

**Curriculum for CN Yang Scholars Programme  
Physics and Applied Physics  
(For AY2020-21 intake)**

Course Type	AU
Core Courses	85
Major Prescribed Electives	15
GER-Core	21
GER-PE	0
Unrestricted Electives	20
<b>Total</b>	<b>141</b>

Year 1 Semester 1	Course Code	Course Title	Type	AU
	CY1001	Introductory Biology	Core	3
	CY1101	Principles of Modern Chemistry	Core	3
	CY1308	Physics	Core	3
	CY1500	Introductory Research Methodology	Core	3
	CY1601	Mathematics I	Core	4
	PS0001	Introduction to Computational Thinking	GER-Core	3
	PH1105	Optics, Vibrations and Waves	Core	3
				Total AUs

Year 1 Semester 2	Course Code	Course Title	Type	AU
	CY1007	Climate Change	Core	3
	CY1307	Relativity and Quantum Physics	Core	3
	CY1400	CNYSU Undergraduate Research Experience	Core	3
	CY1602	Mathematics II	Core	4
	GC0001	Introduction to Sustainability: Multidisciplinary Approaches and Solutions	GER-Core	1
				Total AUs

Year 1 Special Term	Course Code	Course Title	Type	AU
	CY2003	Research Attachment 3 (Making & Tinkering)	Core	4
	Overseas Learning Trip			
			Total AUs	<b>4</b>

Year 2 Semester 1	Course Code	Course Title	Type	AU
	CY2001	Research Attachment 1	Core	4
	CY0002	Ethics	GER-Core	3
	PH2103	Thermal Physics	Core	4
	PH2104	Analytical Mechanics	Core	4
	PH2198	Physics Lab IIa	Core	2
	ML0003	Kickstart your Career Success	GER-Core	1
	PS0003	Plan your career Path	GER-Core	1
	xxxxxx	Unrestricted Elective / Second Major	UE	2
			Total AUs	<b>21</b>

	Course Code	Course Title	Type	AU
Year 2 Semester 2	CY0001	Writing Across the Disciplines	GER-Core	3
	PS0002	Introduction to Data Science & AI	GER-Core	3
	PH2102	Electromagnetism	Core	4
	PH2199	Physics Lab IIb	Core	2
	xxxxxx	School Major PE (choose from Table B)	Major PE	3
	PH2101	Quantum Mechanics 1	Core	3
				Total AUs

	Course Code	Course Title	Type	AU
Year 3 Semester 1	PH3101	Quantum Mechanics II	Core	4
	PH3102	Condensed Matter Physics I	Core	4
	xxxxxx	School Major PE (choose from Table B)	Major PE	3
	xxxxxx	Unrestricted Elective / Second Major	UE	3
	xxxxxx	Unrestricted Elective / Second Major	UE	3
	CY0006	Enterprise, Innovation and Leadership	GER-Core	3
	PS8001	Defence Science	GER-Core	3
			Total AUs	<b>23</b>

	Course Code	Course Title	Type	AU
Year 3 Semester 2	PH3199	Physics Lab IIIa	Core	2
	PH3201	Statistical Mechanics I	Core	4
	xxxxxx	School Major PE (choose from Table B)	Major PE	3
	xxxxxx	Unrestricted Elective / Second Major	UE	3
	xxxxxx	Unrestricted Elective / Second Major	UE	3
				Total AUs

	Course Code	Course Title	Type	AU
Year 3 Special Term & Year 4 Semester 1	PH4111	Overseas Final Year Project	Core	12
				Total AUs

	Course Code	Course Title	Type	AU
Year 4 Semester 2	xxxxxx	School Major PE (choose from Table B)	Major PE	3
	xxxxxx	School Major PE (choose from Table B)	Major PE	3
	xxxxxx	Unrestricted Elective / Second Major	UE	3
	xxxxxx	Unrestricted Elective / Second Major	UE	3
				Total AUs
			<b>GRAND TOTAL</b>	<b>141</b>

**Table B: School Major PE (Choose courses with a total of 15 AUs)**

<b>School Major PE (15 AUs)</b>	<b>Type</b>	<b>AU</b>
PAP710 Concepts in Statistical Mechanics	Major PE	4
PAP711 Graduate Solid State Physics	Major PE	4
PAP715 Material Physics	Major PE	3
PAP716 Classical Electrodynamics	Major PE	4
PAP721 Nonlinear Dynamics	Major PE	4
PAP722 Particle Physics	Major PE	4
PAP731 Optical Spectroscopic Techniques	Major PE	4
PAP738 Advanced Topics in Physics	Major PE	4
PAP739 Advanced Topics in Applied Physics	Major PE	4
PH3401 Atomic Physics	Major PE	4
PH3403 Cosmology	Major PE	3
PH3404 Physics of Classical and Quantum Information	Major PE	3
PH3405 Superconductivity, Superfluidity and Bose-Einstein Condensates	Major PE	3
PH3501 Fluid Mechanics	Major PE	4
PH3502 Chaotic Dynamical System	Major PE	4
PH4401 Quantum Mechanics III	Major PE	4
PH4402 Condensed Matter Physics II	Major PE	4
PH4403 Surfaces and Interfaces	Major PE	4
PH4404 Nanoscale Physics	Major PE	3
PH4408 Nuclear Physics	Major PE	3
PH4409 Quantum Electronics	Major PE	4
PH4410 Econophysics	Major PE	3
PH4411 Introduction to Experimental Particle Physics	Major PE	3
PH4414 Introduction to Spintronics	Major PE	3
PH4418 Physics in the Industry	Major PE	4
PH4419 Computational Physics	Major PE	4
PH4501 Statistical Mechanics II	Major PE	4
PH4506 Electrodynamics	Major PE	4
PH4507 Topics in Physics	Major PE	3
PH4508 Introduction to General Relativity	Major PE	3
PH4509 Quantum Field Theory with applications in Condensed Matter Physics	Major PE	4
PH4510 Topics in Physics II	Major PE	3

For an accurate list of Major PEs offered each semester, please check the [SPMS-PAP website](#).