
	CM3021 <sup>&amp;</sup>	Organometal		-		3	
	CM3061	-	Biological Chemi	stry Laborator	y 3	3	
		or Drossribed	Electives (MDE)				
	-	Honours Proj	Electives (MPE) ect 1			10	
	4 x MPEs						22

	Data Analytics Compulsory Courses		
	1) Probability and Statistics: MH2500 Probability and Introduction to Statistics	4	
	2) Linear Algebra: CM1804 Mathematics for Chemistry	NA	
	3) Data Analysis/Computing: PS0001 Introduction to Computational Thinking	NA	
	4) Algorithms: MH1403 Algorithms & Computing	3	
2nd Major in Data Analytics (BDEs)	5) Database: BC2402 Designing & Developing Databases (4AU) / EE4791 Database Systems (3AU) / SC2207 Introduction to Database (3AU)	3 - 4	16 - 19
	6) Data Mining: MH4510 Statistical Learning & Data Mining (4AU) / IE4483 Artificial Intelligence & Data Mining (3AU) / SC4020 Data Analytics and Mining (3AU)	3 - 4	
	7) Data Visualisation/Management: BC2406 Analytics I: Visual and Predictive Techniques (4AU) / SC4023 Big Data Management (3AU) / SC4024 Data Visualization (3AU)	3 - 4	
	Data Analytics Floating (Daad any 2)		
	Data Analytics Electives (Read any 3) BC2407 Analytics II: Advanced Predictive Techniques (4AU)		r
	BS3008 Computational Biology and Modeling (3AU)		
	BS4017 High-Throughput Bioinformatics (3AU) CM4043* Molecular Modelling: Principles and Applications (3AU)		9 - 12
	CM4044 <sup>*</sup> Artificial Intelligence in Chemistry (3AU)		
	ES2001 Computational Earth Systems Science (4AU)		
	MH3400 Algorithms for the Real World (4AU)		
2nd Major in	MH3500 Statistics (4AU)		
Data Analytics	MH3510 Regression Analysis (4AU)	9 - 12	
(BDEs)	MH3511 Data Analysis with Computer (3AU)		
	MH3701 Basic Optimization (4AU)		
	MH4500 Time Series Analysis (4AU)		
	MH4513 Survival Analysis (4AU)		
	MH4302 Theory of Computing (4AU)		
	MH4320 Computational Economics (4AU)		
	MH4511 Sampling and Survey (4AU) @		
	MH4512 Clinical Trials (4AU)		
	MH4702 Probabilistic Methods in OR (4AU)		
	Students are responsible to plan for their 2nd major courses	10	10
BDE	Any 4 BDE	12	12

^Counted towards 2nd major in Data Analytic Compulsory Course

\*Can be counted towards CHEM MPE

&CM3011, CM3021. CM3031, CM3041 are offered in both semesters.

## B.Sci. (Chemistry and Biological Chemistry) with 2nd major in Data Analytics (CHDA) Suggested Study Plan for AY2022-2023 intake

15

20

21

AU

3

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18

Туре

MPE

MPE

MPE

MPE

BDE

BDE

CC0007

MH1403

FYP with Professional Attachment

Year 1 Sen	nester 1		
Course		Туре	AU
CM1001	Foundations of Chemistry I	С	4
MH1802	Calculus for the Sciences	С	4
CC0001	Inquiry and Communication in the Interdisciplinary World	СС	2
CC0002	Navigating the Digital World	CC	2
CC0005	Healthy Living & Well-being	CC	3
HW0001	Introduction to Academic Communica	ntion*	

Year 1 Sem	ester 2		
Course		Туре	AU
CM1002	Foundations of Chemistry II	С	4
MH1804^	Mathematics for Chemistry	С	2
PH1801	Foundations of Physics I	С	3
CC0003	Ethics & Civics in a Multi-Cultural World	СС	2
	BDE 1	BDE	3
	BDE 2	BDE	3

