

BSc in Chemistry and Biological Chemistry (CHEM) - USP										
AY2026 - 2027 Intake onwards										
FYP with Professional Internship										
Programme	Year of Study	Number of Academic Units (AU)								
		Major Requirement		USP Requirement		Interdisciplinary Collaborative Core			Broadening and Deepening Electives (BDE)	Total
		Core (C)	Major PE (MPE)	USP Core (USP-C)	USP Broadening Electives (USP-PE)	Common Core (CC)	Professional Series (PS)	Care, Serve and Learn (CSL)		
Chemistry and Biological Chemistry	1	18/19*		11		3			2	34/35*
	2	22			6	2	3	3	2	38
	3	18	6		6		1		3	34
	4		16				10			26
	Total	58/59*	22	11	12	5	14	3	7	132/133*
BSc in Chemistry and Biological Chemistry (CHEM)										
Category									AU	Total AU
Interdisciplinary Collaborative Core (ICC)	Common Core (University-level)									
	NH0007 Critical Perspectives on Technology & Society								3	
	ML0004 Career Design & Workplace Readiness in a Dynamic World								2	5
	Professional Series (College-level)									
	PS0002 Introduction to Data Science and Artificial Intelligence								3	
	CM4081 Professional Internship								10	14
	MLXXXX Profession Preparation								1	
	Care, Serve, Learn (University-level)								3	3
Major Requirement	CHEM Core									
	CM1001 Foundations of Chemistry I								4	
	CM1002 Foundations of Chemistry II								4	
	CB1102 Introduction to Chemistry, Chemical and Biomedical Engineering								1	
	MH1802 Calculus for the Sciences								4	
	CM1804 Mathematics for Chemistry								2	
	PH1011 Physics <u>or</u> PH1012* Physics A								3/4*	
	CM2011 Analytical and Bioanalytical Chemistry								3	
	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	
	CB2002 Introduction to Chemical and Biological Safety								1	
	PS0001 Introduction to Computational Thinking								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	
	4 x MPEs								12	22
USP Requirement	USP Core (USP-C)									
	SP0001 Language and Logic								3	
	SP0002 Duties and Dilemmas								3	
	SP0007 Sustainability and Space								3	
	SP0008 Being and Becoming								2	11
USP Broadening Electives (USP-PE)										
4 x Electives								12	12	
Broadening and Deepening Electives (BDE)										7
Total										132/133*

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

[&] CM3011, CM3021. CM3031, CM3041 are offered in both semesters.

B.Sci. (Chemistry and Biological Chemistry) - USP**Suggested Study Plan for AY2026-2027 intake***FYP with Professional Internship***Year 1 Semester 1**

Course		Type	AU
CM1001	Foundations of Chemistry I	C	4
MH1802	Calculus for the Sciences	C	4
CB1102	Introduction to Chemistry, Chemical and Biomedical Engineering	C	1
SP0001	Language and Logic	USP-C	3
SP0008	Being and Becoming	USP-C	2
	BDE 1	BDE	2
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 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
XXXX	Care, Serve, Learn	CSL	3
	USP Elective 1	USP-PE	3
	BDE 2	BDE	2

20**Year 3 Semester 1**

Course		Type	AU
CM3xxx ^{&}	CHEM-Core	C	3
CM3xxx ^{&}	CHEM-Core	C	3
CM3062	Chemistry & Biological Chemistry Laboratory 4	C	3
MLxxxx	Profession Preparation	PS	1
	USP Elective 3	USP-PE	3
	USP Elective 4	USP-PE	3

16**Year 4 Semester 1**

Course		Type	AU
CM4081	Professional Internship	PS	10

10**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
SP0002	Duties and Dilemmas	USP-C	3
SP0007	Sustainability and Space	USP-C	3
NH0007	Critical Perspectives on Technology & Society	CC	3

18/19***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
CB2002	Introduction to Chemical and Biological Safety	C	1
ML0004	Career Design & Workplace Readiness in a Dynamic World	CC	2
PS0002	Introduction to Data Science and Artificial Intelligence	PS	3
	USP Elective 2	USP-PE	3

18**Year 3 Semester 2**

Course		Type	AU
CM3xxx ^{&}	CHEM-Core	C	3
CM3xxx ^{&}	CHEM-Core	C	3
CM3061	Chemistry & Biological Chemistry Laboratory 3	C	3
	CHEM MPE 1	MPE	3
	CHEM MPE 2	MPE	3
	BDE 3	BDE	3

18**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)****132/133****This study plan is meant as a guide.***Students without 'A' Level Physics will take 'PH1012 Physics A' (4AU).**[&] CM3xxx refers to CM3011, CM3021, CM3031, CM3041 - These courses are offered in both semesters*

