

**AY2025-26 CURRICULUM - APPLIED PHYSICS WITH SECOND MAJOR IN MICROELECTRONICS ENGINEERING
WITH CN YANG SCHOLARS PROGRAMME_Internship
(FIRST YEAR ADMISSION)**

Last Updated : 28-Nov-24

SUMMARY OF ACADEMIC UNIT REQUIREMENT							
Year of Study	School Core	CNYSP-Core	MPE	CC	FC	BDE	Total AU
1	7	30	0	2	3	6	48
2	17	10	0	11	0	3	41
3	13	0	3	0	0	25	41
4	12	0	0	0	10	0	22
Total	49	40	3	13	13	34	152

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	
PH1198	Physics Lab IA	C	2	
PS0001	Introduction to Computational Thinking	C	3	
CC0002	Navigating the Digital World	CC	2	
			23	

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	
CY1307	Quantum	CNY-Core	3	
PH1199	Physics Lab IB	C	2	
PS0002	Introduction to Data Science and Artificial Intelligence	FC	3	
IE2104	Digital Electronics	BDE	3	Required second major course
	Broadening and Deepening Elective 1	BDE	3	
			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
PH1105	Optics, Vibrations and Waves	C	3	
PH2103	Thermal Physics	C	4	CY1602 & CY1308
PH2198	Physics Lab IIA	C	2	PH1198
CC0005	Healthy Living and Wellbeing	CC	3	
SP0061	Science & Technology for Humanity	CC	3	
EE2101	Circuit Analysis	BDE	3	Required second major course
			21	

YEAR 2 SEMESTER 2				
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Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY0002	Ethics	CNY-Core	3	CNYSP Course
CY2001	Research Attachment 1	CNY-Core	4	CNYSP Course 2-semester long, course registered only in Sem 2 (similar to URECA)
PH2101	Quantum Mechanics 1	C	3	CY1601 & CY1602 & CY1307
PH2199	Physics Lab IIB	C	2	PH1199
PH2301	Physical Optics	C	3	PH1105
ML0004	Career and Entrepreneurial Development for the Future World	CC	2	
CC0006	Sustainability: Society, Economy & Environment	CC	3	
			20	

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
PH2102	Electromagnetism	C	4	CY1601 & CY1602 & CY1308
PH3199	Physics Lab IIIA	C	2	
PH3101	Quantum Mechanics II	C	4	MH2801 & PH2101
PH3103	Technological Applications of Quantum Mechanics	C	3	PH2101
PH3601	Fabrication of Micro- and Nanoelectronic Devices	BDE	4	PH2102 Required second major course
EE2102	Analog Electronics	BDE	3	EE2101 Required second major course
EEXXXX	ME Elective 1	BDE	2	Elective list
			22	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
PHXXXX	PH Major Prescribed Elective 1	MPE	3	
PH7013	Advanced Numerical Methods for Physicists	BDE	4	CY1602 & PS0001 Required second major course
PH4601	Physics of Semiconductor & Spintronic Devices	BDE	4	PH3102 Required second major course
EE3019	Integrated Electronics	BDE	3	EE2002 Required second major course
EEXXXX	ME Elective 2	BDE	2	Elective list
IE3102	Microprocessors	BDE	3	Required second major course
			19	

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

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
PH4420	Professional Internship	FC	10	
			10	

Total AU for Graduation : **152**