AY2024-25 AND LATER COHORTS
CURRICULUM FOR COMPUTER ENGINEERING
With a Second Major in Sustainability

SUMMARY OF ACADEMIC UNIT REQUIREMENT

Year of Study	Major		Sustainability	ICC			BDE	Total AU
	Core	MPE		Common - Core	Professional series	Care, Serve & Learn		
1	20	0	6	6	3	0	0	35
2	27	0	6	8	0	0	0	41
3	7	6	3	0	12	3	0	31
4	14	9	15	0	1	0	0	39
Total	68	15	30	14	16	3	0	146

Recommended Course Schedule

YEAR 1 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC1003	Introduction to Computational Thinking & Programming	Professional series	3	Nil
SC1013	Physics For Computing	Core	2	Nil
SC1004	Linear Algebra for Computing	Core	4	SC1003 (co-requisite)
EG1001	Engineers in Society	Core	2	Nil
CC0003	Ethics & Civics in a Multicultural World	C-Core	2	Nil
CC0015	Health & Wellbeing	C-Core	2	Nil
HW0001	Introduction to Academic Communication	-	-	For student failed QET
	Sustainability - Core	Sustainability	3	Refer to syllabus
			18	

YEAR 1 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC1005	Digital Logic	Core	3	Nil
SC1007	Data Structures & Algorithms	Core	3	SC1003
SC1008	C and C++ Programming	Core	3	SC1003
MH1812	Discrete Mathematics	Core	3	Nil
CC0001	Inquiry & Communication in an Interdisciplinary World	C-Core	2	Nil
	Sustainability - Core	Sustainability	3	Refer to syllabus
			17	

Year 1 Total AU — **35**

YEAR 2 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC1006	Computer Organisation & Architecture	Core	3	SC1005 (co-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
SC2103	Digital Systems Design	Core	3	SC1005
CC0007	Science & Technology for Humanity	C-Core	3	Nil
	Sustainability - Core	Sustainability	3	Refer to syllabus
ML0004	Career & Innovative Enterprise for the Future World	C-Core	2	Nil
			23	

YEAR 2 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC2005	Operating Systems	Core	3	SC1006 & SC1007
SC2006	Software Engineering	Core	3	SC2002 (co-requisite)
SC2008	Computer Network	Core	3	SC2000 & SC1004
SC2104	Sensors, Interfacing & Digital Control	Core	3	SC1006
CC0006	Sustainability: Society, Economy & Environment	C-Core	3	Nil
	Sustainability - Core	Sustainability	3	Refer to syllabus
CSL	CSL (service learning course)-Part 1	CSL	-	(continue in semester 2)
			18	

Year 2 Total AU — **41**

YEAR 3 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC2107	Microprocessor System Design and Development	Core	3	SC1006
SC2079	Multidisciplinary Design Project	Core	4	Year 3 Standing
HW0288	Engineering Communication	Professional series	2	CC0001 & Year 3 standing
	Sustainability - Core	Sustainability	3	Refer to syllabus
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
CSL	CSL (service learning course)-Part 2	CSL	3	(continue from semester 1)
			21	

YEAR 3 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC3920	Professional Internship (Graded)	Professional series	10	Year 3 Standing
			10	

Year 3 Total AU — **31**

YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite
SC4079	Final Year Project (Part 1)	Core	4	Year 4 Standing
SC3102	Signals, Systems and Transforms	Core	3	SC1004
SC3103	Embedded Programming	Core	3	SC2107
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	Sustainability	3	Refer to syllabus
	Sustainability - Elective	Sustainability	3	Refer to syllabus
ML0015	Profession Preparation	Professional series	1	Nil
			23	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite
SC4079	Final Year Project (Part 2)	Core	4	Year 4 Standing
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Year 3 Standing
	Sustainability - Elective	Sustainability	3	Refer to syllabus
	Sustainability - Elective	Sustainability	3	Refer to syllabus
	Sustainability - Interdisciplinary Project	Sustainability	3	Refer to syllabus
			16	

Year 4 Total AU   **39**

MPE Structure of Computer Engineering (U21 and after)			
Course Code	Type	AU	Remarks
SC3xxx/SC4xxx	MPE-1	3	Any MPE
SC4xxx	MPE-2	3	Choose within SC4xxx
SC4xxx	MPE-3	3	Choose within SC4xxx
SC4xxx	MPE-4	3	Choose within SC4xxx
SC4xxx	MPE-5	3	Choose within SC4xxx
	Total	15	
Please refer the CE MPE Courses and Elective Focus Areas on CCDS website.			