\*for students who have not cleared QET

#### Year 2 Semester 1

Course		Туре	AU
CM2011	Analytical and Bioanalytical Chemistry	С	3
CM2021	Inorganic and Bioinorganic Chemistry	С	3
CM2061	Chemistry & Biological Chemistry Laboratory 1	С	3
PS0001^	Introduction to Computational Thinking	С	3
CC0006	Sustainability: Society, Economy & Environment	CC	3
ML0004	Career and Entrepreneurial Development for the Future World	СС	2
	BDE 3	BDE	3

Year 3 Sem	ester 1		
Course		Туре	AU
CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3
CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3
CM3062	Chemistry & Biological Chemistry Laboratory 4	С	3
BC2402	Designing & Developing Databases (CHDA-Core)	BDE	4
BC2406	Analytics I: Visual and Predictive Techniques (CHDA-Core)	BDE	4
MH2500	Probability and Introduction to Statistics (CHDA-Core)	BDE	4

			17
Year 2 Sem Course	ester 2	Туре	AU
CM2031	Organic and Bioorganic Chemistry	С	3
CM2041	Physical and Biophysical Chemistry 1	С	3
CM2062	Chemistry & Biological Chemistry Laboratory 2	С	3
PS0002	Introduction to Data Science and Artificial Intelligence	FC	3

Science & Technology for Humanity

Algorithms & Computing

СС

BDE

3

3

10

142

18 Year 3 Semester 2 Course Туре AU CM3xxx<sup>&</sup> CHEM-Core С 3 CM3xxx<sup>&</sup> CHEM-Core С 3 Chemistry & Biological Chemistry CM3061 С 3 Laboratory 3 HW0218 Communication Across the Sciences FC 2 MH3500 Statistics (CHDA-Elective 1) BDE 4 CHDA-Elective 2 BDE 3 Year 3 Special Sem CM4082 Professional Attachment FC 5 23 Year 4 Semester 2 Course Туре AU CM4080 Honours Project 1 10 MPE

Total (AU)

This study plan is meant as a guide.

CHEM MPE2

CHEM MPE3

CHEM MPE4

(CHDA-Core) BDE 4

Year 4 Semester 1

Course

IE4483

CM4044<sup>+</sup>^

^Counted towards 2nd major in Data Analytic requirements

Artificial Intelligence in Chemistry

Artificial Intelligence & Data Mining

<sup>&</sup> CM3xxx refers to CM3011, CM3021, CM3031, CM3041 - These courses are offered in both semesters

## **BSc in Chemistry and Biological Chemistry with 2nd Major in Data Analytics (CHDA)** AY2022 - 2023 Intake onwards

with Professional Internship

				Number of Acad	lemic Units (AU	·)			
	Year of	Major Re	quirement	Interdise	ciplinary	Broadening and			
Programme	Study	Core (C)	Major PE (MPE)	Common Core (CC)	Foundational Core (FC)	Deepening Electives (BDE)	Total		
	1	17		9		6	32		
Chemistry and	2	21		8	3	9	41		
Biological	3	18			2	21	41		
Chemistry	4		12		10	6	28		
	Total	56	12	17	15	42	142		
BSc in Chemistr	y and Biol	ogical Chemis	try with 2nd N	Aajor in Data A	Analytics (CHD	-			
Category	Common	Cana (I Indiacanait	··· level)			AU	Total AU		
		Core (Universit	-		a un c ) A / a ul al	2			
				ne Interdisciplina	ary world	2			
		avigating the D	•	110/08/2		2			
			a Multi-Cultura	i worla		2 3	17		
		CC0005 Healthy Living & Wellbeing CC0006 Sustainability: Society, Economy & Environment							
Interdisciplinary		-				3	17		
Collaborative			ology for Humai	-	e Future	3			
Core (ICC)	World	areer and Entre	epreneurial Dev	elopment for th	e Future	2			
	wond								
	Foundatio	nal Core (Colle							
		-	Across the Scie	Inces		2			
				Artificial Intelli	gence	3	15		
		rofessional Inte			Benee	10			
	CHEM Cor								
	CM1001	Foundations of	f Chemistry I			4			
	CM1002	Foundations of	f Chemistry II			4			
	MH1082	Calculus for th	e Sciences			4			
	MH1804^	Mathematics	for Chemistry			2			
	PH1801	Foundations of	of Physics I			3			
	CM2011	Analytical and	Bioanalytical C	hemistry		3			
	CM2021	-	Bioinorganic Ch	•		3			
	CM2061		•	stry Laboratory	1	3			
	CM2031	Organic and B	ioorganic Chem	istry		3	56		
Major	CM2041	-	iophysical Chen	-		3	50		
Requirement	CM2062	-	-	stry Laboratory	2	3			
	PS0001^		o Computationa	-		3			
	CM3011 <sup>&amp;</sup>		ctroscopy and A			3			
	CM3041 <sup>&amp;</sup>	-	iophysical Chen	-		3			
	CM3062		•	stry Laboratory	4	3			
	CM3031 <sup>&amp;</sup>	-	ion Mechanism	s and Synthesis		3			
	CM3021 <sup>&amp;</sup>	Organometall	-			3			
	CM3061	Chemistry & B	iological Chemi	stry Laboratory	3	3			
			-						
		Jor Prescribed	Electives (MPE)			10	10		
	4 x MPEs					12	12		