BSc in Chemistry and Biological Chemistry (CHEM) - USP										
AY2026 - 2027 Intake onwards										
FYP with Professional Attachment										
Programme	Year of Study	Number of Academic Units (AU)								
		Major Requirement		USP Requirement		Interdisciplinary Collaborative Core			Broadening and Deepening Electives (BDE)	Total
		Core (C)	Major PE (MPE)	USP Core (USP-C)	USP Broadening Electives (USP-PE)	Common Core (CC)	Professional Series (PS)	Care, Serve and Learn (CSL)		
Chemistry and Biological Chemistry	1	18/19*		11		3			3	35/36*
	2	22			6	2	3	3	3	39
	3	18			6		6		6	36
	4		22							22
	Total	58/59*	22	11	12	5	9	3	12	132/133*
BSc in Chemistry and Biological Chemistry (CHEM)										
Category									AU	Total AU
Interdisciplinary Collaborative Core (ICC)	Common Core (University-level)									
	NH0007 Critical Perspectives on Technology & Society								3	
	ML0004 Career Design & Workplace Readiness in a Dynamic World								2	5
	Professional Series (College-level)									
	PS0002 Introduction to Data Science and Artificial Intelligence								3	
	CM4081 Professional Internship								5	9
	MLXXXX Profession Preparation								1	
	Care, Serve, Learn (University-level)								3	3
Major Requirement	CHEM Core									
	CM1001 Foundations of Chemistry I								4	
	CM1002 Foundations of Chemistry II								4	
	CB1102 Introduction to Chemistry, Chemical and Biomedical Engineering								1	
	MH1802 Calculus for the Sciences								4	
	CM1804 Mathematics for Chemistry								2	
	PH1011 Physics or PH1012* Physics A								3/4*	
	CM2011 Analytical and Bioanalytical Chemistry								3	
	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	
	CB2002 Introduction to Chemical and Biological Safety								1	
	PS0001 Introduction to Computational Thinking								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	
USP Requirement	USP Core (USP-C)									
	SP0001 Language and Logic								3	
	SP0002 Duties and Dilemmas								3	
	SP0007 Sustainability and Space								3	11
	SP0008 Being and Becoming								2	
USP Broadening Electives (USP-PE)										
4 x Electives								12	12	
Broadening and Deepening Electives (BDE)										12
Total										132/133*

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

[&] CM3011, CM3021. CM3031, CM3041 are offered in both semesters.

B.Sci. (Chemistry and Biological Chemistry) - USP**Suggested Study Plan for AY2026-2027 intake**

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
CB1102	Introduction to Chemistry, Chemical and Biomedical Engineering	C	1
SP0001	Language and Logic	USP-C	3
SP0008	Being and Becoming	USP-C	2
	BDE 1	BDE	3
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
XXXX	Care, Serve, Learn	CSL	3
	USP Elective 1	USP-PE	3
	BDE 2	BDE	3
			21

Year 3 Semester 1

Course		Type	AU
CM3xxx ^{&}	CHEM-Core	C	3
CM3xxx ^{&}	CHEM-Core	C	3
CM3062	Chemistry & Biological Chemistry Laboratory 4	C	3
MLxxxx	Profession Preparation	PS	1
	USP Elective 3	USP-PE	3
	BDE 3	BDE	3
	BDE 4	BDE	3
			19

Year 4 Semester 1

Course		Type	AU
	CHEM MPE 1	MPE	3
	CHEM MPE 2	MPE	3
	CHEM MPE 3	MPE	3
	CHEM MPE 4	MPE	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' Level Physics)	C	4
SP0002	Duties and Dilemmas	USP-C	3
SP0007	Sustainability and Space	USP-C	3
NH0007	Critical Perspectives on Technology & Society	CC	3
			18/19*

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
CB2002	Introduction to Chemical and Biological Safety	C	1
ML0004	Career Design & Workplace Readiness in a Dynamic World	CC	2
PS0002	Introduction to Data Science and Artificial Intelligence	PS	3
	USP Elective 2	USP-PE	3
			18

Year 3 Semester 2

Course		Type	AU
CM3xxx ^{&}	CHEM-Core	C	3
CM3xxx ^{&}	CHEM-Core	C	3
CM3061	Chemistry & Biological Chemistry Laboratory 3	C	3
	USP Elective 4	USP-PE	3

Year 3 Special Sem

CM4082	Professional Attachment	PS	5
			17

Year 4 Semester 2

Course		Type	AU
CM4080	Honours Project 1	MPE	10
			10

Total (AU)**132/133***

This study plan is meant as a guide.

