AY2024 - 2025 Intake onwards

Track 1 (Global Immersion in WUR)

FYP with Professional Attachment

			1	Number of Acad	lemic Units (AU	)	
Programme	Year of	Major Re	quirement	Interdisciplinary		Broadening and	
Trogramme	Study	Core (C)	Major PE (MPE)	Common Core (CC)	Foundation Core (FC)	Deepening Electives (BDE)	Total
	1	17/18*		11		4	32/33*
Chemistry and	2	21		6	3	6	36
Biological	3	18	6 [3]		7	9	40 [3]
Chemistry	4		16			12	28
	Total	56/57*	22 [3]	17	10	31	136/137* [3]

Category		AU	Total AU
,	Common Core (University-level)		
	CC0001 Inquiry & Communication in an Interdisciplinary World	2	
	CC0002 Navigating the Digital World	2	
	CC0003 Ethics & Civics in a Multi-Cultural World	2	
	CC0005 Healthy Living and Wellbeing	3	17
nterdisciplinary	-	3	
Collaborative	CC0007 Science & Technology for Humanity	3	
Core (ICC)	ML0004 Career and Innovative Enterprise for Future World	2	
	Foundation Core (College-level)		
	HW0218 Communication Across the Sciences	2	
	PS0002 Introduction to Data Science and Artificial Intelligence	3	10
	CM4082 Professional Attachment	5	
	CHEM Core		
	CM1001 Foundations of Chemistry I	4	
	CM1002 Foundations of Chemistry II	4	
	MH1802 Calculus for the Sciences	4	
	CM1804 Mathematics for Chemistry	2	
	PH1011 Physics or PH1012* Physics A	3/4*	
	CM2021 Inorganic and Bioinorganic Chemistry	3	
	CM2011 Analytical Chemistry	3	
	CM2061 Chemistry & Biological Chemistry Laboratory 1	3	
		3	
	• -		56/57*
Major	CM2031 Organic and Bioorganic Chemistry CM2041 Physical and Biophysical Chemistry 1	3	
Requirement		3	
qucc	CM2062 Chemistry & Biological Chemistry Laboratory 2	3	
	CM3011 <sup>&amp;</sup> Chemical Spectroscopy and Applications	3	
	CM3041 <sup>&amp;</sup> Physical and Biophysical Chemistry 2	3	
	CM3062 Chemistry & Biological Chemistry Laboratory 4	3	
	CM3031 <sup>&amp;</sup> Organic Reaction Mechanisms and Synthesis	3	
	CM3021 <sup>&amp;</sup> Organometallic Chemistry	3	
	CM3061 Chemistry & Biological Chemistry Laboratory 3	3	
	CHEM Major Prescribed Electives (MPE)		
	CM4080 Honours Project 1	10	
	4 x MPEs	12^	22
	Food Future Compulsory Courses		
	CH5210 Food Process Technologies and New Production Systems	3	
	CH5211 Data Analytics in Food Systems	3	
	CH5220 Food Standard - Food Safety & Risk Assessment	3	
2nd Major in	CH5222 Future Foods - Introduction to Advanced Meat	3	
uture Food (FF)		3	27^
	Electives (Choose 5)		
	4 WUR Electives	12	
	1 NTU Electives^	-	
205	Any 3 DDF	1 4	
3DE	Any 2 BDE	4	4

<sup>\*</sup>Students without 'A' Level Physics will take 'PH1012 Physics A' (4AU).

 $<sup>^{\&</sup>amp;}$  CM3011, CM3021. CM3031, CM3041 are offered in both semesters.

<sup>^</sup>CM4013 can be double counted towards 2nd Major in FF requirement (3AU)

<sup>[]</sup> AU of courses that could be used to fulfil Core/MPE requirement and 2nd Major requirement concurrently

Suggested S Track 1 (Glo	nistry and Biological Chemistry with 2nd Study Plan for AY2024-2025 intake Obal Immersion in WUR) Ofessional Attachment	i Major ii	1 Future Fo	od (CHFF)			
Year 1 Sem	ester 1			Year 1 Sem	nester 2		
Course		Туре	AU	Course		Туре	AU
CM1001	Foundations of Chemistry I	С	4	CM1002	Foundations of Chemistry II	С	4
MH1802	Calculus for the Sciences	С	4	CM1804	Mathematics for Chemistry	С	2
CC0001	Inquiry & Communication in an	CC	2	PH1011/	Physics <u>or</u>	С	3
CC0002	Interdisciplinary World Navigating the Digital World	CC	2	PH1012*	Physics A (For students without 'A'	С	4
					Ethics & Civics in a Multi-Cultural		
CC0005	Healthy Living and Well-being	CC	3	CC0003	World	CC	2
İ	205.4	DDE	2	NAL0004	Career and Entrepreneurial	<b>CC</b>	2
Ì	BDE 1	BDE	2	ML0004	Development for the Future World	CC	2
HW0001	Introduction to Academic Communicati	ion <sup>#</sup>			BDE 2	BDE	2
			17				45/16*
# for studen	its who have not cleared QET		17				15/16*
	-				_		
Year 2 Semo	ester 1		***	Year 2 Sem	nester 2		***
Course	A triangle and Disappolytical	Туре	AU	Course		Type	AU
CM2011	Analytical and Bioanalytical Chemistry	С	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	PS0002	Introduction to Data Science and Artificial Intelligence	FC	3
CC0006	Sustainability: Society, Economy & Environment	CC	3	CC0007	Science & Technology for Humanity	CC	3
CM5101	Food Chemistry & Nutrition	BDE	3	CH5220	Food Standard - Food Safety and Risk Assessment	BDE	3
Year 3 Semo	ester 1		18	Year 3 Sem	nester 2		18
Course		Туре	AU	Course		Туре	AU
CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3	CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3
CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3	CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3
CM3062	Chemistry & Biological Chemistry Laboratory 4	С	3	CM3061	Chemistry & Biological Chemistry Laboratory 3	С	3
CM4013^	Current Topics in Analytical Chemistry	MPE	3	CH5211	Data Analytics in Food Systems	BDE	3
	CHEM MPE 2	MPE	3	CH5222	Future Foods - Introduction to Advanced Meet Alternative	BDE	3
CH5210	Food Process Technologies and New Production System	BDE	3	HW0218	Communication Across the Sciences	FC	2
				Year 3 Spe CM4082	ecial Sem Professional Attachment	FC	5
			18	-			22
Year 4 Semo	ester 1			Year 4 Sem	nester 2		
Course		Туре	AU	Course		Туре	AU
	FF WUR Elective 1	BDE	3	CM4080	Honours Project 1	MPE	10
	FF WUR Elective 2	BDE	3		CHEM MPE 3	MPE	3
	FF WUR Elective 3	BDE	3		CHEM MPE 4	MPE	3
	FF WUR Elective 4	BDE	3				
			12				16
					Total (AU)		136/137