Data Analytics (BDEs)	MH3510 Regression Analysis (4AU) MH3511 Data Analysis with Computer (3AU) MH3701 Basic Optimization (4AU)	9 - 12	9 - 12
2nd Major in	Data Analytics Electives (Read any 3) BC2407 Analytics II: Advanced Predictive Techniques (4AU) BS3008 Computational Biology and Modeling (3AU) BS4017 High-Throughput Bioinformatics (3AU) CM4043* Molecular Modelling: Principles and Applications (3AU) CM4044* Artificial Intelligence in Chemistry (3AU) ES2001 Computational Earth Systems Science (4AU) MH3400 Algorithms for the Real World (4AU) MH3500 Statistics (4AU)		
	SC4024 Data Visualization (3AU)		
	IE4483 Artificial Intelligence & Data Mining (3AU) / SC4020 Data Analytics and Mining (3AU) 7) Data Visualisation/Management: BC2406 Analytics I: Visual and Predictive Techniques (4AU) / SC4023 Big Data Management (3AU) /	3 - 4 3 - 4	
Data Analytics (BDEs)	<ul> <li>5) Database: BC2402 Designing &amp; Developing Databases (4AU) /</li> <li>EE4791 Database Systems (3AU) / SC2207 Introduction to Database (3AU)</li> <li>6) Data Mining: MH4510 Statistical Learning &amp; Data Mining (4AU) /</li> </ul>	3 - 4	16 - 19
2nd Major in	<ul> <li>a) Data Analysis/Computing: PS0001 Introduction to Computational Thinking</li> <li>4) Algorithms: MH1403 Algorithms &amp; Computing</li> </ul>	NA NA 3	
	<ol> <li>Probability and Statistics: MH2500 Probability and Introduction to Statistics</li> <li>Linear Algebra: MH1804 Mathematics for Chemistry</li> </ol>	4 NA	

^Counted towards 2nd major in Data Analytic Compulsory Course

\*Can be counted towards CHEM MPE

&CM3011, CM3021. CM3031, CM3041 are offered in both semesters.

## B.Sci. (Chemistry and Biological Chemistry) with 2nd major in Data Analytics (CHDA) Suggested Study Plan for AY2022-2023 intake

with Professional Internship

Year 1 Sen	nester 1		
Course		Туре	AU
CM1001	Foundations of Chemistry I	С	4
MH1802	Calculus for the Sciences	С	4
CC0001	Inquiry and Communication in the Interdisciplinary World	СС	2
CC0002	Navigating the Digital World	CC	2
CC0005	Healthy Living & Well-being	CC	3
HW0001	Introduction to Academic Communico	ition*	
*for studer	nts who have not cleared QET		15