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

[&] CM3xxx refers to CM3011, CM3021, CM3031, CM3041 - These courses are offered in both semesters

BSc in Chemistry and Biological Chemistry (CHEM) - USP										
AY2026 - 2027 Intake onwards										
with Professional Internship										
Programme	Year of Study	Number of Academic Units (AU)								
		Major Requirement		USP Requirement		Interdisciplinary Collaborative Core			Broadening and Deepening Electives (BDE)	Total
		Core (C)	Major PE (MPE)	USP Core (USP-C)	USP Broadening Electives (USP-PE)	Common Core (CC)	Professional Series (PS)	Care, Serve and Learn (CSL)		
Chemistry and Biological Chemistry	1	18/19*		11		3			3	35/36*
	2	22			6	2	3	3	2	38
	3	18			6		1		10	35
	4		12				10		2	24
	Total	58/59*	12	11	12	5	14	3	17	132/133*
BSc in Chemistry and Biological Chemistry (CHEM)										
Category									AU	Total AU
Interdisciplinary Collaborative Core (ICC)	Common Core (University-level)									
	NH0007 Critical Perspectives on Technology & Society								3	5
	ML0004 Career Design & Workplace Readiness in a Dynamic World								2	
	Professional Series (College-level)									
	PS0002 Introduction to Data Science and Artificial Intelligence								3	14
CM4081 Professional Internship								10		
MLXXXX Profession Preparation								1		
Care, Serve, Learn (University-level)								3	3	
Major Requirement	CHEM Core									58/59*
	CM1001 Foundations of Chemistry I								4	
	CM1002 Foundations of Chemistry II								4	
	CB1102 Introduction to Chemistry, Chemical and Biomedical Engineering								1	
	MH1802 Calculus for the Sciences								4	
	CM1804 Mathematics for Chemistry								2	
	PH1011 Physics <u>or</u> PH1012* Physics A								3/4*	
	CM2011 Analytical and Bioanalytical Chemistry								3	
	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	
	CB2002 Introduction to Chemical and Biological Safety								1	
	PS0001 Introduction to Computational Thinking								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	
USP Requirement	USP Core (USP-C)									11
	SP0001 Language and Logic								3	
	SP0002 Duties and Dilemmas								3	
	SP0007 Sustainability and Space								3	
	SP0008 Being and Becoming								2	
USP Broadening Electives (USP-PE)										
4 x Electives								12	12	
Broadening and Deepening Electives (BDE)										17
Total										132/133*

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

[&] CM3011, CM3021. CM3031, CM3041 are offered in both semesters.

B.Sci. (Chemistry and Biological Chemistry) - USP**Suggested Study Plan for AY2026-2027 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
CB1102	Introduction to Chemistry, Chemical and Biomedical Engineering	C	1
SP0001	Language and Logic	USP-C	3
SP0008	Being and Becoming	USP-C	2
	BDE 1	BDE	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 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
XXXX	Care, Serve, Learn	CSL	3
	USP Elective 1	USP-PE	3
	BDE 2	BDE	2

20**Year 3 Semester 1**

Course		Type	AU
CM3xxx ^{&}	CHEM-Core	C	3
CM3xxx ^{&}	CHEM-Core	C	3
CM3062	Chemistry & Biological Chemistry Laboratory 4	C	3
MLxxxx	Profession Preparation	PS	1
	USP Elective 3	USP-PE	3
	BDE 3	BDE	3
	BDE 4	BDE	2

18**Year 4 Semester 1**

Course		Type	AU
CM4081	Professional Internship	PS	10

10**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
SP0002	Duties and Dilemmas	USP-C	3
SP0007	Sustainability and Space	USP-C	3
NH0007	Critical Perspectives on Technology & Society	CC	3

18/19***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
CB2002	Introduction to Chemical and Biological Safety	C	1
ML0004	Career Design & Workplace Readiness in a Dynamic World	CC	2
PS0002	Introduction to Data Science and Artificial Intelligence	PS	3
	USP Elective 2	USP-PE	3

18**Year 3 Semester 2**

Course		Type	AU
CM3xxx ^{&}	CHEM-Core	C	3
CM3xxx ^{&}	CHEM-Core	C	3
CM3061	Chemistry & Biological Chemistry Laboratory 3	C	3
	USP Elective 4	USP-PE	3
	BDE 5	BDE	3
	BDE 6	BDE	2

17**Year 4 Semester 2**

Course		Type	AU
	CHEM MPE 1	MPE	3
	CHEM MPE 2	MPE	3
	CHEM MPE 3	MPE	3
	CHEM MPE 4	MPE	3
	BDE 7	BDE	2

14**Total (AU)****132/133****This study plan is meant as a guide.***Students without 'A' Level Physics will take 'PH1012 Physics A' (4AU).**& CM3xxx refers to CM3011, CM3021, CM3031, CM3041 - These courses are offered in both semesters*