

BSc in Chemistry and Biological Chemistry with 2nd Major in Future Food (CHFF)							
AY2024 - 2025 Intake onwards							
Track 1 (Global Immersion in WUR)							
FYP with Professional Attachment							
Programme	Year of Study	Number of Academic Units (AU)					
		Major Requirement		Interdisciplinary		Broadening and Deepening Electives (BDE)	Total
		Core (C)	Major PE (MPE)	Common Core (CC)	Foundation Core (FC)		
Chemistry and Biological Chemistry	1	17/18*		11		4	32/33*
	2	21		6	3	6	36
	3	18	6 [3]		7	9	40 [3]
	4		16			12	28
	Total	56/57*	22 [3]	17	10	31	136/137* [3]
BSc in Chemistry and Biological Chemistry with 2nd Major in Future Food (FF)							
Category						AU	Total AU
Interdisciplinary Collaborative Core (ICC)	Common Core (University-level)						
	CC0001 Inquiry & Communication in an Interdisciplinary World					2	17
	CC0002 Navigating the Digital World					2	
	CC0003 Ethics & Civics in a Multi-Cultural World					2	
	CC0005 Healthy Living and Wellbeing					3	
	CC0006 Sustainability: Society, Economy & Environment					3	
	CC0007 Science & Technology for Humanity					3	
	ML0004 Career and Innovative Enterprise for Future World					2	
	Foundation Core (College-level)						
	HW0218 Communication Across the Sciences					2	10
PS0002 Introduction to Data Science and Artificial Intelligence					3		
CM4082 Professional Attachment					5		
Major Requirement	CHEM Core						
	CM1001	Foundations of Chemistry I				4	56/57*
	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	
	CM2031	Organic and Bioorganic Chemistry				3	
	CM2041	Physical and Biophysical Chemistry 1				3	
	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	22	
4 x MPEs					12^		
2nd Major in Future Food (FF)	Food Future Compulsory Courses						
	CH5210	Food Process Technologies and New Production Systems				3	27^
	CH5211	Data Analytics in Food Systems				3	
	CH5220	Food Standard - Food Safety & Risk Assessment				3	
	CH5222	Future Foods - Introduction to Advanced Meat				3	
	CM5101	Food Chemistry & Nutrition				3	
	Electives (Choose 5)						
4 WUR Electives					12		
1 NTU Electives^					-		
BDE	Any 2 BDE					4	4
Total						136/137*	

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

<sup>&</sup> CM3011, CM3021, CM3031, CM3041 are offered in both semesters.