Year 1 Seme	ester 2		
Course		Туре	AU
CM1002	Foundations of Chemistry II	С	4
MH1804^	Mathematics for Chemistry	С	2
PH1801	Foundations of Physics I	С	3
CC0003	Ethics & Civics in a Multi-Cultural World	сс	2
	BDE 1	BDE	3
	BDE 2	BDE	3

17

AU

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Туре

BDE

BDE

#### Year 2 Semester 2

Course

MH1403

Course		Туре	AU
CM2011	Analytical and Bioanalytical Chemistry	С	3
CM2021	Inorganic and Bioinorganic Chemistry	С	3
CM2061	Chemistry & Biological Chemistry Laboratory 1	С	3
PS0001^	Introduction to Computational Thinking	С	3
CC0006	Sustainability: Society, Economy & Environment	СС	3
ML0004	Career and Entrepreneurial Development for the Future World	СС	2
	BDE 3	BDE	3
			20

Course		Туре	AU
CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3
CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3
CM3062	Chemistry & Biological Chemistry Laboratory 4	С	3
BC2402	Designing & Developing Databases (CHDA-Core)	BDE	4
BC2406	Analytics I: Visual and Predictive Techniques (CHDA-Core)	BDE	4
MH2500	Probability and Introduction to Statistics (CHDA-Core)	BDE	4
			21
Year 4 Sen	nester 1		
Course		Туре	AU
CM4081	Professional Internship	FC	10
			10

Course		Туре	AU
CM1002	Foundations of Chemistry II	С	4
MH1804^	Mathematics for Chemistry	С	2
PH1801	Foundations of Physics I	С	3
CC0003	Ethics & Civics in a Multi-Cultural World	СС	2
	BDE 1	BDE	3
	BDE 2	BDE	3
-			

CM2031 Organic and Bioorganic Chemistry С CM2041 Physical and Biophysical Chemistry 1 С Chemistry & Biological Chemistry С CM2062 Laboratory 2 Introduction to Data Science and PS0002 FC Artificial Intelligence CC0007 Science & Technology for Humanity CC

Algorithms & Computing

BDE 4

3 21

Year 3 Semester 2						
Course		Туре	AU			
CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3			
CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3			
CM3061	Chemistry & Biological Chemistry Laboratory 3	С	3			
HW0218	Communication Across the Sciences	FC	2			
MH3500	Statistics (CHDA-Elective 1)	BDE	4			
	CHDA-Elective 2	BDE	3			
	BDE 5	BDE	2			
			20			

## Year 4 Semester 2

Course		Туре	AU
CM4043+^	Molecular Modelling: Principles and	MPE	3
CIVI4043+**	Applications		5
	CHEM MPE2	BDE	3
	CHEM MPE 3	MPE	3
	CHEM MPE 4	MPE	3
	CHDA-Core	BDE	3
	BDE 6	BDE	3
			10
	Total (ALI)		<u>18</u> 142
	Total (AU)		

This study plan is meant as a guide.

^Counted towards 2nd major in Data Analytic requirements

<sup>&</sup> CM3xxx refers to CM3011, CM3021, CM3031, CM3041 - These courses are offered in both semesters

