

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

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	10	0	6	3	3	7	47
3	13	0	3	0	1	0	22	39
4	12	0	0	0	10	0	0	22
Total	53	37	3	10	14	3	32	152

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	
CY2001	Research Attachment 1	CNYSP-Core	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
	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	

CY2001	Research Attachment 1	CNYS-SP-Core	4	2-semester long, course registered only in Sem 2 (similar to URECA)
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
PH3199	Physics Laboratory IIIa	C	2	PH2198 & PH2199
PH3XXX	Quantum Hardware	BDE	3	Required second major course
QT	QT Elective 1	BDE	4	Elective List
MLXXXX	Profession Preparation	PS	1	
			21	

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
			18	

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	

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2	17	10	0	6	3	3	4	43
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4	12	0	0	0	10	0	0	22
Total	52	37	3	10	14	3	32	151

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PH1199	Physics Laboratory Ib	C	2	
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	Overseas Learning Trip			
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Course Code	Course Title	Type	AU	Remarks
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PH2102	Electromagnetism	C	4	
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	Tech-For-Good	CSL	3	
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CY0002	Ethics	CNYSP-Core	3	
CY2001	Research Attachment 1	CNYSP-Core	4	
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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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PH3103	Technological Applications of Quantum Mechanics	C	3	PH2101
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PHXXXX	Physics Prescribed Elective 1	MPE	3	
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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
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PH4111	Overseas Final Year Project	C	12	
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PH4420	Professional Internship	PS	10	
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