Sustainability Course Lising				
Course Code	Course Title	Type	AU	Pre-requisite
	Sustainability - Core	BDE	3	Refer to syllabus
	Sustainability - Elective	BDE	3	Refer to syllabus
	Sustainability - Elective	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				

AY2024-25 AND LATER COHORTS
CURRICULUM FOR COMPUTER ENGINEERING
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	Sustainability	Common-Core	Professional series	Care, Serve & Learn		
1	20	0	6	6	3	0	0	35
2	24	0	6	8	0	0	0	38
3	16	12	3	0	7	3	3	44
4	8	3	15	0	1	0	2	29
Total	**68**	**15**	**30**	**14**	**11**	**3**	**5**	**146**

Recommended Course Schedule

YEAR 1 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC1003	Introduction to Computational Thinking & Programming	Professional series	3	Nil
SC1013	Physics For Computing	Core	2	Nil
SC1004	Linear Algebra for Computing	Core	4	SC1003 (co-requisite)
EG1001	Engineers in Society	Core	2	Nil
CC0003	Ethics & Civics in a Multicultural World	C-Core	2	Nil
CC0005	Healthy Living & Wellbeing	C-Core	3	Nil
HW0001	Introduction to Academic Communication	-	-	For student failed QET
	Sustainability - Core	Sustainability	3	Refer to syllabus
			19	

YEAR 1 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC1005	Digital Logic	Core	3	Nil
SC1007	Data Structures & Algorithms	Core	3	SC1003
SC1008	C and C++ Programming	Core	3	SC1003
MH1812	Discrete Mathematics	Core	3	Nil
CC0001	Inquiry & Communication in an Interdisciplinary World	C-Core	2	Nil
CC0002	Navigating the Digital World	C-Core	2	Nil
	Sustainability - Core	Sustainability	3	Refer to syllabus
			19	

Year 1 Total AU — **38**

YEAR 2 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC1006	Computer Organisation & Architecture	Core	3	SC1005 (co-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
SC2103	Digital Systems Design	Core	3	SC1005
CC0007	Science & Technology for Humanity	C-Core	3	Nil
	Sustainability - Core	Sustainability	3	Refer to syllabus
			21	

YEAR 2 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC2005	Operating Systems	Core	3	SC1006 & SC1007
SC2006	Software Engineering	Core	3	SC2002 (co-requisite)
SC2008	Computer Network	Core	3	SC2000 & SC1004
CC0006	Sustainability: Society, Economy & Environment	C-Core	3	Nil
ML0004	Career & Innovative Enterprise for the Future World	C-Core	2	Nil
	Sustainability - Core	Sustainability	3	Refer to syllabus
CSL	CSL (service learning course)-Part 1	CSL	-	(continue in semester 2)
			17	

Year 2 Total AU — **38**

YEAR 3 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC2107	Microprocessor System Design and Development	Core	3	SC1006
SC2079	Multidisciplinary Design Project	Core	4	Year 3 Standing
HW0288	Engineering Communication	Professional series	2	CC0001 & Year 3 standing
	Sustainability - Core	Sustainability	3	Refer to syllabus
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
CSL	CSL (service learning course)-Part 2	CSL	3	(continue from semester 1)
			21	

YEAR 3 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC2104	Sensors, Interfacing & Digital Control	Core	3	SC1006
SC3102	Signals, Systems and Transforms	Core	3	SC1004
SC3103	Embedded Programming	Core	3	SC2107
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Year 3 Standing
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Year 3 Standing
	Broadening and Deepening Elective	BDE	3	Refer to Class Schedule
			18	

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

<div align="center">Year 2 Total AU   44</div>

YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite
SC4079	Final Year Project (Part 1)	Core	4	Year 4 Standing
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Year 3 Standing
	Sustainability -Elective	Sustainability	3	Refer to syllabus
	Sustainability -Elective	Sustainability	3	Refer to syllabus
	Broadening and Deepening Elective	BDE	2	Refer to Class Schedule
ML0015	Profession Preparation	Professional series	1	Nil
			16	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite
SC4079	Final Year Project (Part 2)	Core	4	Year 4 Standing
	Sustainability -Elective	Sustainability	3	Refer to syllabus
	Sustainability -Elective	Sustainability	3	Refer to syllabus
	Sustainability - Interdisciplinary Project	Sustainability	3	Refer to syllabus
			13	

<div align="center">Year 4 Total AU   29</div>

MPE Structure of Computer Engineering (U21 and after)			
Course Code	Type	AU	Remarks
SC3xxx/SC4xxx	MPE-1	3	Any MPE
SC4xxx	MPE-2	3	Choose within SC4xxx
SC4xxx	MPE-3	3	Choose within SC4xxx
SC4xxx	MPE-4	3	Choose within SC4xxx
SC4xxx	MPE-5	3	Choose within SC4xxx
	Total	15	
Please refer the CE MPE Courses and Elective Focus Areas on CCDS website.			

Sustainability Course Lising				
Course Code	Course Title	Type	AU	Pre-requisite
	Sustainability - Core	BDE	3	Refer to syllabus
	Sustainability - Elective	BDE	3	Refer to syllabus
	Sustainability - Elective	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				