## **BSc in Chemistry and Biological Chemistry with 2nd Major in Data Analytics (CHDA)** AY2022 - 2023 Intake onwards

with Professional Internship and FYP

			N	umber of Acad	demic Units (Al	J)	
_	Year of	Major Red	quirement	Interdis	ciplinary	Broadening and	
Programme	Study	Core (C)	Major PE (MPE)	Common Core (CC)	Foundational Core (FC)	Deepening Electives (BDE)	Total
	1	17		9		7	33
Chemistry and	2	21		8	3	3	35
Biological	3	18	3		2	19	42
Chemistry	4		19		10	3	32
	Total	56	22	17	15	32	142
3Sc in Chemistr	y and Biol	ogical Chemis	stry with 2nd I	Major in Data	Analytics (CH	DA)	
Category	•	•	•	•		AU	Total AU
	Common (	Core (Universit	y-level)				
	CC0001 In	quiry and Comr	nunication in th	ne Interdisciplii	nary World	2	
	CC0002 Na	avigating the Di	gital World			2	
	CC0003 Et	hics & Civics in	a Multi-Cultura	l World		2	
	СС0005 Не	ealthy Living &	Wellbeing			3	17
ntordicoinline	CC0006 Su	stainability: So	ciety, Economy	& Environmen	t	3	17
nterdisciplinary	CC0007 Sc	ience & Techno	ology for Humai	nity		3	
Collaborative			epreneurial Dev	-	he Future	2	
Core (ICC)	World					2	
	Foundatio	nal Core (Colle	ge-level)				
	HW0218 C	Communication	Across the Scie	nces		2	
	PS0002 Int	roduction to D	ata Science and	Artificial Intel	ligence	3	15
		rofessional Inte			0	10	
	1						
	CHEM Cor						
	CM1001	Foundations o	-			4	
	CM1002	Foundations o	-			4	
	MH1082	Calculus for th				4	
		Mathematics f	-			2	
	PH1801	Foundations o	-			3	
	CM2011	-	Bioanalytical C	-		3	
	CM2021	-	Bioinorganic Ch	•		3	
	CM2061		iological Chemi	•	y 1	3	
	CM2031	-	ioorganic Chem	-		3	56
Major	CM2041		iophysical Chen	-		3	50
Requirement	CM2062	Chemistry & B	iological Chemi	stry Laboratory	y 2	3	
Requirement	PS0001^	Introduction to	o Computationa	al Thinking		3	
	CM3011 <sup>&amp;</sup>	Chemical Spec	troscopy and A	pplications		3	
	CM3041 <sup>&amp;</sup>	Physical and B	iophysical Chen	nistry 2		3	
	CM3062		iological Chemi		y 4	3	
	CM3031 <sup>&amp;</sup>	Organic Reacti	on Mechanism	s and Synthesis	5	3	
	CM3021 <sup>&amp;</sup>	Organometalli		-		3	
	CM3061	Chemistry & B	iological Chemi	stry Laboratory	y 3	3	
	CHEM Maj	jor Prescribed I	Electives (MPE)				
	-	Honours Proje				10	22
	4 x MPEs					12	22

Total			142 - 148
שנ		1	/
BDE	Students are responsible to plan for their 2nd major courses Any 2 BDE	7	7
2nd Major in Data Analytics (BDEs)	CM4044* Artificial Intelligence in Chemistry (3AU) ES2001 Computational Earth Systems Science (4AU) MH3400 Algorithms for the Real World (4AU) MH3500 Statistics (4AU) MH3510 Regression Analysis (4AU) MH3511 Data Analysis with Computer (3AU) MH3701 Basic Optimization (4AU) MH4500 Time Series Analysis (4AU) MH4500 Time Series Analysis (4AU) MH4513 Survival Analysis (4AU) MH4513 Computational Economics (4AU) MH4320 Computational Economics (4AU) MH4511 Sampling and Survey (4AU) @ MH4512 Clinical Trials (4AU) MH4702 Probabilistic Methods in OR (4AU)	9 - 12	9 - 12
	Data Analytics Electives (Read any 3) BC2407 Analytics II: Advanced Predictive Techniques (4AU) BS3008 Computational Biology and Modeling (3AU) BS4017 High-Throughput Bioinformatics (3AU) CM4043* Molecular Modelling: Principles and Applications (3AU)		
	7) Data Visualisation/Management: BC2406 Analytics I: Visual and Predictive Techniques (4AU) / SC4023 Big Data Management (3AU) / SC4024 Data Visualization (3AU)	3 - 4	
	6) Data Mining: MH4510 Statistical Learning & Data Mining (4AU) / IE4483 Artificial Intelligence & Data Mining (3AU) / SC4020 Data Analytics and Mining (3AU)	3 - 4	
2nd Major in Data Analytics (BDEs)	4) Algorithms: MH1403 Algorithms & Computing 5) Database: BC2402 Designing & Developing Databases (4AU) / EE4791 Database Systems (3AU) / SC2207 Introduction to Database (3AU)	3 3 - 4	16 - 19
	3) Data Analysis/Computing: PS0001 Introduction to Computational Thinking	NA	
	Statistics 2) Linear Algebra: CM1804 Mathematics for Chemistry	NA	
	Data Analytics Compulsory Courses 1) Probability and Statistics: MH2500 Probability and Introduction to	4	

^Counted towards 2nd major in Data Analytic Compulsory Course

\*Can be counted towards CHEM MPE

&CM3011, CM3021. CM3031, CM3041 are offered in both semesters.

