

**CURRICULUM FOR BACHELOR OF SCIENCE (PURE PHYSICS)
WITH SECOND MAJOR IN QUANTUM TECHNOLOGY
CN YANG SCHOLARS PROGRAMME
(FIRST YEAR ADMISSION)
AY2025 Intake**

SUMMARY OF ACADEMIC UNIT REQUIREMENT								
Year of Study	Core	CNYSP-Core	MPE	CC	Professional Series	Care, Serve & Learn	BDE	Total AU
1	10	27	0	4	0	0	3	44
2	18	6	0	6	3	3	11	47
3	13 [3]	0	3	0	1	0	22	39 [3]
4	12	0	0	0	10	0	0	22
Total	53 [3]	33	3	10	14	3	36	152 [3]

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

YEAR 1 SEMESTER 1				
Course Code	Course Title	Type	AU	Remarks
CY1001	Cell	CNYSP-Core	3	
CY1101	Molecule	CNYSP-Core	4	
CY1308	Physics	CNYSP-Core	3	
CY1500	Introduction to Research	CNYSP-Core	2	
CY1601	Mathematics I	CNYSP-Core	4	
PS0001	Introduction to Computational Thinking	C	3	
PH1198	Physics Laboratory Ia	C	2	
CC0015	Health & Wellbeing	CC	2	
			23	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Remarks
CY1007	Climate Change	CNYSP-Core	3	
CY1602	Mathematics II	CNYSP-Core	4	
PH1107	Relativity and Quantum Physics	C	3	
PH1199	Physics Laboratory Ib	C	2	
ML0004	Career Design & Workplace Readiness in the V.U.C.A World	CC	2	
	Broadening and Deepening Elective 1	BDE	3	
			17	

YEAR 1 SPECIAL TERM				
Course Code	Course Title	Type	AU	Remarks
CY2003	Research Attachment 3 (Making and Tinkering)	CNYSP-Core	4	
	Overseas Learning Trip			
			4	

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Remarks
CY0001	Writing Across The Disciplines	CNYSP-Core	3	
PS5915	Undergraduate Research	BDE	IP	Course will be registered in Semester 2. Grades will be recorded at the end of Semester 2
PH1105	Optics, Vibrations & Waves	C	3	
PH2102	Electromagnetism	C	4	
PH2104	Analytical Mechanics	C	4	CY1602 & CY1308
PH2198	Physics Lab IIA	C	2	PH1198
MH2500	Probability and Introduction to Statistics	BDE	4	Required second major course
NH0001	Tech-For-Good	CSL	3	
CC0006	Sustainability: Society, Economy & Environment	CC	3	
			26	

YEAR 2 SEMESTER 2				
Course Code	Course Title	Type	AU	Remarks
CY0002	Ethics	CNYSP-Core	3	

PS5915	Undergraduate Research	BDE	4	2-semester long, course registered only in Sem 2
PH2101	Quantum Mechanics 1	C	3	CY1601 & CY1602 & PH1107
PH2199	Physics Lab IIB	C	2	
PH2301	Physical Optics	BDE	3	Required second major course
PS0002	Introduction to Data Science and Artificial Intelligence	PS	3	
SP0061	Science & Technology for Humanity	CC	3	
			21	

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Remarks
PH2103	Thermal Physics	C	4	
PH3101	Quantum Mechanics II	C	4	MH2801 & PH2101
PH3103^	Technological Applications of Quantum Mechanics	C	3	PH2101 Required second major course
PH3199	Physics Laboratory IIIa	C	2	PH2198 & PH2199
QT	QT Elective 1	BDE	4	Elective List
MLXXXX	Profession Preparation	PS	1	
			18	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Remarks
PHXXXX	Physics Prescribed Elective 1	MPE	3	
QT	QT Elective 2	BDE	4	Elective List
QT	QT Elective 3	BDE	4	
PH3404	Physics of Classical and Quantum Information	BDE	3	Required second major course
PH3406	Open Quantum Systems	BDE	4	Required second major course
PH3410	Quantum Hardware	BDE	3	Required second major course
			21	

YEAR 3 SPECIAL SEMESTER & YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Remarks
PH4111	Overseas Final Year Project	C	12	
			12	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Remarks
PH4420	Professional Internship	PS	10	
			10	
Total AUs required for Graduation:			152	

^ These courses are double-counted towards both PHY as well as the Second Major in Quantum Technology

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2	17	6	0	6	3	3	8	43
3	13 [3]	0	3	0	1	0	25	42 [3]
4	12	0	0	0	10	0	0	22
Total	52 [3]	33	3	10	14	3	36	151 [3]

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CY1007	Climate Change	CNYSP-Core	3	
CY1602	Mathematics II	CNYSP-Core	4	
PH1107	Relativity and Quantum Physics	C	3	
PH1199	Physics Laboratory Ib	C	2	
ML0004	Career Design & Workplace Readiness in the V.U.C.A World	CC	2	
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	Overseas Learning Trip			
			4	

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Remarks
CY0001	Writing Across The Disciplines	CNYSP-Core	3	
PS5915	Undergraduate Research	BDE	IP	Course will be registered in Semester 2. Grades will be recorded at the end of Semester 2
PH1105	Optics, Vibrations & Waves	C	3	
PH2102	Electromagnetism	C	4	
PH2198	Physics Lab IIA	C	2	PH1198
MH2500	Probability and Introduction to Statistics	BDE	4	Required second major course
NH0001	Tech-For-Good	CSL	3	
CC0006	Sustainability: Society, Economy & Environment	CC	3	
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YEAR 2 SEMESTER 2				
Course Code	Course Title	Type	AU	Remarks
CY0002	Ethics	CNYSP-Core	3	

PS5915	Undergraduate Research	BDE	4	2-semester long, course registered only in Sem 2
PH2101	Quantum Mechanics 1	C	3	CY1601 & CY1602 & PH1107
PH2199	Physics Lab IIB	C	2	PH1199
PH2301	Physical Optics	C	3	PH1105
PS0002	Introduction to Data Science and Artificial Intelligence	PS	3	PS0001
SP0061	Science & Technology for Humanity	CC	3	
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YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Remarks
PH2103	Thermal Physics	C	4	
PH3101	Quantum Mechanics II	C	4	MH2801 & PH2101
PH3103^	Technological Applications of Quantum Mechanics	C	3	PH2101 Required second major course
PH3199	Physics Laboratory IIIa	C	2	PH2198 & PH2199
QT	QT Elective 1	BDE	4	Elective List
MLXXXX	Profession Preparation	PS	1	
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YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Remarks
PHXXXX	Physics Prescribed Elective 1	MPE	3	
QT	QT Elective 2	BDE	3	Elective List
QT	QT Elective 3	BDE	4	
QT	QT Elective 4	BDE	4	
PH3404	Physics of Classical and Quantum Information	BDE	3	Required second major course
PH3406	Open Quantum Systems	BDE	4	Required second major course
PH3410	Quantum Hardware	BDE	3	Required second major course
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YEAR 3 SPECIAL SEMESTER & YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Remarks
PH4111	Overseas Final Year Project	C	12	
			12	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Remarks
PH4420	Professional Internship	PS	10	
			10	
Total AUs required for Graduation:			151	

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