This study plan is meant as a guide.

<sup>\*</sup>Students without 'A' Level Physics will take 'PH1012 Physics A' (4AU).

 $<sup>^{\&</sup>amp;}$  CM3xxx refers to CM3011, CM3021, CM3031, CM3041 - These courses are offered in both semesters

<sup>^</sup>CM4013 can be double counted towards 2nd Major in FF requirement (3AU)

AY2024 - 2025 Intake onwards

Track 1 (Global Immersion in WUR)

with Professional Internship

		Number of Academic Units (AU)								
Programme	Year of Study	Major Re	quirement	Interdis	ciplinary	Broadening and				
. rogramme	rear or seary	Core (C)	Major PE (MPE)	Common Core (CC)	Foundation Core (FC)	Deepening Electives (BDE)	Total			
	1	17/18*		11		9	37/38*			
Chemistry and	2	21		6	5	6	38			
Biological	3	9	6 [3]		10	3	28 [3]			
Chemistry	4	9	6			18	33			
	Total	56/57*	12 [3]	17	15	36	136/137* [3]			

Category		al Chemistry with 2nd Major in Future Food (FF)	AU	Total AU
category	Common Co	re (University-level)	AU	Total Ao
		iry & Communication in an Interdisciplinary World	2	
		gating the Digital World	2	
		cs & Civics in a Multi-Cultural World	2	
		thy Living and Wellbeing	3	17
nterdisciplinary		ainability: Society, Economy & Environment	3	17
Collaborative		nce & Technology for Humanity	3	
			2	
Core (ICC)	IVILUUU4 Care	eer and Innovative Enterprise for Future World	2	
	Foundation (	Core (College-level)		
		nmunication Across the Sciences	2	
	PS0002 Intro	duction to Data Science and Artificial Intelligence	3	15
	CM4081 Prof	fessional Internship	10	
	CHEM Core			
	CM1001	Foundations of Chemistry I	4	
	CM1002	Foundations of Chemistry II	4	
	MH1802	Calculus for the Sciences	4	
	CM1804	Mathematics for Chemistry	2	
	PH1011	Physics or PH1012* Physics A	3/4*	
	CM2021	Inorganic and Bioinorganic Chemistry	3	
	CM2011	Analytical Chemistry	3	
	CM2061	Chemistry & Biological Chemistry Laboratory 1	3	
	PS0001	Introduction to Computational Thinking	3	
Major	CM2031	Organic and Bioorganic Chemistry	3	56/57*
-		Physical and Biophysical Chemistry 1	_	
Requirement	CM2041	Chemistry & Biological Chemistry Laboratory 2	3	
	CM2062		3	
	CM3011 <sup>&amp;</sup>	Chemical Spectroscopy and Applications	3	
	CM3041 <sup>®</sup>	Physical and Biophysical Chemistry 2	3	
	CM3062	Chemistry & Biological Chemistry Laboratory 4	3	
	CM3031 <sup>&amp;</sup>	Organic Reaction Mechanisms and Synthesis	3	
	CM3021 <sup>&amp;</sup>	Organometallic Chemistry	3	
	CM3061	Chemistry & Biological Chemistry Laboratory 3	3	
	CHEM Major	Prescribed Electives (MPE)		
	4 x MPEs		12^	12
	Food Future	Compulsory Courses		
	CH5210	Food Process Technologies and New Production Systems	3	
	CH5211	Data Analytics in Food Systems	3	
	CH5220	Food Standard - Food Safety & Risk Assessment	3	
2nd Major in	CH5222	Future Foods - Introduction to Advanced Meat	3	
uture Food (FF)		Food Chemistry & Nutrition	3	27^
	Electives (Ch	•		
	4 WUR Electi		12	
	1 NTU Electiv	ves^	-	
BDE	Any 3 BDE		9	9
<u> </u>	,		ı <u> </u>	
otal				136/137

<sup>\*</sup>Students without 'A' Level Physics will take 'PH1012 Physics A' (4AU).

 $<sup>^{\&</sup>amp;}$  CM3011, CM3021. CM3031, CM3041 are offered in both semesters.