## B.Sci. (Chemistry and Biological Chemistry) with 2nd major in Data Analytics (CHDA) Suggested Study Plan for AY2022-2023 intake

with Professional Internship and FYP

Year 1 Sen	nester 1		
Course		Туре	AU
CM1001	Foundations of Chemistry I	С	4
MH1802	Calculus for the Sciences	С	4
CC0001	Inquiry and Communication in the Interdisciplinary World	СС	2
CC0002	Navigating the Digital World	CC	2
CC0005	Healthy Living & Well-being	CC	3
HW0001	Introduction to Academic Communico	ition*	
-	nts who have not cleared QET		15
Year 2 Sen	nester 1		
Course		Туре	AU
CM2011	Analytical and Bioanalytical Chemistry	С	3

Year 1 Sem	ester 2		
Course		Туре	AU
CM1002	Foundations of Chemistry II	С	4
MH1804^	Mathematics for Chemistry	С	2
PH1801	Foundations of Physics I	С	3
CC0003	Ethics & Civics in a Multi-Cultural World	сс	2
	BDE 1	BDE	3
	BDE 2	BDE	4

18

### Year 2 Semester 2

Year 2 Semester 1					
Course		Туре	AU		
CM2011	Analytical and Bioanalytical Chemistry	С	3		
CM2021	Inorganic and Bioinorganic Chemistry	С	3		
CM2061	Chemistry & Biological Chemistry Laboratory 1	С	3		
PS0001^	Introduction to Computational Thinking	С	3		
CC0006	Sustainability: Society, Economy & Environment	CC	3		
ML0004	Career and Entrepreneurial Development for the Future World	СС	2		

			17
Year 3 Sem	nester 1		
Course		Туре	AU
CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3
CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3
CM3062	Chemistry & Biological Chemistry Laboratory 4	С	3
BC2402	Designing & Developing Databases (CHDA-Core)	BDE	4
BC2406	Analytics I: Visual and Predictive Techniques (CHDA-Core)	BDE	4
MH2500	Probability and Introduction to Statistics (CHDA-Core)	BDE	4
			21
Year 4 Sem	nester 1		
Course		Туре	AU
CM4081	Professional Internship	FC	10
			10
			2

Course		Туре	AU
CM2031	Organic and Bioorganic Chemistry	С	3
CM2041	Physical and Biophysical Chemistry 1	С	3
CM2062	Chemistry & Biological Chemistry Laboratory 2	С	3
PS0002	Introduction to Data Science and Artificial Intelligence	FC	3
CC0007	Science & Technology for Humanity	СС	3
MH1403	Algorithms & Computing	BDE	3

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142

Year 3 Semester 2						
Course		Туре	AU			
CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3			
CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3			
CM3061	Chemistry & Biological Chemistry Laboratory 3	С	3			
HW0218	Communication Across the Sciences	FC	2			
MH3500	Statistics (CHDA-Elective 1)	BDE	4			
	CHDA-Elective 2	BDE	3			
	CHEM MPE 1	MPE	3			
			21			
Year 4 Sem	ester 2					
Course		Туре	AU			
CM4080	Honours Project 1	MPE	10			
CM4043+^	Molecular Modelling: Principles and Applications	MPE	3			
	CHEM MPE 3	MPE	3			
	CHEM MPE 4	MPE	3			
	CHDA-Core	BDE	3			
			22			

Total (AU)

This study plan is meant as a guide.

^Counted towards 2nd major in Data Analytic requirements

<sup>&</sup> CM3xxx refers to CM3011, CM3021, CM3031, CM3041 - These courses are offered in both semesters