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

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

BSc in Chemistry and Biological Chemistry with 2nd Major in Future Food (CHFF)			
Suggested Study Plan for AY2024-2025 intake			
Track 1 (Global Immersion in WUR)			
FYP with Professional Attachment			
Year 1 Semester 1			
Course		Type	AU
CM1001	Foundations of Chemistry I	C	4
MH1802	Calculus for the Sciences	C	4
CC0001	Inquiry & Communication in an Interdisciplinary World	CC	2
CC0002	Navigating the Digital World	CC	2
CC0005	Healthy Living and Well-being	CC	3
	BDE 1	BDE	2
HW0001	Introduction to Academic Communication #		
			17
# for students who have not cleared QET			
Year 2 Semester 1			
Course		Type	AU
CM2011	Analytical and Bioanalytical Chemistry	C	3
CM2021	Inorganic and Bioinorganic Chemistry	C	3
CM2061	Chemistry & Biological Chemistry Laboratory 1	C	3
PS0001	Introduction to Computational Thinking	C	3
CC0006	Sustainability: Society, Economy & Environment	CC	3
CM5101	Food Chemistry & Nutrition	BDE	3
			18
Year 3 Semester 1			
Course		Type	AU
CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3
CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3
CM3062	Chemistry & Biological Chemistry Laboratory 4	C	3
CM4013 <sup>^</sup>	Current Topics in Analytical Chemistry	MPE	3
	CHEM MPE 2	MPE	3
CH5210	Food Process Technologies and New Production System	BDE	3
			18
Year 4 Semester 1			
Course		Type	AU
	FF WUR Elective 1	BDE	3
	FF WUR Elective 2	BDE	3
	FF WUR Elective 3	BDE	3
	FF WUR Elective 4	BDE	3
			12
Year 1 Semester 2			
Course		Type	AU
CM1002	Foundations of Chemistry II	C	4
CM1804	Mathematics for Chemistry	C	2
PH1011/	Physics <u>or</u>	C	3
PH1012*	Physics A (For students without 'A'	C	4
CC0003	Ethics & Civics in a Multi-Cultural World	CC	2
ML0004	Career and Entrepreneurial Development for the Future World	CC	2
	BDE 2	BDE	2
			15/16*
Year 2 Semester 2			
Course		Type	AU
CM2031	Organic and Bioorganic Chemistry	C	3
CM2041	Physical and Biophysical Chemistry 1	C	3
CM2062	Chemistry & Biological Chemistry Laboratory 2	C	3
PS0002	Introduction to Data Science and Artificial Intelligence	FC	3
CC0007	Science & Technology for Humanity	CC	3
CH5220	Food Standard - Food Safety and Risk Assessment	BDE	3
			18
Year 3 Semester 2			
Course		Type	AU
CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3
CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3
CM3061	Chemistry & Biological Chemistry Laboratory 3	C	3
CH5211	Data Analytics in Food Systems	BDE	3
CH5222	Future Foods - Introduction to Advanced Meet Alternative	BDE	3
HW0218	Communication Across the Sciences	FC	2
			22
Year 3 Special Sem			
CM4082	Professional Attachment	FC	5
			22
Year 4 Semester 2			
Course		Type	AU
CM4080	Honours Project 1	MPE	10
	CHEM MPE 3	MPE	3
	CHEM MPE 4	MPE	3
			16
Total (AU)			136/137*

This study plan is meant as a guide.

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

<sup>&</sup> 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)

BSc in Chemistry and Biological Chemistry with 2nd Major in Future Food (CHFF)							
AY2024 - 2025 Intake onwards							
Track 1 (Global Immersion in WUR)							
with Professional Internship							
Programme	Year of Study	Number of Academic Units (AU)					
		Major Requirement		Interdisciplinary		Broadening and Deepening Electives (BDE)	Total
		Core (C)	Major PE (MPE)	Common Core (CC)	Foundation Core (FC)		
Chemistry and Biological Chemistry	1	17/18*		11		9	37/38*
	2	21		6	5	6	38
	3	9	6 [3]		10	3	28 [3]
	4	9	6			18	33
	Total	56/57*	12 [3]	17	15	36	136/137* [3]
BSc in Chemistry and Biological Chemistry with 2nd Major in Future Food (FF)							
Category						AU	Total AU
Interdisciplinary Collaborative Core (ICC)	Common Core (University-level)						
	CC0001 Inquiry & Communication in an Interdisciplinary World					2	17
	CC0002 Navigating the Digital World					2	
	CC0003 Ethics & Civics in a Multi-Cultural World					2	
	CC0005 Healthy Living and Wellbeing					3	
	CC0006 Sustainability: Society, Economy & Environment					3	
	CC0007 Science & Technology for Humanity					3	
	ML0004 Career and Innovative Enterprise for Future World					2	
	Foundation Core (College-level)						
	HW0218 Communication Across the Sciences					2	15
PS0002 Introduction to Data Science and Artificial Intelligence					3		
CM4081 Professional Internship					10		
Major Requirement	CHEM Core						
	CM1001	Foundations of Chemistry I				4	56/57*
	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	
	CM2031	Organic and Bioorganic Chemistry				3	
	CM2041	Physical and Biophysical Chemistry 1				3	
	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)						
4 x MPEs					12^	12	
2nd Major in Future Food (FF)	Food Future Compulsory Courses						
	CH5210	Food Process Technologies and New Production Systems				3	27^
	CH5211	Data Analytics in Food Systems				3	
	CH5220	Food Standard - Food Safety & Risk Assessment				3	
	CH5222	Future Foods - Introduction to Advanced Meat				3	
	CM5101	Food Chemistry & Nutrition				3	
	Electives (Choose 5)						
4 WUR Electives					12		
1 NTU Electives^					-		
BDE	Any 3 BDE					9	9
Total						136/137*	