<sup>^</sup>CM4013 can be double counted towards 2nd Major in FF requirement (3AU)

 $<sup>\</sup>hbox{[] AU of courses that could be used to fulfil Core/MPE requirement and 2nd Major requirement concurrently}\\$ 

	ssional Internship						
/ear 1 Sen	nester 1			Year 1 Sem	nester 2		
Course		Туре	AU	Course		Туре	ı
CM1001	Foundations of Chemistry I	С	4	CM1002	Foundations of Chemistry II	С	
MH1802	Calculus for the Sciences	С	4	CM1804	Mathematics for Chemistry	С	
CC0001	Inquiry & Communication in an Interdisciplinary World	CC	2	PH1011/	Physics <u>or</u>	С	
CC0002	Navigating the Digital World	CC	2	PH1012*	Physics A (For students without 'A' Level Physics)	С	
CC0005	Healthy Living and Well-being	СС	3	CC0003	Ethics & Civics in a Multi-Cultural World	СС	
	BDE 1	BDE	3	ML0004	Career and Entrepreneurial Development for the Future World	СС	
					BDE 2	BDE	
HW0001	Introduction to Academic Communicat	ion <sup>#</sup>			BDE 3	BDE	
¥ a .			18				19,
for stude	nts who have not cleared QET						
Year 2 Sen Course	nester 1	Туре	AU	Year 2 Sem Course	nester 2	Туре	A
	Analytical and Bioanalytical				Outside and St.		
CM2011	Chemistry	С	3	CM2031	Organic and Bioorganic Chemistry	С	
CM2021	Inorganic and Bioinorganic Chemistry	С	3	CM2041	Physical and Biophysical Chemistry 1	С	
CM2061	Chemistry & Biological Chemistry Laboratory 1	С	3	CM2062	Chemistry & Biological Chemistry Laboratory 2	С	
PS0001	Introduction to Computational Thinking	С	3	PS0002	Introduction to Data Science and Artificial Intelligence	FC	
CC0006	Sustainability: Society, Economy & Environment	CC	3	HW0218	Communication Across the Sciences	FC	
CM5101	Food Chemistry & Nutrition	BDE	3	CC0007	Science & Technology for Humanity	CC	
				CH5220	Food Standard - Food Safety and Risk Assessment	BDE	
			18				2
Year 3 Sen	nester 1			Year 3 Sem	nester 2		
Course		Туре	AU	Course		Туре	
			3		Professional Internship		
_	CHEM-Core	С		CM4081		FC	
_	CHEM-Core	C	3	CIVI4081		FC	
CM3xxx <sup>&amp;</sup>	CHEM-Core Chemistry & Biological Chemistry Laboratory 4			CIVI4U61		FC	
CM3xxx <sup>&amp;</sup> CM3062	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical	С	3	CIVI4U01		FC	
CM3xxx <sup>&amp;</sup> CM3062	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical Chemistry	C C MPE	3 3	CIVI4U01		FC	
CM3xxx <sup>&amp;</sup> CM3062 CM4013^	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical Chemistry CHEM MPE 2 Food Process Technologies and New	C C	3	CW4001		FC	
CM3xxx <sup>&amp;</sup> CM3062 CM4013^	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical Chemistry CHEM MPE 2	C C MPE	3 3 3 3 3	CW4001		FC	
CM3xxx <sup>&amp;</sup> CM3062 CM4013^	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical Chemistry CHEM MPE 2 Food Process Technologies and New	C C MPE	3 3 3 3	CW4001		FC .	1
CM3xxx <sup>&amp;</sup> CM3062 CM4013^ CH5210	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical Chemistry CHEM MPE 2 Food Process Technologies and New Production System	C C MPE	3 3 3 3 3	Year 4 Sen	nester 2	FC FC	1
CM3xxx <sup>&amp;</sup> CM3062 CM4013^ CH5210  Year 4 Sen	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical Chemistry CHEM MPE 2 Food Process Technologies and New Production System	C C MPE	3 3 3 3 3		nester 2	Type	1
CM3xxx <sup>&amp;</sup> CM3062 CM4013^ CH5210  Year 4 Sen	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical Chemistry CHEM MPE 2 Food Process Technologies and New Production System	C C MPE MPE BDE	3 3 3 3 3 18	Year 4 Sem	nester 2 CHEM-Core		Þ
