CURRICULUM FOR COMPUTER ENGINEERING
WITH CN YANG SCHOLARS PROGRAMME
SECOND MAJOR IN SUSTAINABILITY (CESN)
(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	12	27 [3]	0	2	3	0	0	**44 [3]**
2	23 [2]	6	0	8	0	3	4	**44 [2]**
3	19	0	6	0	6	0	15	**46**
4	8	0	6	0	0	0	10	**24**
Total	**62 [2]**	**33 [3]**	**12**	**10**	**9**	**3**	**29**	**158 [5]**

[ ] 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**	**Pre-Requisite**
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	
SC1003	Introduction to Computational Thinking and Programming	PS	3	Nil
CC0015	Healthy Living & Wellbeing	CC	2	Nil
			21	

YEAR 1 SEMESTER 2				
Course Code	**Course Title**	**Type**	**AU**	**Pre-Requisite**
CY1007^	Climate Change	CNY-Core	3	**Double-counted as Planet Core**
CY1602	Mathematics II	CNY-Core	4	CNYSP Course
SC1005	Digital Logic	C	3	Nil
SC1006	Computer Organisation & Architecture	C	3	**SC1005 (co-req)**
SC1007	Data Structures and Algorithms	C	3	**SC1003**
SC1008	C and C++ Programming	C	3	SC1003
			19	

YEAR 1 SPECIAL SEMESTER				
Course Code	**Course Title**	**Type**	**AU**	**Pre-Requisite**
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**
CY0001	Writing Across the Disciplines	CNY-Core	3	CNYSP Course
SC5915	Undergraduate Research	BDE	IP	Course will be registered in Semester 2. Grades will be recorded at the end of Semester 2
SC2000	Probability and Statistics for Computing	C	3	**MH1810**
SC2104	Sensors, Interfacing & Digital Control	C	3	**SC1006**
SC2107	Microprocessor System Design and Development	C	3	**SC1006**
MH1812	Discrete Mathematics	C	3	Nil
SP0061	Science & Technology for Humanity	CC	3	Only for Premier Scholars
EG1001^	Engineers in Society	C	2	**Double-counted as Practice Core**
	Tech-For-Good (T4G)	CSL	3	Replaces Care, Serve, Learn
			23	

YEAR 2 SEMESTER 2				
Course Code	**Course Title**	**Type**	**AU**	**Pre-Requisite**
CY0002	Ethics	CNY-Core	3	CNYSP Course
SC5915	Undergraduate Research	BDE	4	2-semester long, course registered only in Sem 2
SC2001	Algorithm Design and Analysis	C	3	**SC1007, MH1812**

SC2002	Object Oriented Design & Programming	C	3	**SC1003**	
SC2103	Digital System Design	C	3	**SC1005**	
CC0006	Sustainability: Society, Economy & Environment	CC	3	Nil	
ML0004	Career Design & Workplace Readiness in the V.U.C.A World	CC	2	Nil	
			21		

YEAR 3 SEMESTER 1				
Course Code	**Course Title**	**Type**	**AU**	**Pre-Requisite**
SC2079	Multidisciplinary Design Project	C	4	Year 3 Standing
SCXXXX	Major PE 1	MPE	3	
SCXXXX	Major PE 2	MPE	3	
	Second Major Compulsory Course 3	BDE	3	Please see attached list of core courses to choose from
	Second Major Compulsory Course 4	BDE	3	
	Second Major Compulsory Course 5	BDE	3	
MLXXXX	Profession Preparation	PS	1	
			20	

YEAR 3 SEMESTER 2				
Course Code	**Course Title**	**Type**	**AU**	**Pre-Requisite**
SC2005	Operating Systems	C	3	**SC1006, SC1007**
SC2006	Software Engineering	C	3	**SC2002**
SC2008	Computer Networks	C	3	**CY1602, SC2000**
SC3102	Signal, Systems and Transform	C	3	**CY1602**
SC3103	Embedded Programming	C	3	**SC2107**
	SN Elective 1	BDE	3	Please see attached list of electives to choose from
	SN Elective 2	BDE	3	
			21	

YEAR 3 SPECIAL SEMESTER				
Course Code	**Course Title**	**Type**	**AU**	**Pre-Requisite**
SC3910	Professional Attachment	PS	5	Year 3 Standing
			5	

YEAR 4 SEMESTER 1				
Course Code	**Course Title**	**Type**	**AU**	**Pre-Requisite**
SC4211	CNYSP Overseas Final Year Project	C	8	CNYSP Course
			8	

YEAR 4 SEMESTER 2				
Course Code	**Course Title**	**Type**	**AU**	**Pre-Requisite**
SCXXXX	Major PE 3	MPE	3	
SCXXXX	Major PE 4	MPE	3	
	SN Elective 3	BDE	3	Please see attached list of electives to choose from
	SN Elective 4	BDE	4	
	Second Major Interdisciplinary Project	BDE	3	
			16	
	Total AU for Graduation:		**158**	

^ These courses are double-counted towards both CE as well as the Second Major in Sustainability.

Compulsory Courses and Electives for Second Major in Sustainability
https://www.ntu.edu.sg/ase/admissions/undergraduate-programmes/second-major-in-sustainability#Content_C002_Col00