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

<sup>&</sup> CM3011, CM3021, CM3031, CM3041 are offered in both semesters.

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

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

BSc in Chemistry and Biological Chemistry with 2nd Major in Future Food (CHFF)							
Suggested Study Plan for AY2024-2025 intake							
Track 1 (Global Immersion in WUR)							
with Professional Internship							
Year 1 Semester 1				Year 1 Semester 2			
Course		Type	AU	Course		Type	AU
CM1001	Foundations of Chemistry I	C	4	CM1002	Foundations of Chemistry II	C	4
MH1802	Calculus for the Sciences	C	4	CM1804	Mathematics for Chemistry	C	2
CC0001	Inquiry & Communication in an Interdisciplinary World	CC	2	PH1011/	Physics <u>or</u>	C	3
CC0002	Navigating the Digital World	CC	2	PH1012*	Physics A (For students without 'A' Level Physics)	C	4
CC0005	Healthy Living and Well-being	CC	3	CC0003	Ethics & Civics in a Multi-Cultural World	CC	2
	BDE 1	BDE	3	ML0004	Career and Entrepreneurial Development for the Future World	CC	2
HW0001	Introduction to Academic Communication <sup>#</sup>			BDE 2		BDE	3
				BDE 3		BDE	3
			18	19/20*			
<sup>#</sup> for students who have not cleared QET							
Year 2 Semester 1				Year 2 Semester 2			
Course		Type	AU	Course		Type	AU
CM2011	Analytical and Bioanalytical Chemistry	C	3	CM2031	Organic and Bioorganic Chemistry	C	3
CM2021	Inorganic and Bioinorganic Chemistry	C	3	CM2041	Physical and Biophysical Chemistry 1	C	3
CM2061	Chemistry & Biological Chemistry Laboratory 1	C	3	CM2062	Chemistry & Biological Chemistry Laboratory 2	C	3
PS0001	Introduction to Computational Thinking	C	3	PS0002	Introduction to Data Science and Artificial Intelligence	FC	3
CC0006	Sustainability: Society, Economy & Environment	CC	3	HW0218	Communication Across the Sciences	FC	2
CM5101	Food Chemistry & Nutrition	BDE	3	CC0007	Science & Technology for Humanity	CC	3
				CH5220	Food Standard - Food Safety and Risk Assessment	BDE	3
			18	20			
Year 3 Semester 1				Year 3 Semester 2			
Course		Type	AU	Course		Type	AU
CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3	CM4081	Professional Internship	FC	10
CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3				
CM3062	Chemistry & Biological Chemistry Laboratory 4	C	3				
CM4013 <sup>^</sup>	Current Topics in Analytical Chemistry	MPE	3				
	CHEM MPE 2	MPE	3				
CH5210	Food Process Technologies and New Production System	BDE	3				
			18	10			
Year 4 Semester 1				Year 4 Semester 2			
Course		Type	AU	Course		Type	AU
	FF WUR Elective 1	BDE	3	CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3
	FF WUR Elective 2	BDE	3	CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3
	FF WUR Elective 3	BDE	3	CM3061	Chemistry & Biological Chemistry Laboratory 3	C	3
	FF WUR Elective 4	BDE	3		CHEM MPE 3	MPE	3
			12		CHEM MPE 4	MPE	3
				CH5211	Data Analytics in Food Systems	BDE	3
				CH5222	Future Foods - Introduction to Advanced Meet Alternative	BDE	3
				21			
Total (AU)						136/137*	

This study plan is meant as a guide.