CM3xxx <sup>&amp;</sup> CM3062 CM4013^ CH5210 Year 4 Sen	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical Chemistry CHEM MPE 2 Food Process Technologies and New Production System	C C MPE MPE BDE	3 3 3 3 3 18	Year 4 Sem Course		Туре	ļ
CM3xxx <sup>&amp;</sup> CM3062 CM4013^ CH5210  Year 4 Sen	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical Chemistry CHEM MPE 2 Food Process Technologies and New Production System  FF WUR Elective 1	C C MPE MPE BDE	3 3 3 3 3 18 AU	Year 4 Sem Course CM3xxx <sup>&amp;</sup>	CHEM-Core CHEM-Core Chemistry & Biological Chemistry	Type C	ļ
CM3xxx <sup>&amp;</sup> CM3062 CM4013^ CH5210  Year 4 Sen	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical Chemistry CHEM MPE 2 Food Process Technologies and New Production System  FF WUR Elective 1 FF WUR Elective 2	C C MPE MPE BDE BDE BDE BDE	3 3 3 3 3 18 AU 3 3	Year 4 Sem Course CM3xxx <sup>&amp;</sup> CM3xxx <sup>&amp;</sup>	CHEM-Core CHEM-Core	Type C C	
CM3xxx <sup>&amp;</sup> CM3062 CM4013^ CH5210  Year 4 Sen	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical Chemistry CHEM MPE 2 Food Process Technologies and New Production System  FF WUR Elective 1 FF WUR Elective 2 FF WUR Elective 3	C C MPE MPE BDE BDE BDE BDE BDE BDE	3 3 3 3 3 18 AU 3 3	Year 4 Sem Course CM3xxx <sup>&amp;</sup> CM3xxx <sup>&amp;</sup>	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 3	Type C C C	ļ
CM3xxx <sup>&amp;</sup> CM3062 CM4013^ CH5210  Year 4 Sen	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical Chemistry CHEM MPE 2 Food Process Technologies and New Production System  FF WUR Elective 1 FF WUR Elective 2 FF WUR Elective 3	C C MPE MPE BDE BDE BDE BDE BDE BDE	3 3 3 3 3 18 AU 3 3	Year 4 Sem Course CM3xxx <sup>&amp;</sup> CM3xxx <sup>&amp;</sup>	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 3 CHEM MPE 3 CHEM MPE 4 Data Analytics in Food Systems	Type C C C MPE	,
CM3xxx <sup>&amp;</sup> CM3062 CM4013^ CH5210  Year 4 Sen	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical Chemistry CHEM MPE 2 Food Process Technologies and New Production System  FF WUR Elective 1 FF WUR Elective 2 FF WUR Elective 3	C C MPE MPE BDE BDE BDE BDE BDE BDE	3 3 3 3 3 18 AU 3 3	Year 4 Sem Course CM3xxx <sup>&amp;</sup> CM3xxx <sup>&amp;</sup> CM3061	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 3 CHEM MPE 3 CHEM MPE 4	Type C C C MPE MPE	ļ
CM3xxx <sup>&amp;</sup> CM3062 CM4013^ CH5210	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical Chemistry CHEM MPE 2 Food Process Technologies and New Production System  FF WUR Elective 1 FF WUR Elective 2 FF WUR Elective 3	C C MPE MPE BDE BDE BDE BDE BDE BDE	3 3 3 3 3 18 AU 3 3	Year 4 Sem Course CM3xxx <sup>&amp;</sup> CM3061 CH5211	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 3 CHEM MPE 3 CHEM MPE 4 Data Analytics in Food Systems Future Foods - Introduction to	Type C C C MPE MPE BDE	,
CM3xxx <sup>&amp;</sup> CM3xxx <sup>&amp;</sup> CM3062 CM4013^  CH5210  Year 4 Sen Course	CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Current Topics in Analytical Chemistry CHEM MPE 2 Food Process Technologies and New Production System  FF WUR Elective 1 FF WUR Elective 2 FF WUR Elective 3	C C MPE MPE BDE BDE BDE BDE BDE BDE	3 3 3 3 3 18 AU 3 3 3 3	Year 4 Sem Course CM3xxx <sup>&amp;</sup> CM3061 CH5211	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 3 CHEM MPE 3 CHEM MPE 4 Data Analytics in Food Systems Future Foods - Introduction to	Type C C C MPE MPE BDE	,

