

AY2024-25 CURRICULUM FOR CHEMISTRY AND BIOLOGICAL CHEMISTRY
WITH CN YANG SCHOLARS PROGRAMME_Internship
SECOND MAJOR IN DATA ANALYTICS (CHDA)
(FIRST YEAR ADMISSION)

Last Updated : 5-Jul-24

SUMMARY OF ACADEMIC UNIT REQUIREMENT							
Year of Study	School Core	CNYS-Core	MPE	CC	FC	BDE	Total AU
1	6	27	0	5	0	3	41
2	15	10	0	8	3	7	43
3	18	0	12	0	0	12	42
4	12	0	0	0	10	0	22
Total	51	37	12	13	13	22	148

YEAR 1 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1001	Cell	CNY-Core	3	CNYS-SP Courses
CY1101	Molecule	CNY-Core	4	
CY1308	Physics	CNY-Core	3	
CY1500	Introduction to Research	CNY-Core	2	
CY1601	Mathematics I	CNY-Core	4	
CC0005	Healthy Living & Mental Wellbeing in an Aging Society	CC	3	
CC0002	Navigating the Digital World	CC	2	
			21	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1007	Climate Change	CNY-Core	3	CNYS-SP Courses
CY1602^	Mathematics II	CNY-Core	4	
CM2031	Organic & Bioorganic Chemistry	C	3	Pre-req (CY1101 Molecule) fulfilled at the end of Y1S1
CM2041	Physical & Biophysical Chemistry 1	C	3	CY1101
EE4791	Database Systems	BDE	3	
			16	

YEAR 1 SPECIAL SEMESTER				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY2003	Research Attachment 3	CNY-Core	4	CNYS-SP Course
	Overseas Learning Trip			
			4	

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0002	Ethics	CNY-Core	3	CNYS-SP Course
CM2011	Analytical & Bioanalytical Chemistry	C	3	CY1101
CM2021	Inorganic & Bioinorganic Chemistry	C	3	CY1101
CM2061	Chemistry & Biological Chemistry Lab 1	C	3	CY1101
MH2500	Probability and Introduction to Statistics	BDE	4	CY1601
PS0001^	Introduction to Computational Thinking	C	3	
CC0006	Sustainability: Society, Economy & Environment	CC	3	
ML0004	Career and Entrepreneurial Development for the Future World	CC	2	
			24	

YEAR 2 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY2001	Research Attachment 1	CNY-Core	4	CNYS-SP Course 2-semester long, course registered only in Sem 2 (similar to URECA)
CY0001	Writing Across the Disciplines	CNY-Core	3	CNYS-SP Course
CM2062	Chemistry & Biological Chemistry Lab 2	C	3	CY1101
PS0002	Introduction to Data Science and Artificial Intelligence	FC	3	PS0001
MH1403	Algorithms and Computing	BDE	3	PS0001
SP0061	Science & Technology for Humanity	CC	3	
			19	

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CM3011	Chemical Spectroscopy & Applications	C	3	CM2021 & CM2031

CM3041	Physical & Biophysical Chemistry 2	C	3	CM2041
CM3062	Chemistry & Biological Chemistry Lab 4	C	3	CM2062
CM4044 ^{^*}	Artificial Intelligence in Chemistry	MPE	3	PS0001 & PS0002
CM4XXX	School Major PE	MPE	3	
SC4020	Data Analytics & Mining	BDE	3	MH1403
SC4024	Data Visualization	BDE	3	PS0001 & MH2500
			21	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CM3021	Organometallic Chemistry	C	3	CM2021
CM3031	Organic Reaction Mechanism & Synthesis	C	3	CM2031
CM3061	Chemistry & Biological Chemistry Lab 3	C	3	CM2061
CM4043 ^{^*}	Molecular Modelling: Principles and Applications	MPE	3	CM3041
CM4XXX	School Major PE	MPE	3	
XXXXXX	DA Elective 2	BDE	3	
XXXXXX	DA Elective 3	BDE	3	
			21	

YEAR 3 SPECIAL SEMESTER & YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CM4111	Overseas Final Year Project	C	12	CNYSP Course
			12	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CM4081	Professional Internship	FC	10	
			10	

Total AU for Graduation : **148**

[^] These courses are double-counted towards both CHEM as well as the Second Major in Data Analytics.

* Choose between these courses to double-count. Max of 12AU can be double-counted.

Compulsory Courses for Second Major in Data Analytics					
Course Type	Course Code	Course Title	AU	Offering Sem	Pre-req
BDE	MH2500	Probability and Introduction to Statistics	4	1	CY1601
Core	CY1602	Mathematics II	4	2	CY1601
Core	PS0001	Introduction to Computational Thinking	3	1	-
BDE	MH1403	Algorithms and Computing	3	2	PS0001
BDE	EE4791	Database Systems	3	2	-
BDE	SC4020	Data Analytics and Mining	3	1	MH1403
BDE	SC4024	Data Visualization	3	1	PS0001 & MH2500

Electives for Second Major in Data Analytics					
Course Type	Course Code	Course Title	AU	Offering Sem	Pre-req
MPE	CM4043	Molecular Modelling: Principles and Applications	3	2	CM3041
MPE	CM4044	Artificial Intelligence in Chemistry	3	1	PS0001 & PS0002
BDE	XXXXXX	DA Elective 2	3		
BDE	XXXXXX	DA Elective 3	3		