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

<sup>&</sup> 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)

BSc in Chemistry and Biological Chemistry with 2nd Major in Future Food (CHFF)							
AY2024 - 2025 Intake onwards							
Track 2 (NTU Based)							
FYP with Professional Attachment							
Programme	Year of Study	Number of Academic Units (AU)					
		Major Requirement		Interdisciplinary		Broadening and Deepening Electives (BDE)	Total
		Core (C)	Major PE (MPE)	Common Core (CC)	Foundation Core (FC)		
Chemistry and Biological Chemistry	1	17/18*		11		4	32/33*
	2	21		6	3	6	36
	3	18			7	15	40
	4		22 [3]			6	28 [3]
	Total	56/57*	22 [3]	17	10	31	136/137* [3]
BSc in Chemistry and Biological Chemistry with 2nd Major in Future Food (FF)							
Category						AU	Total AU
Interdisciplinary Collaborative Core (ICC)	Common Core (University-level)						
	CC0001 Inquiry & Communication in an Interdisciplinary World					2	17
	CC0002 Navigating the Digital World					2	
	CC0003 Ethics & Civics in a Multi-Cultural World					2	
	CC0005 Healthy Living and Wellbeing					3	
	CC0006 Sustainability: Society, Economy & Environment					3	
	CC0007 Science & Technology for Humanity					3	
	ML0004 Career and Innovative Enterprise for Future World					2	
	Foundation Core (College-level)						
	HW0218 Communication Across the Sciences					2	10
PS0002 Introduction to Data Science and Artificial Intelligence					3		
CM4082 Professional Attachment					5		
Major Requirement	CHEM Core						
	CM1001 Foundations of Chemistry I					4	56/57*
	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	
	CM2031 Organic and Bioorganic Chemistry					3	
	CM2041 Physical and Biophysical Chemistry 1					3	
	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	22
	4 x MPEs					12^	
2nd Major in Future Food (FF)	Food Future Compulsory Courses						
	CH5210 Food Process Technologies and New Production Systems					3	27^
	CH5211 Data Analytics in Food Systems					3	
	CH5220 Food Standard - Food Safety & Risk Assessment					3	
	CH5222 Future Foods - Introduction to Advanced Meat					3	
	CM5101 Food Chemistry & Nutrition					3	
	Electives (Choose 5)						
4 NTU Electives					12		
1 NTU Electives^					-		
BDE	Any 2 BDE					4	4
Total						136/137*	

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

<sup>&</sup> CM3011, CM3021, CM3031, CM3041 are offered in both semesters.