<sup>\*</sup>Students without 'A' Level Physics will take 'PH1012 Physics A' (4AU).

 $<sup>^{\&</sup>amp;}$  CM3xxx refers to CM3011, CM3021, CM3031, CM3041 - These courses are offered in both semesters

<sup>^</sup>CM4013 can be double counted towards 2nd Major in FF requirement (3AU)

AY2024 - 2025 Intake onwards

Track 2 (NTU Based)

				Number of Aca	demic Units (AL	J)	
Programme	Year of	Major Re	equirement	Interdis	ciplinary	Broadening and	
	Study	Core (C)	Major PE (MPE)	Common Core (CC)	Foundation Core (FC)	Deepening Electives (BDE)	Total
	1	17/18*		11		4	32/33*
=	2	21		6	3	6	36
Biological	3	18			7	15	40
Chemistry	·						28 [3]
	Total	56/57*	22 [3]	17	10	31	136/137*
Sc in Chemistry	and Biolog	gical Chemistry	with 2nd Majo	r in Future Food	l (FF)		
ategory					Ţ	AU	Total A
		-	-			2	
				nterdisciplinary	World		
			•	l Maria			
				i woria			17
			_	0 Faring a a a a a a			17
		-					
			Tore (C) Major PE (MPE) Common Core (CC) Foundation Core (EC) Relectives (BDE) (EC) (CC) Foundation Core (EC) Relectives (BDE) (EC) (EC) (EC) (EC) (EC) (EC) (EC) (E				
core (ICC)	IVILUUU4 C	areer diiU IIII10	varive Enterprise	e ioi ruture WO	iiu	۷	
			-				
Chemistry and   2   2   1   6   3   6   6   3   6   6   3   6   6							4.0
		10					
	CM4082 P	rofessional Att	achment			5	
	CHEM Cor	е					
	CM1001	Foundations of	of Chemistry I			4	
	CM1002	Foundations of	of Chemistry II	4			
	MH1802	Calculus for th	ne Sciences	4			
	CM1804		•				
		· —	-	· ·			
		-	_	emistry			
					_		
					1		
			-	-			56/57
Maior		•	•	•			30/37
-		-			2		
nequirement	_	-	-		2		
		· ·		•			
					_		
					4		
				and Synthesis			
	CM3021 <sup>&amp;</sup>					3	
	CM3061	Chemistry & E	Biological Chemis	stry Laboratory	3	3	
	CHEM Ma	jor Prescribed	Electives (MPE)				
		Honours Proje	ect 1				22
	4 x MPEs					12^	
	Food Futu	re Compulsory	Courses				
	CH5210	Food Process	Technologies an	d New Producti	on Systems	3	
	CH5211					3	
	CH5220	Food Standard	d - Food Safety 8	k Risk Assessme	nt	3	
2nd Major in	CH5222	Future Foods	- Introduction to	Advanced Mea	t	3	
Augustes (Common Core (University-level) CC0001 Inquiry & Communication in an Interdisciplinary World CC0002 Ravigating the Digital World CC0003 Ethics & Civics in a Multi-Cultural World CC0005 Healthy Living and Wellbeing 3 anterdisciplinary COllaborative Core (ICC)  Foundation Core & Technology for Humanity ML0004 Career and Innovative Enterprise for Future World 2  Foundation Core (College-level) HW0218 Communication Across the Sciences PS0002 Introduction to Data Science and Artificial Intelligence 3 CM4082 Professional Attachment 5  CHEM Core CM1001 Foundations of Chemistry I CM1002 Foundations of Chemistry II MH1802 Calculus for the Sciences 4 CM1804 Mathematics for Chemistry PH1011 Physics of PH1012* Physics A CM2021 Inorganic and Bioingranic Chemistry 3 CM2011 Analytical Chemistry CM2021 Chemistry & Biological Chemistry Laboratory 1 3 CM2011 Chemistry & Biological Chemistry Laboratory 1 3 CM2021 Chemistry & Biological Chemistry Laboratory 2 3 CM301* Chemical Spectroscopy and Applications CM2041 Physical and Biophysical Chemistry 1 3 CM2042 Chemistry & Biological Chemistry Laboratory 2 3 CM3041* Chemical Spectroscopy and Applications 3 CM3041* Organic Reaction Mechanisms and Synthesis 3 CM3021* Organometallic Chemistry CM3061 Chemistry & Biological Chemistry Laboratory 3 3 CHEM Major Prescribed Electives (MPE) CM4080 Honours Project 1 10 4 x MPEs  Food Future Compulsory Courses CH5210 Food Process Technologies and New Production Systems 3 CH5221 Food Standard - Food Safety & Risk Assessment 3 CH5220 Food Standard - Food Safety & Risk Assessment	3	27^					
	Flectives (	Choose 5)					
		-				12	22
				1			
	1 NTU Elec	ctives^					

