

CURRICULUM FOR BACHELOR OF SCIENCE (BIOLOGICAL SCIENCES)
WITH CN YANG SCHOLARS PROGRAMME_Internship
SECOND MAJOR IN DATA ANALYTICS
(FIRST YEAR ADMISSION)
AY2025 Intake Onwards

SUMMARY OF ACADEMIC UNIT REQUIREMENT								
Year of Study	Major Requirements			Interdisciplinary Collaborative Core			BDE	Total AU
	School Core	CNYSP-Core	MPE	CC	Professional Series	Care, Serve, Learn		
1	15 [3]	27 [4]	0	7	0	0	0	49 [7]
2	15	6	0	3	3	3	11	41
3	0	0	6 [3]	0	11	0	12	29 [3]
4	12	0	9	0	0	0	3	24
Total	42 [3]	33[4]	15 [3]	10	14	3	26	143 [10]

[] AU of courses that could be used to fulfil Core/MPE requirement and second major requirement concurrently

YEAR 1 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1001	Cell	CNY-Core	3	CNYSP Courses
CY1101	Molecule	CNY-Core	4	
CY1308	Physics	CNY-Core	3	
CY1500	Introduction to Research	CNY-Core	2	
CY1601	Mathematics I	CNY-Core	4	
BS1016	Physiology	C	3	
CC0015	Health & Wellbeing	CC	2	
SP0061	Science & Technology for Humanity	CC	3	
			24	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1007	Climate Change	CNY-Core	3	CNYSP Courses
CY1602^	Mathematics II	CNY-Core	4	
BS1005	Biochemistry I	C	3	
BS1006	Principles of Genetics	C	3	
BS1007	Molecular and Cell Biology I	C	3	
BS1009^	Introduction to Computational Thinking	C	3	
ML0004	Career Design & Workplace Readiness in the V.U.C.A World	CC	2	
			21	

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

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0001	Writing Across the Disciplines	CNY-Core	3	CNYSP Course
BS5915	Undergraduate Research	BDE	IP	Course will be registered in Semester 2. Grades will be recorded at the end of Semester 2 2-semester long, course registered only in Sem 2
BS2002	Microbiology	C	3	
BS2003	Biochemistry II	C	3	
BS2028	Biophysical Methods applied to Biological Sciences	C	3	
BS0004	Introduction to Data Science	PS	3	
MH2500	Probability & Introduction to Statistics	BDE	4	CY1601
	Tech-For-Good (T4G)	CSL	3	Replaces Care, Serve and Learn

			22	
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YEAR 2 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0002	Ethics	CNY-Core	3	CNYSP Course
BS5915	Undergraduate Research	BDE	4	2-semester long, course registered only in Sem 2
BS1100	Molecular and Cell Biology Techniques Level 1	C	3	
BS2004	Molecular and Cell Biology II	C	3	
MH1403	Algorithms and Computing	BDE	3	BS1009
CC0006	Sustainability: Human, Social, Economics & Environment	CC	3	
			19	

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
BS4017^	High-Throughput Bioinformatics	MPE	3	BS1009
BSXXXX	School Major PE	MPE	3	Choose from Table B
SC2207	Introduction to Database	BDE	3	MH1403
SC4020	Data Analytics and Mining	BDE	3	MH1403
SC4024	Data Visualization	BDE	3	BS1009 & MH2500
XXXXXX	DA Elective 2	BDE	3	
MLXXXX	Profession Preparation	PS	1	
			19	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
BS4227	Professional Internship	PS	10	
			10	

YEAR 3 SPECIAL SEMESTER & YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY4111	Overseas Final Year Project	C	12	CNYSP Course
			12	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
BS3008^	Computer Aided Drug Discovery	MPE	3	CY1101
XXXXXX	School Major PE	MPE	3	Choose from Table A
XXXXXX	School Major PE	MPE	3	
XXXXXX	DA Elective 3	BDE	3	
			12	
Total AU for Graduation :			143	

^ These courses can be double-counted to fulfil the requirements of Core/MPE and the Second Major in Data Analytics.

2nd major students are allowed to double count up to 12AU of Core and MPE to fulfill the 2nd major. Hence, CY1602 (4AU) + BS1009 (3AU)=7AU, Balance 5AU. Students could only opt to double count 1 MPE to fulfill 2nd major.

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	BS1009	Introduction to Computational Thinking	3	2	-
BDE	MH1403	Algorithms and Computing	3	2	BS1009
BDE	SC2207	Introduction to Database	3	1&2	MH1403
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	BS3008*	Computer Aided Drug Discovery	3	2	CY1101
MPE	BS4017*	High-Throughput Bioinformatics	3	1	BS1009
BDE	SC4002*	Natural Language Processing	3	1	MH1403
BDE	SC4021*	Information Retrieval	3	2	MH1403
BDE	SC4022*	Network Science	3	2	MH1403

* highly recommended courses