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

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

BSc in Chemistry and Biological Chemistry with 2nd Major in Future Food (CHFF)							
Suggested Study Plan for AY2024-2025 intake							
Track 2 (NTU Based)							
FYP with Professional Attachment Option							
Year 1 Semester 1				Year 1 Semester 2			
Course		Type	AU	Course		Type	AU
CM1001	Foundations of Chemistry I	C	4	CM1002	Foundations of Chemistry II	C	4
MH1802	Calculus for the Sciences	C	4	CM1804	Mathematics for Chemistry	C	2
CC0001	Inquiry & Communication in an Interdisciplinary World	CC	2	PH1011/	Physics <u>or</u>	C	3
CC0002	Navigating the Digital World	CC	2	PH1012*	Physics A <i>(For students without 'A' Ethics &amp; Civics in a Multi-Cultural World</i>	C	4
CC0005	Healthy Living and Well-being	CC	3	CC0003	Ethics & Civics in a Multi-Cultural World	CC	2
	BDE 1	BDE	2	ML0004	Career and Entrepreneurial Development for the Future World	CC	2
HW0001	Introduction to Academic Communication <sup>#</sup>			BDE 2		BDE	2
17				15/16*			
<sup>#</sup> for students who have not cleared QET							
Year 2 Semester 1				Year 2 Semester 2			
Course		Type	AU	Course		Type	AU
CM2011	Analytical and Bioanalytical Chemistry	C	3	CM2031	Organic and Bioorganic Chemistry	C	3
CM2021	Inorganic and Bioinorganic Chemistry	C	3	CM2041	Physical and Biophysical Chemistry 1	C	3
CM2061	Chemistry & Biological Chemistry Laboratory 1	C	3	CM2062	Chemistry & Biological Chemistry Laboratory 2	C	3
PS0001	Introduction to Computational Thinking	C	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
	FF NTU Elective 1	BDE	3	CH5220	Food Standard - Food Safety and Risk Assessment	BDE	3
18				18			
Year 3 Semester 1				Year 3 Semester 2			
Course		Type	AU	Course		Type	AU
CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3	CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3
CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3	CM3061	Chemistry & Biological Chemistry Laboratory 3	C	3
CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3	CH5211	Data Analytics in Food Systems	BDE	3
CM3062	Chemistry & Biological Chemistry Laboratory 4	C	3	CH5222	Future Foods - Introduction to Advanced Meet Alternative	BDE	3
CM5101	Food Chemistry & Nutrition	BDE	3	HW0218	Communication Across the Sciences	FC	2
CH5210	Food Process Technologies and New Production System	BDE	3		FF NTU Elective 2	BDE	3
18				22			
Year 4 Semester 1				Year 4 Semester 2			
Course		Type	AU	Course		Type	AU
CM4013 <sup>^</sup>	Current Topics in Analytical Chemistry	MPE	3	CM4080	Honours Project 1	MPE	10
	CHEM MPE 2	MPE	3				
	CHEM MPE 3	MPE	3				
	CHEM MPE 4	MPE	3				
	FF NTU Elective 3	BDE	3				
	FF NTU Elective 4	BDE	3				
18				10			
Total (AU)						136/137*	

This study plan is meant as a guide.

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

<sup>&</sup> 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)

BSc in Chemistry and Biological Chemistry with 2nd Major in Future Food (CHFF)							
AY2024 - 2025 Intake onwards							
Track 2 (NTU Based)							
with Professional Internship							
Programme	Year of Study	Number of Academic Units (AU)					
		Major Requirement		Interdisciplinary		Broadening and Deepening Electives (BDE)	Total
		Core (C)	Major PE (MPE)	Common Core (CC)	Foundation Core (FC)		
Chemistry and Biological Chemistry	1	17/18*		11		6	34/35*
	2	21		6	5	6	38
	3	12			10	6	28
	4	6	12 [3]			18	36 [3]
	Total	56/57*	12 [3]	17	15	36	136/137* [3]
BSc in Chemistry and Biological Chemistry with 2nd Major in Future Food (FF)							
Category						AU	Total AU
Interdisciplinary Collaborative Core (ICC)	Common Core (University-level)						
	CC0001 Inquiry & Communication in an Interdisciplinary World					2	17
	CC0002 Navigating the Digital World					2	
	CC0003 Ethics & Civics in a Multi-Cultural World					2	
	CC0005 Healthy Living and Wellbeing					3	
	CC0006 Sustainability: Society, Economy & Environment					3	
	CC0007 Science & Technology for Humanity					3	
	ML0004 Career and Innovative Enterprise for Future World					2	
	Foundation Core (College-level)						
	HW0218 Communication Across the Sciences					2	15
PS0002 Introduction to Data Science and Artificial Intelligence					3		
CM4081 Professional Internship					10		
Major Requirement	CHEM Core						
	CM1001	Foundations of Chemistry I				4	56/57*
	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	
	CM2031	Organic and Bioorganic Chemistry				3	
	CM2041	Physical and Biophysical Chemistry 1				3	
	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)						
	4 x MPEs					12^	12^
2nd Major in Future Food (FF)	Food Future Compulsory Courses						
	CH5210	Food Process Technologies and New Production Systems				3	27^
	CH5211	Data Analytics in Food Systems				3	
	CH5220	Food Standard - Food Safety & Risk Assessment				3	
	CH5222	Future Foods - Introduction to Advanced Meat				3	
	CM5101	Food Chemistry & Nutrition				3	
	Electives (Choose 5)						
	4 NTU Electives					12	
1 NTU Electives^					-		
BDE	Any 3 BDE					9	9
Total						136/137*	

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

<sup>&</sup> CM3011, CM3021, CM3031, CM3041 are offered in both semesters.