<sup>\*</sup>Students without 'A' Level Physics will take 'PH1012 Physics A' (4AU).

136/137\*

 $<sup>^{\</sup>it \&}$  CM3011, CM3021. CM3031, CM3041 are offered in both semesters.

<sup>^</sup>CM4013 can be double counted towards 2nd Major in FF requirement (3AU)

 $<sup>\</sup>hbox{[] AU of courses that could be used to fulfil Core/MPE requirement and 2nd Major requirement concurrently}\\$ 

	mistry and Biological Chemistry with 2nd	l Major i	n Future Foo	od (CHFF)			
	Study Plan for AY2024-2025 intake						
Track 2 (NT FYP with Pr	rofessional Attachment Option						
	-,						
Year 1 Sem	nester 1	<b>T</b>	•••	Year 1 Sen	nester 2	<b>T</b>	
Course CM1001	Foundations of Chemistry I	<b>Type</b> C	<u>AU</u> 4	Course CM1002	Foundations of Chemistry II	<b>Type</b> C	<u>AU</u> 4
MH1802	Calculus for the Sciences	С	4	CM1804	Mathematics for Chemistry	С	2
CC0001	Inquiry & Communication in an	CC	2	PH1011/	Physics or	С	3
CC0002	Interdisciplinary World  Navigating the Digital World	CC	2	PH1012*	Physics A (For students without 'A'	С	4
CC0005	Healthy Living and Well-being	CC	3	CC0003	Ethics & Civics in a Multi-Cultural	CC	2
			-		World Career and Entrepreneurial		_
	BDE 1	BDE	2	ML0004	Development for the Future World	CC	2
		. #			BDE 2	BDE	2
HW0001	Introduction to Academic Communicati	ion"					
			17				15/16*
<sup>#</sup> for studen	nts who have not cleared QET						
Year 2 Sem	nester 1			Year 2 Sen	nester 2		
Course		Туре	AU	Course		Туре	AU
CM2011	Analytical and Bioanalytical	С	3	CM2031	Organic and Bioorganic Chemistry	С	3
	Chemistry						
CM2021	Inorganic and Bioinorganic Chemistry	С	3	CM2041	Physical and Biophysical Chemistry 1	С	3
CM2061	Chemistry & Biological Chemistry	С	3	CM2062	Chemistry & Biological Chemistry	С	3
20001	Laboratory 1 Introduction to Computational	•		BC0000	Laboratory 2 Introduction to Data Science and		2
PS0001	Thinking	С	3	PS0002	Artificial Intelligence	FC	3
CC0006	Sustainability: Society, Economy & Environment	CC	3	CC0007	Science & Technology for Humanity	CC	3
	FF NTU Elective 1	BDE	3	CH5220	Food Standard - Food Safety and Risk Assessment	BDE	3
			18				18
			10				10
Year 3 Sem	nester 1	<b>T</b>		Year 3 Sen	nester 2	<b>T</b>	
Course CM3xxx <sup>&amp;</sup>		Type	AU	Course	CHEM-Core	Type	<b>AU</b> 3
CIVIDAAA	CHFM-Core	۲	3		CITEIVI COTC		
	CHEM-Core	С	3	CM3xxx <sup>&amp;</sup>	Chemistry & Biological Chemistry	С	
CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3	CM3xxx <sup>&amp;</sup> CM3061	Laboratory 3	c c	3
CM3xxx <sup>&amp;</sup>	CHEM-Core			CM3xxx <sup>&amp;</sup>	Laboratory 3  Data Analytics in Food Systems	С	
CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3	CM3xxx <sup>&amp;</sup> CM3061	Laboratory 3	c c	3
CM3xxx <sup>&amp;</sup>	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition	C C	3	CM3xxx <sup>&amp;</sup> CM3061 CH5211	Laboratory 3  Data Analytics in Food Systems Future Foods - Introduction to	C C BDE	3
CM3xxx <sup>&amp;</sup> CM3xxx <sup>&amp;</sup> CM3062	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition Food Process Technologies and New	c c c	3 3 3	CM3xxx <sup>&amp;</sup> CM3061 CH5211 CH5222	Laboratory 3 Data Analytics in Food Systems Future Foods - Introduction to Advanced Meet Alternative	C C BDE BDE	3 3 3
CM3xxx <sup>&amp;</sup> CM3xxx <sup>&amp;</sup> CM3062 CM5101	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition	C C C	3 3 3	CM3xxx <sup>&amp;</sup> CM3061 CH5211 CH5222	Laboratory 3 Data Analytics in Food Systems Future Foods - Introduction to Advanced Meet Alternative Communication Across the Sciences	C C BDE BDE FC	3 3 3 2
CM3xxx <sup>&amp;</sup> CM3xxx <sup>&amp;</sup> CM3062 CM5101	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition Food Process Technologies and New	C C C	3 3 3	CM3xxx <sup>&amp;</sup> CM3061 CH5211 CH5222 HW0218	Laboratory 3 Data Analytics in Food Systems Future Foods - Introduction to Advanced Meet Alternative Communication Across the Sciences FF NTU Elective 2	C C BDE BDE FC BDE	3 3 3 2 3
CM3xxx <sup>&amp;</sup> CM3xxx <sup>&amp;</sup> CM3062 CM5101	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition Food Process Technologies and New	C C C	3 3 3	CM3xxx <sup>&amp;</sup> CM3061 CH5211 CH5222 HW0218	Laboratory 3 Data Analytics in Food Systems Future Foods - Introduction to Advanced Meet Alternative Communication Across the Sciences FF NTU Elective 2	C C BDE BDE FC	3 3 3 2
CM3xxx <sup>&amp;</sup> CM3xxx <sup>&amp;</sup> CM3062 CM5101	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition Food Process Technologies and New	C C C	3 3 3	CM3xxx <sup>&amp;</sup> CM3061 CH5211 CH5222 HW0218	Laboratory 3 Data Analytics in Food Systems Future Foods - Introduction to Advanced Meet Alternative Communication Across the Sciences FF NTU Elective 2	C C BDE BDE FC BDE	3 3 3 2 3
CM3xxx <sup>&amp;</sup> CM3xxx <sup>&amp;</sup> CM3062 CM5101	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition Food Process Technologies and New Production System	C C C	3 3 3 3 3	CM3xxx <sup>&amp;</sup> CM3061 CH5211 CH5222 HW0218	Laboratory 3  Data Analytics in Food Systems Future Foods - Introduction to Advanced Meet Alternative Communication Across the Sciences FF NTU Elective 2  cial Sem Professional Attachment	C C BDE BDE FC BDE	3 3 3 2 3 5
