

AY2024-25 AND LATER COHORTS
Curriculum for Bachelor of Computing (Computer Science)
With a Second Major in Sustainability

PI option : 20-WEEK Professional Internship

SUMMARY OF ACADEMIC UNIT REQUIREMENT

Year of Study	Major		ICC		BDE	Total AU
	Core	MPE	Common - Core	Foundational - Core		
1	19	0	9	3	6	37
2	21	0	8	0	6	35
3	7	6	0	12	7	32
4	0	29	0	0	9	38
Total	47	35	17	15	28	142

Recommended Course Schedule

YEAR 1 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC1003	Introduction to Computational Thinking & Programming	F-Core	3	Nil
SC1004	Linear Algebra for Computing	Core	4	SC1003 (co-requisite)
MH1812	Discrete Mathematics	Core	3	Nil
CC0003	Ethics & Civics in a Multicultural World	U-Core	2	Nil
CC0005	Healthy Living & Wellbeing	U-Core	3	Nil
HW0001	Introduction to Academic Communication	-	-	For student failed QET
HW0002	Calculus	-	-	For student not done Calculus
	Sustainability - Core	BDE	3	Refer to syllabus
			18	

YEAR 1 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC1005	Digital Logic	Core	3	Nil
SC1006	Computer Organisation & Architecture	Core	3	SC1005 (co-requisite)
SC1007	Data Structures & Algorithms	Core	3	SC1003
SC1008	C and C++ Programming	Core	3	SC1003
CC0001	Inquiry & Communication in an Interdisciplinary World	U-Core	2	Nil
CC0002	Navigating the Digital World	U-Core	2	Nil
	Sustainability - Core	BDE	3	Refer to syllabus
			19	

Year 1 Total AU

37

YEAR 2 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC2000	Probability & Statistics for Computing	Core	3	Nil
SC2001	Algorithm Design & Analysis	Core	3	SC1007 & MH1812
SC2002	Object Oriented Design & Programming	Core	3	SC1003 OR SC1007
SC2005	Operating Systems	Core	3	SC1006 & SC1007
CC0007	Science & Technology for Humanity	U-Core	3	Nil
	Sustainability - Core	BDE	3	Refer to syllabus
			18	

YEAR 2 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC2006	Software Engineering	Core	3	SC2002 (co-requisite)
SC2008	Computer Network	Core	3	SC2000 & SC1004
SC2207	Introduction to Databases	Core	3	SC2001 (co-requisite)
CC0006	Sustainability: Society, Economy & Environment	U-Core	3	Nil
ML0004	Career & Innovative Enterprise for the Future World	C-Core	2	Nil
	Sustainability - Core	BDE	3	Refer to syllabus
			17	

Year 2 Total AU

35

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite
SC2203	Automata, Computability and Complexity	Core	3	SC2001 (co-requisite)
SC3099	Capstone Project	Core	4	Year 3 Standing
HW0288	Engineering Communication	F-Core	2	CC0001 & 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
	Sustainability - Elective	BDE	4	Refer to syllabus
	Sustainability - Elective	BDE	3	Refer to syllabus
			22	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite
SC3920	Professional Internship (Graded)	F-Core	10	Year 3 Standing
			10	

Year 3 Total AU 32

YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite
SC4079	Final Year Project (Part 1)	MPE	4	Year 4 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
SC3xxx/SC4xxx	Major Prescribe Elective (Choose within SC3xxx/SC4xxx)	MPE	3	Year 3 Standing
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Year 3 Standing
	Sustainability - Elective	BDE	3	Refer to syllabus
			19	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite
SC4079	Final Year Project (Part 2)	MPE	4	Year 4 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
	Sustainability - Elective	BDE	3	Refer to syllabus
	Sustainability - Interdisciplinary Project	BDE	3	Refer to syllabus
			19	

Year 4 Total AU 38

Note:

- Students are required to complete **9 Major Prescribed Elective (MPE) courses** (SC3xxx or SC4xxx), including **at least 4 courses at the**
- Students may choose to fulfill this requirement by either completing a **Final Year Project (FYP)** or by taking **3 additional MPE courses**.
- To be eligible for **Highest Distinction**, students **must complete a Final Year Project**.

MPE Structure of Computer Science (U24 and after)			
Course Code	Type	AU	Remarks
SC3xxx/SC4xxx	MPE-1	3	Any MPE
SC3xxx/SC4xxx	MPE-2	3	Any MPE
SC3xxx/SC4xxx	MPE-3	3	Any MPE
SC3xxx/SC4xxx	MPE-4	3	Any MPE
SC3xxx/SC4xxx	MPE-5	3	Any MPE
SC4xxx	MPE-6	3	MPE (Choose within SC4xxx)
SC4xxx	MPE-7	3	MPE (Choose within SC4xxx)
SC4xxx	MPE-8	3	MPE (Choose within SC4xxx)
SC4xxx	MPE-9	3	MPE (Choose within SC4xxx)
	Total	27	
Please refer the CSC MPE Courses and Specialization on CCDS website.			

