

BSc in Chemistry and Biological Chemistry with 2nd Major in Food Science and Technology (CHFS)

AY2022 - 2023 Intake onwards
with Professional Internship

Programme	Year of Study	Number of Academic Units (AU)					Total
		Major		Interdisciplinary		Broadening and Deepening Electives (BDE)	
		Core (C)	Major PE (MPE)	Common Core (CC)	Foundational Core (FC)		
Chemistry and Biological Chemistry	1	17		11		6	34
	2	21		6	3	8	38
	3	18			2	19	39
	4		12		10	6	28
	Total	56	12	17	15	39	139

BSc in Chemistry and Biological Chemistry with 2nd Major in Food Science and Technology (FST)

Category AU Total AU

Category	AU	Total AU	
Common Core (University-level)			
Interdisciplinary Collaborative Core (ICC)	CC0001 Inquiry and Communication in the Interdisciplinary World	2	17
	CC0002 Navigating the Digital World	2	
	CC0003 Ethics & Civics in a Multi-Cultural World	2	
	CC0005 Healthy Living & Wellbeing	3	
	CC0006 Sustainability: Society, Economy & Environment	3	
	CC0007 Science & Technology for Humanity	3	
	ML0004 Career and Entrepreneurial Development for the Future World	2	
Foundational Core (College-level)			
Major Requirement	HW0218 Communication Across the Sciences	2	15
	PS0002 Introduction to Data Science and Artificial Intelligence	3	
	CM4081 Professional Internship	10	

CHEM Core				
Major Requirement	CM1001	Foundations of Chemistry I	4	23
	CM1002	Foundations of Chemistry II	4	
	MH1802	Calculus for the Sciences	4	
	MH1804	Mathematics for Chemistry	2	
	PH1801	Foundations of Physics I	3	
	CM2021	Inorganic and Bioinorganic Chemistry	3	
	CM2011	Analytical Chemistry	3	

Major Requirement	CM2061	Chemistry & Biological Chemistry Laboratory 1	3	33
	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	Chemical Spectroscopy and Applications	3	
	CM3041	Physical and Biophysical Chemistry 2	3	
	CM3062	Chemistry & Biological Chemistry Laboratory 4	3	
	CM3031	Organic Reaction Mechanisms and Synthesis	3	
	CM3021	Organometallic Chemistry	3	
	CM3061	Chemistry & Biological Chemistry Laboratory 3	3	
CHEM Major Prescribed Electives (MPE)				
4 x MPEs			12	12

2nd Major in Food Science and Technology (FST)	Food Science and Technology Compulsory Courses			
	1) CH9201 Food Chemistry		5	30
	2) CH9200 Food Microbiology		3	
	3) CH9203 Food Process Engineering		5	
	4) CH9202 Food Physics		3	
	5) CH9204 Quality Systems Operations		2	
	6) NTU-FST MPE x 4		12	

BDE	Any 3 BDE	9	9
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Total

139

BSc in Chemistry and Biological Chemistry with 2nd Major in Food Science and Technology (CHFS)

Suggested Study Plan for AY2022-2023 intake

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 and Communication in the Interdisciplinary World	CC	2
CC0002	Navigating the Digital World	CC	2
CC0005	Healthy Living & Well-being	CC	3
HW0001	Introduction to Academic Communication*		
			15

*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
CH9201	Food Chemistry	BDE	5
			20

Year 3 Semester 1

Course		Type	AU
CM3011	Chemical Spectroscopy and Applications	C	3
CM3041	Physical and Biophysical Chemistry 2	C	3
CM3062	Chemistry & Biological Chemistry Laboratory 4	C	3
CH9203	Food Process Engineering	BDE	5
	NTU-FST Prescribed Elective	BDE	3
	BDE 3	BDE	3
			20

Year 4 Semester 1

Course		Type	AU
	CHEM MPE1	MPE	3
	CHEM MPE2	MPE	3
	CHEM MPE3	MPE	3
	CHEM MPE4	MPE	3
	NTU-FST Prescribed Elective	BDE	3
	NTU-FST Prescribed Elective	BDE	3
			18

Year 1 Semester 2

Course		Type	AU
CM1002	Foundations of Chemistry II	C	4
MH1804	Mathematics for Chemistry	C	2
PH1801	Foundations of Physics I	C	3
CC0003	Ethics & Civics in a Multi-Cultural World	CC	2
ML0004	Career and Entrepreneurial Development for the Future World	CC	2
	BDE 1	BDE	3
	BDE 2	BDE	3
			19

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
CH9200	Food Microbiology	BDE	3
			18

Year 3 Semester 2

Course		Type	AU
CM3021	Organometallic Chemistry	C	3
CM3031	Organic Reaction Mechanisms and Synthesis	C	3
CM3061	Chemistry & Biological Chemistry Laboratory 3	C	3
CH9202	Food Physics	BDE	3
CH9204	Quality Systems Operations	BDE	2
	NTU-FST Prescribed Elective	BDE	3
HW0218	Communication Across the Sciences	FC	2
			19

Year 4 Semester 2

Course		Type	AU
CM4081	Professional Internship	FC	10
			10

Total (AU)**139**

BSc in Chemistry and Biological Chemistry with 2nd Major in Food Science and Technology (CHFS)

