

**CURRICULUM FOR COMPUTER SCIENCE
WITH CN YANG SCHOLARS PROGRAMME
SECOND MAJOR IN SUSTAINABILITY (CSSN)
(FIRST YEAR ADMISSION)
AY2025 Intake**

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	6	27 [3]	0	4	3	0	6	46 [3]
2	21	6	0	6	0	3	7	43
3	16	0	12	0	6	0	12	46
4	8	0	12	0	0	0	6	26
Total	51	33 [3]	24	10	9	3	31	161 [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	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	
SC1003	Introduction to Computational Thinking and Programming	PS	3	
CC0015	Healthy Living & Mental Wellbeing in an Aging Society	CC	2	
			21	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
CY1007^	Climate Change	CNY-Core	3	Double-counted as Planet Core
CY1602	Mathematics II	CNY-Core	4	CNYSP Course
SC1005	Logic Design	C	3	
SC1007	Data Structures and Algorithms	C	3	SC1003
	Second Major Compulsory Course 2	BDE	3	Please see attached list of core courses to choose from
	Second Major Compulsory Course 3	BDE	3	
ML0004	Career Design & Workplace Readiness in the V.U.C.A World	CC	2	
			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
SC5915	Undergraduate Research	BDE	IP	Course will be registered in Semester 2. Grades will be recorded at the end of Semester 2
SC1006	Computer Organisation & Architecture	C	3	SC1005
SC1008	C and C++ Programming	C	3	SC1003
SC2000	Probability and Statistics for Computing	C	3	
MH1812	Discrete Mathematics	C	3	
SP0061	Science & Technology for Humanity	CC	3	
NH0001	Tech-For-Good (T4G)	CSL	3	Replaces Care, Serve, Learn
			21	

YEAR 2 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
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	
SC2002	Object Oriented Design & Programming	C	3	
SC2005	Operating Systems	C	3	
CC0006	Sustainability: Society, Economy & Environment	CC	3	
	Second Major Compulsory Course 4	BDE	3	Please see attached list of core courses to choose from
			22	

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
SC2006	Software Engineering	C	3	
SC2008	Computer Networks	C	3	
SC2203	Automata, Computability and Complexity	C	3	SC2001
SC2207	Introduction to Databases	C	3	
SC3XXX/SC4XXX	Major Prescribe Elective (Choose within SC3xxx/SC4xxx)	MPE	3	Year 3 Standing
	SN Elective 1	BDE	3	Please see attached list of electives to choose from
	SN Elective 2	BDE	3	
			21	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
SC3099	Capstone Project	C	4	SC2001 & SC2006
SC3XXX/SC4XXX	Major Prescribe Elective (Choose within SC3xxx/SC4xxx)	MPE	3	Year 3 Standing
SC3XXX/SC4XXX	Major Prescribe Elective (Choose within SC3xxx/SC4xxx)	MPE	3	Year 3 Standing
SC3XXX/SC4XXX	Major Prescribe Elective (Choose within SC3xxx/SC4xxx)	MPE	3	Year 3 Standing
	Second Major Compulsory Course 5	BDE	3	Please see attached list of core courses to choose from
	SN Elective 3	BDE	3	
MLXXXX	Profession Preparation	PS	1	
			20	

YEAR 3 SPECIAL SEMESTER				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
SC3910	Professional Attachment	PS	5	
			5	

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

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite/Remarks
SC4XXX	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Year 3 Standing
SC4XXX	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Year 3 Standing
SC4XXX	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Year 3 Standing
SC4XXX	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Year 3 Standing
	SN Elective 4	BDE	3	Please see attached list of electives to choose from
ES5100	Second Major Interdisciplinary Project	BDE	3	
			18	
Total AU for Graduation:			161	

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

MPE Structure for Computer Science			
Course Code	Type	AU	Remarks
SC3xxx/SC4xxx	MPE-1	3	Any MPE (Choose within SC3xxx/SC4xxx)
SC3xxx/SC4xxx	MPE-2	3	Any MPE (Choose within SC3xxx/SC4xxx)
SC3xxx/SC4xxx	MPE-3	3	Any MPE (Choose within SC3xxx/SC4xxx)
SC3xxx/SC4xxx	MPE-4	3	Any MPE (Choose within SC3xxx/SC4xxx)
SC4xxx	MPE-5	3	MPE (Choose within SC4xxx)
SC4xxx	MPE-6	3	MPE (Choose within SC4xxx)
SC4xxx	MPE-7	3	MPE (Choose within SC4xxx)
SC4xxx	MPE-8	3	MPE (Choose within SC4xxx)
	Total	24	
Please refer the CSC MPE Courses and Specialisation on CCDS intranet.			

For Second Major in Sustainability, students are required to complete a minimum total of 30 AU:

- 5 compulsory courses, 1 course in each knowledge area (5 courses x 3AU = 15 AU)
- Minimum total of **12 AU** of Core and/or Elective courses of any knowledge area
- Interdisciplinary project: **ES5100** Sustainability Capstone Project (3 AU)

Sustainability Course Listing				
Knowledge Area	Course Title	Type	AU	Pre-requisite
People	To choose 1 of the courses under the People core courses	2M-SUST (BDE)	3	Nil
Planet	CY1007 - Climate Change	2M-SUST (BDE)	3	Double-counted with CNY Core
Policy	To choose 1 of the courses under the Policy core courses	2M-SUST (BDE)	3	Refer to syllabus
Practice	To choose 1 of the courses under the Practice core courses	2M-SUST (BDE)	3	Refer to syllabus
Profit	To choose 1 of the courses under the Profit core courses	2M-SUST (BDE)	3	Refer to syllabus
Choose 12 AU of Core/Elective from any knowledge areas	Sustainability - Elective 1	2M-SUST (BDE)	3	Refer to syllabus
	Sustainability - Elective 2	2M-SUST (BDE)	3	Refer to syllabus
	Sustainability - Elective 3	2M-SUST (BDE)	3	Refer to syllabus
	Sustainability - Elective 4	2M-SUST (BDE)	3	Refer to syllabus
ES5100	Sustainability - Interdisciplinary Project	2M-SUST (BDE)	3	Refer to syllabus
Please refer to the Second Major in Sustainability website for Sustainability Course Listing: https://www.ntu.edu.sg/ase/admissions/undergraduate-programmes/second-major-in-sustainability				