AY2024-25 AND LATER COHORTS
Curriculum for Bachelor of Computing (Computer Science)

With a Second Major in Sustainability

PA option : 10-WEEK Professional Attachment

SUMMARY OF ACADEMIC UNIT REQUIREMENT

Year of Study	Major		ICC		BDE	Total AU
	Core	MPE	Common - Core	Foundational - Core		
1	19	0	9	3	6	37
2	21	0	8	0	3	32
3	7	18	0	7	9	41
4	0	17	0	0	15	32
Total	47	35	17	10	33	142

Recommended Course Schedule

YEAR 1 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC1003	Introduction to Computational Thinking & Programming	F-Core	3	Nil
SC1004	Linear Algebra for Computing	Core	4	SC1003 (co-requisite)
MH1812	Discrete Mathematics	Core	3	Nil
CC0003	Ethics & Civics in a Multicultural World	U-Core	2	Nil
CC0005	Healthy Living & Wellbeing	U-Core	3	Nil
HW0001	Introduction to Academic Communication	-	-	For student failed QET
HW0002	Calculus	-	-	For student not done Calculus
	Sustainability - Core	BDE	3	Refer to syllabus
			18	

YEAR 1 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC1005	Digital Logic	Core	3	Nil
SC1006	Computer Organisation & Architecture	Core	3	SC1005 (co-requisite)
SC1007	Data Structures & Algorithms	Core	3	SC1003
SC1008	C and C++ Programming	Core	3	SC1003
CC0001	Inquiry & Communication in an Interdisciplinary World	U-Core	2	Nil
CC0002	Navigating the Digital World	U-Core	2	Nil
	Sustainability - Core	BDE	3	Refer to syllabus
			19	

Year 1 Total AU

37

YEAR 2 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC2000	Probability & Statistics for Computing	Core	3	Nil
SC2001	Algorithm Design & Analysis	Core	3	SC1007 & MH1812
SC2002	Object Oriented Design & Programming	Core	3	SC1003 OR SC1007
SC2005	Operating Systems	Core	3	SC1006 & SC1007
CC0007	Science & Technology for Humanity	U-Core	3	Nil
	Sustainability - Core	BDE	3	Refer to syllabus
			18	

YEAR 2 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC2006	Software Engineering	Core	3	SC2002 (co-requisite)
SC2008	Computer Network	Core	3	SC2000 & SC1004
SC2207	Introduction to Databases	Core	3	SC2001 (co-requisite)
CC0006	Sustainability: Society, Economy & Environment	U-Core	3	Nil
ML0004	Career & Innovative Enterprise for the Future World	C-Core	2	Nil
			14	

Year 2 Total AU

32

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite
SC2203	Automata, Computability and Complexity	Core	3	SC2001 (co-requisite)
SC3099	Capstone Project	Core	4	Year 3 Standing
HW0288	Engineering Communication	F-Core	2	CC0001 & 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
	Sustainability - Core	BDE	3	Refer to syllabus
	Sustainability - Elecive	BDE	3	Refer to syllabus
			21	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite
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
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Year 3 Standing
	Sustainability - Elecive	BDE	3	Refer to syllabus
	Sustainability - Elecive	BDE	3	Refer to syllabus
			18	

YEAR 3 SPECIAL SEMESTER				
Course Code	Course Title	Type	AU	Pre-requisite
SC3026	Professional Attachment	F-Core	5	Year 3 Standing
			5	

Year 3 Total AU

44

YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite
SC4079	Final Year Project (Part 1)	MPE	4	Year 4 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
	Sustainability - Elecive	BDE	4	Refer to syllabus
	Broadening and Deepening Elective	BDE	2	Refer to Class Schedule
			16	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite
SC4079	Final Year Project (Part 2)	MPE	4	Year 4 Standing
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Year 3 Standing
	Sustainability - Interdisciplinary Project	BDE	3	Refer to syllabus
	Broadening and Deepening Elective	BDE	3	Refer to Class Schedule
			13	

Year 4 Total AU

29

Note:

1. Students are required to complete **9 Major Prescribed Elective (MPE) courses** (SC3xxx or SC4xxx), including **at least 4 courses**
2. Students may choose to fulfill this requirement by either completing a **Final Year Project (FYP)** or by taking **3 additional MPE**
3. To be eligible for **Highest Distinction**, students **must complete a Final Year Project**.

MPE Structure of Computer Science (U24 and after)			
Course Code	Type	AU	Remarks
SC3xxx/SC4xxx	MPE-1	3	Any MPE
SC3xxx/SC4xxx	MPE-2	3	Any MPE
SC3xxx/SC4xxx	MPE-3	3	Any MPE
SC3xxx/SC4xxx	MPE-4	3	Any MPE
SC3xxx/SC4xxx	MPE-5	3	Any MPE
SC4xxx	MPE-6	3	MPE (Choose within SC4xxx)
SC4xxx	MPE-7	3	MPE (Choose within SC4xxx)
SC4xxx	MPE-8	3	MPE (Choose within SC4xxx)
SC4xxx	MPE-9	3	MPE (Choose within SC4xxx)
	Total	27	
Please refer the CSC MPE Courses and Specialization on CCDS website.			

Sustainability Course Listing				
Course Code	Course Title	Type	AU	Pre-requisite
	Sustainability - Core	BDE	3	Refer to syllabus
	Sustainability - Elecive	BDE	3	Refer to syllabus
	Sustainability - Elecive	BDE	4	Refer to syllabus
	Sustainability - Interdisciplinary Project	BDE	3	Refer to syllabus

Please refer to the Second Major in Sustainability webiste for Sustainability Course Listing:

https://www.ntu.edu.sg/ase/admissions/undergraduate-programmes/second-major-in-sustainability#Content_C013_Col00