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

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

BSc in Chemistry and Biological Chemistry with 2nd Major in Future Food (CHFF)			
Suggested Study Plan for AY2024-2025 intake			
Track 2 (NTU Based)			
with Professional Internship			
Year 1 Semester 1			
Course		Type	AU
CM1001	Foundations of Chemistry I	C	4
MH1802	Calculus for the Sciences	C	4
CC0001	Inquiry & Communication in an Interdisciplinary World	CC	2
CC0002	Navigating the Digital World	CC	2
CC0005	Healthy Living and Well-being	CC	3
	BDE 1	BDE	3
HW0001	Introduction to Academic Communication #		
			18
# for students who have not cleared QET			
Year 2 Semester 1			
Course		Type	AU
CM2011	Analytical and Bioanalytical Chemistry	C	3
CM2021	Inorganic and Bioinorganic Chemistry	C	3
CM2061	Chemistry & Biological Chemistry Laboratory 1	C	3
PS0001	Introduction to Computational Thinking	C	3
CC0006	Sustainability: Society, Economy & Environment	CC	3
CM5101	Food Chemistry & Nutrition	BDE	3
			18
Year 3 Semester 1			
Course		Type	AU
CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3
CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3
CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3
CM3062	Chemistry & Biological Chemistry Laboratory 4	C	3
CH5210	Food Process Technologies and New Production System	BDE	3
	FF NTU Elective 1	BDE	3
			18
Year 4 Semester 1			
Course		Type	AU
CM3xxx <sup>&amp;</sup>	CHEM-Core	C	3
CM4013 <sup>^</sup>	Current Topics in Analytical Chemistry	MPE	3
	CHEM MPE 2	MPE	3
	FF NTU Elective 2	BDE	3
	FF NTU Elective 3	BDE	3
	FF NTU Elective 4	BDE	3
			18
Year 1 Semester 2			
Course		Type	AU
CM1002	Foundations of Chemistry II	C	4
CM1804	Mathematics for Chemistry	C	2
PH1011/	Physics <u>or</u>	C	3
PH1012*	Physics A (For students without 'A' Level Physics)	C	4
CC0003	Ethics & Civics in a Multi-Cultural World	CC	2
ML0004	Career and Entrepreneurial Development for the Future World	CC	2
	BDE 2	BDE	3
			16/17*
Year 2 Semester 2			
Course		Type	AU
CM2031	Organic and Bioorganic Chemistry	C	3
CM2041	Physical and Biophysical Chemistry 1	C	3
CM2062	Chemistry & Biological Chemistry Laboratory 2	C	3
PS0002	Introduction to Data Science and Artificial Intelligence	FC	3
HW0218	Communication Across the Sciences	FC	2
CC0007	Science & Technology for Humanity	CC	3
CH5220	Food Standard - Food Safety and Risk Assessment	BDE	3
			20
Year 3 Semester 2			
Course		Type	AU
CM4081	Professional Internship	FC	10
			10
Year 4 Semester 2			
Course		Type	AU
CM3061	Chemistry & Biological Chemistry Laboratory 3	C	3
	CHEM MPE 3	MPE	3
	CHEM MPE 4	MPE	3
CH5211	Data Analytics in Food Systems	BDE	3
CH5222	Future Foods - Introduction to Advanced Meat Alternative	BDE	3
	BDE 3	BDE	3
			18
Total (AU)			136/137*

This study plan is meant as a guide.

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

<sup>&</sup> 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)