AY2022 - 2023 Intake onwards

FYP with Professional Attachment

Programme	Year of Study	Number of Academic Units (AU)					
		Major		Interdisciplinary		Broadening and Deepening Electives (BDE)	Total
		Core (C)	Major PE (MPE)	Common Core (CC)	Foundational Core (FC)		
Chemistry and Biological Chemistry	1	17		11			28
	2	21		6	3	8	38
	3	18			7	18	43
	4		22			8	30
	Total	56	22	17	10	34	139

BSc in Chemistry and Biological Chemistry with 2nd Major in Food Science and Technology (FST)				
Category		AU	Total AU	
Interdisciplinary Collaborative Core (ICC)	Common Core (University-level)			
	CC0001 Inquiry and Communication in the Interdisciplinary World	2	17	
	CC0002 Navigating the Digital World	2		
	CC0003 Ethics & Civics in a Multi-Cultural World	2		
	CC0005 Healthy Living & Wellbeing	3		
	CC0006 Sustainability: Society, Economy & Environment	3		
	CC0007 Science & Technology for Humanity	3		
	ML0004 Career and Entrepreneurial Development for the Future World	2		
	Foundational Core (College-level)			
	HW0218 Communication Across the Sciences	2	10	
PS0002 Introduction to Data Science and Artificial Intelligence	3			
CM4082 Professional Attachment	5			

CHEM Core				
Major Requirement	CM1001	Foundations of Chemistry I	4	23
	CM1002	Foundations of Chemistry II	4	
	MH1802	Calculus for the Sciences	4	
	MH1804	Mathematics for Chemistry	2	
	PH1801	Foundations of Physics I	3	
	CM2021	Inorganic and Bioinorganic Chemistry	3	
	CM2011	Analytical Chemistry	3	

Major Requirement	CM2061	Chemistry & Biological Chemistry Laboratory 1	3	33
	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	Chemical Spectroscopy and Applications	3	
	CM3041	Physical and Biophysical Chemistry 2	3	
	CM3062	Chemistry & Biological Chemistry Laboratory 4	3	
	CM3031	Organic Reaction Mechanisms and Synthesis	3	
	CM3021	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	
Food Science and Technology Compulsory Courses				
2nd Major in Food Science and Technology (FST)	1) CH9201	Food Chemistry	5	30
	2) CH9200	Food Microbiology	3	
	3) CH9203	Food Process Engineering	5	
	4) CH9202	Food Physics	3	
	5) CH9204	Quality Systems Operations	2	
	6) NTU-FST	MPE x 4	12	
BDE	Any 2 BDE		4	4

Total

139

BSc in Chemistry and Biological Chemistry with 2nd Major in Food Science and Technology (CHFS)

Suggested Study Plan for AY2022-2023 intake

FYP with Professional Attachment Option

Year 1 Semester 1

Course		Type	AU
CM1001	Foundations of Chemistry I	C	4
MH1802	Calculus for the Sciences	C	4
CC0001	Inquiry and Communication in the Interdisciplinary World	CC	2
CC0002	Navigating the Digital World	CC	2
CC0005	Healthy Living & Well-being	CC	3
HW0001	Introduction to Academic Communication*		
			15

*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
CH9201	Food Chemistry	BDE	5
			20

Year 3 Semester 1

Course		Type	AU
CM3011	Chemical Spectroscopy and Applications	C	3
CM3041	Physical and Biophysical Chemistry 2	C	3
CM3062	Chemistry & Biological Chemistry Laboratory 4	C	3
CH9203	Food Process Engineering	BDE	5
	NTU-FST Prescribed Elective	BDE	3
	BDE 1	BDE	2
			19

Year 4 Semester 1

Course		Type	AU
	CHEM MPE1	MPE	3
	CHEM MPE2	MPE	3
	CHEM MPE3	MPE	3
	CHEM MPE4	MPE	3
	NTU-FST Prescribed Elective	BDE	3
	NTU-FST Prescribed Elective	BDE	3
			18

Year 1 Semester 2

Course		Type	AU
CM1002	Foundations of Chemistry II	C	4
MH1804	Mathematics for Chemistry	C	2
PH1801	Foundations of Physics I	C	3
CC0003	Ethics & Civics in a Multi-Cultural World	CC	2
ML0004	Career and Entrepreneurial Development for the Future World	CC	2
			13

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
CH9200	Food Microbiology	BDE	3
			18

Year 3 Semester 2

Course		Type	AU
CM3021	Organometallic Chemistry	C	3
CM3031	Organic Reaction Mechanisms and Synthesis	C	3
CM3061	Chemistry & Biological Chemistry Laboratory 3	C	3
CH9202	Food Physics	BDE	3
CH9204	Quality Systems Operations	BDE	2
	NTU-FST Prescribed Elective	BDE	3
HW0218	Communication Across the Sciences	FC	2
			24

Year 3 Special Sem

CM4082	Professional Attachment	FC	5
			24

Year 4 Semester 2

Course		Type	AU
CM4080	Honours Project 1	MPE	10
	BDE 2	BDE	2
			12

Total (AU)**139**