

**BSc in Chemistry and Biological Chemistry (CHEM)**  
 AY2021 - 2022 Intake  
*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)	Foundational Core (FC)		
Chemistry and Biological Chemistry	1	24		9		3	36
	2	21		8	3	6	38
	3	18			2	17	37
	4		12		10	6	28
	Total	63	12	17	15	32	139

**BSc in Chemistry and Biological Chemistry (CHEM)**

Category	AU	Total AU	
Interdisciplinary Collaborative Core (ICC)	<b>Common Core (University-level)</b>		
	CC0001 Inquiry and Communication in the	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	2	
<b>Foundational Core (College-level)</b>			
HW0218 Communication Across the Sciences	2	15	
PS0002 Introduction to Data Science and Artificial	3		
CM4081 Professional Internship	10		

Major Requirement	<b>CHEM Core</b>			
	CM1021	Basic Inorganic Chemistry with Laboratory	4	24
	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	

Major Requirement	CM2011 Analytical Chemistry	3	39		
	CM2021 Inorganic and Bioinorganic 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 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			
	<b>CHEM Major Prescribed Electives (MPE)</b> 4 x MPEs			12	12
	Broadening and Deepening Electives (BDE)			32	
<b>Total</b>			<b>139</b>		

**B.Sci. (Chemistry and Biological Chemistry)**  
**Suggested Study Plan for AY2021-2022 intake**  
*with Professional Internship*

**Year 1 Semester 1**

Course	Type	AU
CM1021 Basic Inorganic Chemistry with Laboratory	C	4
CM1031 Basic Organic Chemistry with Laboratory	C	4
MH1802 Calculus for the Sciences	C	4
CC0001 Inquiry and Communication in an Interdisciplinary World	CC	2
CC0002 Navigating the Digital World	CC	2
CC0005 Healthy Living and Wellbeing	CC	3

HW0001 Introduction to Academic Communication\*

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\*for students who have not cleared QET

**Year 2 Semester 1**

Course	Type	AU
CM2011 Analytical 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
ML0004 Career & Entrepreneurial Development for the Future World	CC	2
CC0006 Sustainability: Society, Economy & Environment	CC	3
Broadening and Deepening Electives 2	BDE	3

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**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
Broadening and Deepening Elective 4	BDE	3
Broadening and Deepening Elective 5	BDE	3
Broadening and Deepening Elective 6	BDE	3

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**Year 4 Semester 1**

Course	Type	AU
CM4XXX CHEM MPE	MPE	3
CM4XXX CHEM MPE	MPE	3
CM4XXX CHEM MPE	MPE	3
CM4XXX CHEM MPE	MPE	3
Broadening and Deepening Electives 10	BDE	3
Broadening and Deepening Electives 11	BDE	3

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**Year 1 Semester 2**

Course	Type	AU
CM1041 Basic Physical Chemistry with Laboratory	C	4
CM1051 Basic Biological Chemistry	C	3
MH1804 Mathematics for Chemistry	C	2
PH1801 Foundation of Physics 1	C	3
CC0003 Ethics & Civics in a Multicultural World	CC	2
Broadening and Deepening Electives 1	BDE	3

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**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
CC0007 Science & Technology for Humanity	CC	3
PS0002 Introduction to Data Science and Artificial Intelligence	FC	3
Broadening and Deepening Electives 3	BDE	3

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**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
HW0218 Effective Communication 2	FC	2
Broadening and Deepening Electives 7	BDE	3
Broadening and Deepening Electives 8	BDE	3
Broadening and Deepening Electives 9	BDE	2

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**Year 4 Semester 2**

Course	Type	AU
CM4081 Professional Internship	FC	10

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**Total (AU)**

**139**

<b>BSc in Chemistry and Biological Chemistry (CHEM)</b>							
AY2021 - 2022 Intake							
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)	Foundational Core (FC)		
Chemistry and Biological Chemistry	1	24		9		3	36
	2	21		8	3	6	38
	3	18			7	9	34
	4		22			9	31
	Total	63	22	17	10	27	139
<b>BSc in Chemistry and Biological Chemistry (CHEM)</b>							
<b>Category</b>						<b>AU</b>	<b>Total AU</b>
Interdisciplinary Collaborative Core (ICC)	<b>Common Core (University-level)</b>						
	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					2	
	<b>Foundational Core (College-level)</b>						
	HW0218 Communication Across the Sciences					2	10
PS0002 Introduction to Data Science and Artificial Intelligence					3		
CM4082 Professional Attachment					5		
Major Requirement	<b>CHEM Core</b>						
	CM1021 Basic Inorganic Chemistry with Laboratory					4	63
	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	
	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	
	CM3021 Organometallic Chemistry					3	
	CM3031 Organic Reaction Mechanisms and Synthesis					3	
CM3061 Chemistry & Biological Chemistry Laboratory 3					3		
<b>CHEM Major Prescribed Electives (MPE)</b>							
CM4080 Honours Project 1					10	22	
4 x MPEs					12		
Broadening and Deepening Electives (BDE)							27
<b>Total</b>							<b>139</b>

**B.Sci. (Chemistry and Biological Chemistry)**  
**Suggested Study Plan for AY2021-2022 intake**  
*FYP with Professional Attachment Option*

**Year 1 Semester 1**

Course	Type	AU
CM1021 Basic Inorganic Chemistry with Laboratory	C	4
CM1031 Basic Organic Chemistry with Laboratory	C	4
MH1802 Calculus for the Sciences	C	4
CC0001 Inquiry and Communication in an Interdisciplinary World	CC	2
CC0002 Navigating the Digital World	CC	2
CC0005 Healthy Living and Wellbeing	CC	3

HW0001 Introduction to Academic Communication\*

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\*for students who have not cleared QET

**Year 2 Semester 1**

Course	Type	AU
CM2011 Analytical 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
ML0004 Career & Entrepreneurial Development for the Future World	CC	2
CC0006 Sustainability: Society, Economy & Environment	CC	3
Broadening and Deepening Electives 2	BDE	3

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**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
Broadening and Deepening Elective 4	BDE	3
Broadening and Deepening Elective 5	BDE	3

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**Year 4 Semester 1**

Course	Type	AU
CM4XXX CHEM MPE	MPE	3
CM4XXX CHEM MPE	MPE	3
CM4XXX CHEM MPE	MPE	3
CM4XXX CHEM MPE	MPE	3
Broadening and Deepening Electives 7	BDE	3
Broadening and Deepening Electives 8	BDE	3

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**Year 1 Semester 2**

Course	Type	AU
CM1041 Basic Physical Chemistry with Laboratory	C	4
CM1051 Basic Biological Chemistry	C	3
MH1804 Mathematics for Chemistry	C	2
PH1801 Foundation of Physics 1	C	3
CC0003 Ethics & Civics in a Multicultural World	CC	2
Broadening and Deepening Electives 1	BDE	3

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**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
CC0007 Science & Technology for Humanity	CC	3
PS0002 Introduction to Data Science and Artificial Intelligence	FC	3
Broadening and Deepening Electives 3	BDE	3

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**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
HW0218 Effective Communication 2	FC	2
Broadening and Deepening Electives 6	BDE	3

**Year 3 Special Sem**

Course	Type	AU
CM4082 Professional Attachment	FC	5

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**Year 4 Semester 2**

Course	Type	AU
CM4080 Honours Project 1	MPE	10
Broadening and Deepening Electives 9	BDE	3

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**Total (AU)**

**139**