CM3xxx <sup>®</sup> CM3xxx <sup>®</sup> CM3062 CM5101 CH5210	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition Food Process Technologies and New Production System	C C C	3 3 3 3 3	CM3xxx <sup>&amp;</sup> CM3061 CH5211 CH5222 HW0218  Year 3 Spe	Laboratory 3  Data Analytics in Food Systems Future Foods - Introduction to Advanced Meet Alternative Communication Across the Sciences FF NTU Elective 2  cial Sem Professional Attachment	C C BDE BDE FC BDE	3 3 3 2 3
CM3xxx <sup>®</sup> CM3xxx <sup>®</sup> CM3062 CM5101 CH5210  Year 4 Sem Course	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition Food Process Technologies and New Production System  mester 1  Current Topics in Analytical	C C C BDE BDE	3 3 3 3 3	CM3xxx <sup>&amp;</sup> CM3061 CH5211 CH5222 HW0218  Year 3 Spe CM4082  Year 4 Sen	Laboratory 3  Data Analytics in Food Systems Future Foods - Introduction to Advanced Meet Alternative Communication Across the Sciences FF NTU Elective 2  cial Sem Professional Attachment	C C BDE BDE FC BDE	3 3 3 2 3
CM3xxx <sup>®</sup> CM3xxx <sup>®</sup> CM3062 CM5101 CH5210  Year 4 Sem Course	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition Food Process Technologies and New Production System	C C BDE BDE	3 3 3 3 3	CM3xxx <sup>&amp;</sup> CM3061 CH5211 CH5222 HW0218  Year 3 Spe CM4082  Year 4 Sen Course	Laboratory 3  Data Analytics in Food Systems Future Foods - Introduction to Advanced Meet Alternative Communication Across the Sciences FF NTU Elective 2  cial Sem Professional Attachment	C C BDE BDE FC BDE	3 3 3 2 3 5 22 AU
CM3xxx <sup>®</sup> CM3xxx <sup>®</sup> CM3062 CM5101 CH5210  Year 4 Sem Course	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition Food Process Technologies and New Production System  mester 1  Current Topics in Analytical Chemistry	C C BDE BDE Type	3 3 3 3 3 3 4 18	CM3xxx <sup>&amp;</sup> CM3061 CH5211 CH5222 HW0218  Year 3 Spe CM4082  Year 4 Sen Course	Laboratory 3  Data Analytics in Food Systems Future Foods - Introduction to Advanced Meet Alternative Communication Across the Sciences FF NTU Elective 2  cial Sem Professional Attachment	C C BDE BDE FC BDE	3 3 3 2 3 5 22 AU
CM3xxx <sup>®</sup> CM3xxx <sup>®</sup> CM3062 CM5101 CH5210  Year 4 Sem Course	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition Food Process Technologies and New Production System  Dester 1  Current Topics in Analytical Chemistry CHEM MPE 2	C C BDE BDE BDE Type MPE MPE	3 3 3 3 3 3 4 18 AU	CM3xxx <sup>&amp;</sup> CM3061 CH5211 CH5222 HW0218  Year 3 Spe CM4082  Year 4 Sen Course	Laboratory 3  Data Analytics in Food Systems Future Foods - Introduction to Advanced Meet Alternative Communication Across the Sciences FF NTU Elective 2  cial Sem Professional Attachment	C C BDE BDE FC BDE	3 3 3 2 3 5 22 AU
CM3xxx <sup>®</sup> CM3xxx <sup>®</sup> CM3062 CM5101 CH5210  Year 4 Sem Course	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition Food Process Technologies and New Production System  Dester 1  Current Topics in Analytical Chemistry CHEM MPE 2 CHEM MPE 3	C C BDE BDE Type MPE MPE MPE	3 3 3 3 3 3 4 4 4 4 3 3 3	CM3xxx <sup>&amp;</sup> CM3061 CH5211 CH5222 HW0218  Year 3 Spe CM4082  Year 4 Sen Course	Laboratory 3  Data Analytics in Food Systems Future Foods - Introduction to Advanced Meet Alternative Communication Across the Sciences FF NTU Elective 2  cial Sem Professional Attachment	C C BDE BDE FC BDE	3 3 3 2 3 5 22 AU
CM3xxx <sup>®</sup> CM3xxx <sup>®</sup> CM3062 CM5101 CH5210  Year 4 Sem Course	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition Food Process Technologies and New Production System  Dester 1  Current Topics in Analytical Chemistry CHEM MPE 2 CHEM MPE 3 CHEM MPE 4	C C BDE BDE  Type MPE MPE MPE MPE	3 3 3 3 3 3 4 4 4 4 4 3 3 3 3 3	CM3xxx <sup>&amp;</sup> CM3061 CH5211 CH5222 HW0218  Year 3 Spe CM4082  Year 4 Sen Course	Laboratory 3  Data Analytics in Food Systems Future Foods - Introduction to Advanced Meet Alternative Communication Across the Sciences FF NTU Elective 2  cial Sem Professional Attachment	C C BDE BDE FC BDE	3 3 3 2 3 5 22 AU
CM3xxx <sup>®</sup> CM3xxx <sup>®</sup> CM3062 CM5101 CH5210  Year 4 Sem Course	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition Food Process Technologies and New Production System  Current Topics in Analytical Chemistry CHEM MPE 2 CHEM MPE 3 CHEM MPE 4 FF NTU Elective 3	C C C BDE BDE  Type MPE MPE MPE MPE BDE	3 3 3 3 3 3 3 3 3 3 3	CM3xxx <sup>&amp;</sup> CM3061 CH5211 CH5222 HW0218  Year 3 Spe CM4082  Year 4 Sen Course	Laboratory 3  Data Analytics in Food Systems Future Foods - Introduction to Advanced Meet Alternative Communication Across the Sciences FF NTU Elective 2  cial Sem Professional Attachment	C C BDE BDE FC BDE	3 3 3 2 3 5 22 AU 10
CM3xxx <sup>®</sup> CM3xxx <sup>®</sup> CM3062 CM5101 CH5210	CHEM-Core CHEM-Core Chemistry & Biological Chemistry Laboratory 4 Food Chemistry & Nutrition Food Process Technologies and New Production System  Current Topics in Analytical Chemistry CHEM MPE 2 CHEM MPE 3 CHEM MPE 4 FF NTU Elective 3	C C C BDE BDE  Type MPE MPE MPE MPE BDE	3 3 3 3 3 3 3 3 3 3 3	CM3xxx <sup>&amp;</sup> CM3061 CH5211 CH5222 HW0218  Year 3 Spe CM4082  Year 4 Sen Course	Laboratory 3  Data Analytics in Food Systems Future Foods - Introduction to Advanced Meet Alternative Communication Across the Sciences FF NTU Elective 2  cial Sem Professional Attachment	C C BDE BDE FC BDE	3 3 3 2 3 3 5 22 AU

