

BSc in Chemistry and Biological Chemistry with 2nd Major in Environmental Science (CHES)

AY2020 Intake

Programme	Year of Study	Number of Academic Units (AU)					
		Major Requirement		GER		Unrestricted Electives	Total
		Core (C)	Major PE (MPE)	GER-Core	GER-PE		
Chemistry and Biological Chemistry	1	24		9		8	41
	2	18		7	6	10	41
	3	18		2		18	38
	4		22			3	25
	Total	60	22	18	6	39	145

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Category		AU	Total AU
General Education Requirement (GER)	GER-CORE		
	HW0128 Scientific Communication 1	2	12
	GC0001 Sustainability: Seeing through the haze	1	
	ML0003 Kickstart your Career Success	1	
	PS8001 Defence Science	3	
	HY001 Ethics & Moral Reasoning	1	
	PS0003 Plan your Career Path	1	
	HW0228 Effective Communication 2	2	
	ET0001 Enterprise & Innovation	1	
	GER-PE		
GER-PE (BM)	3	6	
GER-PE (LA)	3		
GER-PE (STS)			
GER-PE (ANY)			

Major Requirement	CHEM Core		
	CM1021 Basic Inorganic Chemistry with Laboratory	4	27
	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	
	PS0001 Introduction to Computational Thinking	3	
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	
	CM2031 Organic and Bioorganic Chemistry	3	
	CM2041 Physical and Biophysical Chemistry 1	3	
	CM2062 Chemistry & Biological Chemistry Laboratory 2	3	
	PS0002 Introduction to Data Science and Artificial	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	
	CHEM Major Prescribed Electives (MPE)		
4 x MPEs	12	22	
CM4080 Honours Project 1 OR	10		
CM4081 Professional Internship			

2nd Major in Environmental Science (CHES)	Environmental Science Compulsory Courses		27	
	1) ES1001 E2S2 Environment and Society	4		
	2) ES1007 Climate Change	4		
	3) ES2003 E2S2 Biosphere	4		
	4) ES5001 (ES8001) Natural Hazards, Climate Change and Society	3		
	5) ES5006 (ES8006) Environmental Sustainability	3		
	Choose 4 Courses from the following list			
	1) ES3003 Introduction to Geochemistry	3		
	2) ES3801 Biogeochemistry	3		
	3) ES3802 The Urban Environment: Issue, Assessment, and Management	3		
	4) ES5002 Emergent Life	3		
	5) ES5003 Blue Planet: How the Oceans Work	3		
	6) ES5005 Environmental Earth Systems Science	3		
	7) ES9003 The Genome and Society	3		
8) EM5101 (EM9101) Environmental Quality	3			
9) EM5103 Water Resource Management	3			
10) EM5104 (EM9104) Air Quality Management	3			
11) EM5105 (EM9105) Energy Resources Management	3			
12) EM 5107 (EM9107) Environmental Health and Safety Management	3			
13) EM5109 Environmental Issues and Sustainability	3			

Students are responsible to plan for their 2nd major courses

BDE	Any 3 BDE	9	9
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Total

145

BSc in Chemistry and Biological Chemistry with 2nd Major in Environmental Science (CHES)**Suggested Study Plan for AY2020 intake****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
PH1801 Foundation of Physics 1	C	3
PS0001 Introduction to Computational Thinking	GER-C	3
ES1001 E2S2 Environment and Society	UE	4

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
ML0003 Kickstart your Career Success	GER-C	1
PS8001 Defence Science	GER-C	3
ES2003 E2S2 Biosphere	UE	4
ES5001 Natural Hazards, (ES8001) Climate Change and Society	UE	3
GER-PE (BM)	GER-PE	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
ES Prescribed Elective 1	UE	3
UE 1	UE	3
UE 2	UE	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
UE 3	UE	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
PS0002 Introduction to Data Science and Artificial Intelligence	GER-C	3
HW0128 Scientific Communication 1	GER-C	2
GC0001 Sustainability: Seeing through the haze	GER-C	1
ES1007 Climate Change	UE	4

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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
HY0001 Ethics & Moral Reasoning	GER-C	1
PS0003 Plan your Career Path	GER-C	1
ET0001 Enterprise & Innovation	GER-C	1
ES5006 (ES8006) Environmental Sustainability	UE	3
GER-PE (LA)	GER-PE	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
HW0228 Effective Communication 2	GER-C	2
ES Prescribed Elective 2	UE	3
ES Prescribed Elective 3	UE	3
ES Prescribed Elective 4	UE	3

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Year 4 Semester 2

Course	Type	AU
CM4080 Honours Project 1	MPE	10
OR		
CM4081 Professional Internship	MPE	10

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Total (AU)

145