This study plan is meant as a guide.

<sup>\*</sup>Students without 'A' Level Physics will take 'PH1012 Physics A' (4AU).

 $<sup>^{\&</sup>amp;}$  CM3xxx refers to CM3011, CM3021, CM3031, CM3041 - These courses are offered in both semesters

<sup>^</sup>CM4013 can be double counted towards 2nd Major in FF requirement (3AU)

AY2024 - 2025 Intake onwards

Track 2 (NTU Based)

with Professional Internship

			N	lumber of Acad	lemic Units (AU	)	
Programme	Year of Study	Major Re	equirement	Interdis	ciplinary	Broadening and	
J	,	Core (C)	Major PE (MPE)	Common Core (CC)	Foundation Core (FC)	Deepening Electives (BDE)	Total
	1	17/18*		11	(10)	6	34/35*
Chemistry and	2	21		6	5	6	38
Biological	3	12			10	6	28
Chemistry	4	6	12 [3]			18	36 [3]
	Total	56/57*	12 [3]	17	15	36	136/137*
	•			•			
Sc in Chemistry	and Biological	Chemistry wit	th 2nd Major in	Future Food (FF	:)		
Category						AU	Total AU
	Common Core	(University-le	evel)				
	CC0001 Inquiry	/ & Communic	ation in an Inter	disciplinary Wo	orld	2	
	CC0002 Naviga	ting the Digita	al World			2	
	CC0003 Ethics	& Civics in a N	1ulti-Cultural Wo	orld		2	
	CC0005 Health					3	17
nterdisciplinary	CC0006 Sustaii	nability: Societ	ty, Economy & E	nvironment		3	
Collaborative	CC0007 Scienc	3					
Biological Chemistry  Sc in Chemistry ategory	ML0004 Caree	2					
	Foundation Co		•			2	
			ross the Science			2	15
	CM4081 Profe		Science and Art	inciai intelligeni	ce	3 10	15
	CIVI4081 Profe	ssional interns	snib		10		
	CHEM Core						
	CM1001	Foundations	of Chemistry I			Λ	
	CM1001 CM1002		of Chemistry II				
	MH1802	Calculus for the	•				
	CM1804		for Chemistry				
	PH1011		1012* Physics A				
	CM2021				•		
	CM2021 CM2011	Analytical Che	_				
	CM2011 CM2061	•	•	1			
	PS0001	-	-	-			
Major	CM2031			•			56/57*
=	CM2031 CM2041	•	•	•			
Requirement	CM2041 CM2062	-		-	2		
	CM3011 <sup>&amp;</sup>	,	J	mistry II			
		-	Biophysical Cher			3	
	CM3041 <sup>&amp;</sup>	•		•	4	3	
	CM3062	-	Biological Chemi tion Mechanism				
	CM3031 <sup>&amp;</sup>	O		s and synthesis		3	
	CM3021 <sup>&amp;</sup>	•	lic Chemistry Biological Chemi	stry Laboratory	2	3 3	
	CM3061	CHEHHISTIY & I	Siciogical Cheffil	July Laboratory	,	<u>3</u>	
	CHEM Major P	rescribed Elec	tives (MPE)				
	4 x MPEs	<u> </u>	· · · · · · · · · · · · · · · · · · ·			12^	12^
	Food Future Co	omnulsory Co	urses				
	CH5210		Technologies ar	nd New Product	ion Systems	3	
	CH5210		s in Food System		,	3	
	CH5211	-	d - Food Safety 8		ent	3	
2nd Major in	CH5222		- Introduction to			3	
Future Food (FF)			ry & Nutrition	Auvanteu Me	uı	3	27^
/		1101				-	
	Electives (Cho						
	4 NTU Elective					12	
	1 NTU Elective		-				

<sup>\*</sup>Students without 'A' Level Physics will take 'PH1012 Physics A' (4AU).

136/137\*

 $<sup>^{\&</sup>amp;}$  CM3011, CM3021. CM3031, CM3041 are offered in both semesters.

<sup>^</sup>CM4013 can be double counted towards 2nd Major in FF requirement (3AU)

<sup>[]</sup> AU of courses that could be used to fulfil Core/MPE requirement and 2nd Major requirement concurrently

	nistry and Biological Chemistry with 2nd Study Plan for AY2024-2025 intake	l Major i	n Future Foo	od (CHFF)			
rack 2 (NT	•						
•	sional Internship						
_	·						
ear 1 Sem	ester 1	T	A11	Year 1 Sen	nester 2	T	<b>A11</b>
Course CM1001	Foundations of Chemistry I	<b>Type</b> C	<u>AU</u> 4	Course CM1002	Foundations of Chemistry II	<b>Type</b> C	<b>AU</b> 4
1H1802	Calculus for the Sciences	C	4	CM1804	Mathematics for Chemistry	С	2
C0001	Inquiry & Communication in an	СС	2	PH1011/	Physics or	С	3
	Interdisciplinary World				Physics A (For students without 'A'		
C0002	Navigating the Digital World	CC	2	PH1012*	Level Physics) Ethics & Civics in a Multi-Cultural	С	4
C0005	Healthy Living and Well-being	CC	3	CC0003	World Career and Entrepreneurial	CC	2
	BDE 1	BDE	3	ML0004	Development for the Future World	CC	2
IW0001	Introduction to Academic Communicat	ion <sup>#</sup>			BDE 2	BDE	3
			18	-			16/17
for studen	ts who have not cleared QET						
ear 2 Sem	ester 1	Type	A11	Year 2 Sen	nester 2	Typo	<b>A</b> 11
Course	Analytical and Bioanalytical	Туре	AU	Course		Туре	AU
M2011	Chemistry	С	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
\$0001	Introduction to Computational Thinking	С	3	PS0002	Introduction to Data Science and Artificial Intelligence	FC	3
C0006	Sustainability: Society, Economy & Environment	CC	3	HW0218	Communication Across the Sciences	FC	2
M5101	Food Chemistry & Nutrition	BDE	3	CC0007	Science & Technology for Humanity	CC	3
	·			CH5220	Food Standard - Food Safety and Risk Assessment	BDE	3
			18				20
ear 3 Semo	octor 1			Year 3 Sen	nester 2		
Course	ester 1	Туре	AU	Course	nester 2	Туре	AU
M3xxx <sup>&amp;</sup>	CHEM-Core	С	3	CM4081	Professional Internship	FC	10
:M3xxx <sup>&amp;</sup>	CHEM-Core	С	3	0		. 0	
CM3xxx <sup>&amp;</sup>	CHEM-Core	С	3				
M3062	Chemistry & Biological Chemistry	С	3				
CH5210	Laboratory 4 Food Process Technologies and New	BDE	3				
	Production System FF NTU Elective 1	BDE	3				
			18				10
4.5	t1			V 4.0			
ear 4 Sem	ester 1	Tuna	A11	Year 4 Sen	nester 2	Tuno	A11
ourse Manage	CHEM Coro	Туре	AU 2	CM2061	Chemistry & Biological Chemistry	Туре	AU
M3xxx <sup>&amp;</sup>	CHEM-Core Current Topics in Analytical	С	3	CM3061	Laboratory 3	С	3
M4013^	Chemistry	MPE	3		CHEM MPE 3	MPE	3
	CHEM MPE 2	MPE	3		CHEM MPE 4	MPE	3
	FF NTU Elective 2	BDE	3	CH5211	Data Analytics in Food Systems	BDE	3
	FF NTU Elective 3	BDE	3	CH5222	Future Foods - Introduction to Advanced Meet Alternative	BDE	3
			_		BDE 3	DDE	3
	FF NTU Elective 4	BDE	3		552.3	BDE	_
	FF NTU Elective 4	BDE	18		BDE 3	RDE	18

This study plan is meant as a guide.

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