

AY2022-23 AND LATER COHORTS CURRICULUM FOR COMPUTER ENGINEERING

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	24	0	8	0	6	38
3	13	0	0	12	4	29
4	14	12	0	0	12	38
Total	70	12	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	Core	3	Nil
SC1013	Physics For Computing	Core	2	Nil
MH1810	Mathematics I	Core	3	Nil
MH1812	Discrete Mathematics	Core	3	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 who failed QET
	Sustainability - Core	BDE	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
SC1015	Introduction to Data Science & Artificial Intelligence	F-Core	3	SC1003
EG1001	Engineers In Society/Sustainability - Core	Core	2	Double-counted as SN Core
CC0001	Inquiry & Communication in an Interdisciplinary World	C-Core	2	Nil
CC0002	Navigating the Digital World	C-Core	2	Nil
	Sustainability - Core	BDE	3	Refer to syllabus
			18	

Year 1 Total AU

37

YEAR 2 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC1004	Linear Algebra for Computing	Core	3	SC1003 (co-requisite) & MH1810
SC1006	Computer Organisation & Architecture	Core	3	SC1005 (co-requisite)
SC2001	Algorithm Design & Analysis	Core	3	SC1007 & MH1812
SC2002	Object Oriented Design & Programming	Core	3	SC1003 OR SC1007
CC0007	Science & Technology for Humanity	C-Core	3	Nil
	Sustainability - Core	BDE	3	Refer to syllabus
			18	

YEAR 2 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC2000	Probability & Statistics for Computing	Core	3	MH1810
SC2005	Operating Systems	Core	3	SC1006 & SC1007
SC2103	Digital Systems Design	Core	3	SC1005
SC2104	Sensors, Interfacing & Digital Control	Core	3	SC1006
CC0006	Sustainability: Society, Economy & Environment	C-Core	3	Nil
ML0004	Career & Innovative Enterprise for the Future World	C-Core	2	Nil
	Sustainability - Core	BDE	3	Refer to syllabus
			20	

Year 2 Total AU

38

YEAR 3 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC2006	Software Engineering	Core	3	SC2002 (co-requisite)
SC2008	Computer Network	Core	3	SC2000 & SC1004
SC2107	Microprocessor System Design and Development	Core	3	SC1006
SC2079	Multidisciplinary Design Project	Core	4	Year 3 Standing
HW0288	Engineering Communication	F-Core	2	CC0001 & Year 3 standing
	Sustainability - Elective	BDE	4	Refer to syllabus
			19	

YEAR 3 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC3079	Professional Internship	F-Core	10	Year 3 Standing
			10	

Year 3 Total AU 29

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
SC3xxx/SC4xxx	Major Prescribe Elective (Choose within SC3xxx/SC4xxx)	MPE	3	Year 3 Standing
	Sustainability - Elective	BDE	3	Refer to syllabus
	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)	Core	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
	Sustainability - Elective	BDE	3	Refer to syllabus
	Sustainability - Interdisciplinary Project	BDE	3	Refer to syllabus
			19	

Year 4 Total AU 38

MPE Structure of Computer Engineering (U21 and after)

Course Code	Type	AU	Remarks
SC3xxx/SC4xxx	MPE	3	Choose within SC3xxx & SC4xxx
SC3xxx/SC4xxx	MPE	3	Choose within SC3xxx & SC4xxx
SC3xxx/SC4xxx	MPE	3	Choose within SC3xxx & SC4xxx
SC3xxx/SC4xxx	MPE	3	Choose within SC3xxx & SC4xxx
	Total	12	

Please refer the CE MPE Courses and Elective Focus Areas on SCSE website.

AY2022-23 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	Common-Core	Foundational - Core		
1	19	0	9	3	6	37
2	24	0	8	0	3	35
3	19	0	0	7	13	39
4	8	12	0	0	11	31
Total	70	12	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	Core	3	Nil
SC1013	Physics For Computing	Core	2	Nil
MH1810	Mathematics I	Core	3	Nil
MH1812	Discrete Mathematics	Core	3	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 who failed QET
	Sustainability - Core	BDE	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
SC1015	Introduction to Data Science & Artificial Intelligence	F-Core	3	SC1003
EG1001	Engineers In Society/Sustainability - Core	Core	2	Double-counted as SN Core
CC0001	Inquiry & Communication in an Interdisciplinary World	C-Core	2	Nil
CC0002	Navigating the Digital World	C-Core	2	Nil
	Sustainability - Core	BDE	3	Refer to syllabus
			18	

Year 1 Total AU 37

YEAR 2 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC1004	Linear Algebra for Computing	Core	3	SC1003 (co-requisite) & MH1810
SC1006	Computer Organisation & Architecture	Core	3	SC1005 (co-requisite)
SC2001	Algorithm Design & Analysis	Core	3	SC1007 & MH1812
SC2002	Object Oriented Design & Programming	Core	3	SC1003 OR SC1007
CC0007	Science & Technology for Humanity	C-Core	3	Nil
	Sustainability - Core	BDE	3	Refer to syllabus
			18	

YEAR 2 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC2000	Probability & Statistics for Computing	Core	3	MH1810
SC2005	Operating Systems	Core	3	SC1006 & SC1007
SC2103	Digital Systems Design	Core	3	SC1005
SC2104	Sensors, Interfacing & Digital Control	Core	3	SC1006
CC0006	Sustainability: Society, Economy & Environment	C-Core	3	Nil
ML0004	Career & Innovative Enterprise for the Future World	C-Core	2	Nil
			17	

Year 2 Total AU 35

YEAR 3 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-requisite
SC2006	Software Engineering	Core	3	SC2002
SC2008	Computer Networks	Core	3	SC2000 & SC1004
SC2107	Microprocessor System Design and Development	Core	3	SC1006
HW0288	Engineering Communication	F-Core	2	CC0001 & Year 3 standing
	Sustainability - Elecive	BDE	4	Refer to syllabus
	Broadening and Deepening Elective	BDE	3	Refer to Class Schedule
			18	

YEAR 3 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC3102	Signals, Systems and Transforms	Core	3	SC1004
SC3103	Embedded Programming	Core	3	SC2107
SC2079	Multidisciplinary Design Project	Core	4	Year 3 Standing
	Sustainability - Core	BDE	3	Refer to syllabus
	Sustainability - Elecive	BDE	3	Refer to syllabus
			16	

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 39**YEAR 4 SEMESTER 1**

Course Code	Course Title	Type	AU	Pre-requisite
SC4079	Final Year Project (Part 1)	Core	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
	Sustainability - Elecive	BDE	3	Refer to syllabus
			16	

YEAR 4 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-requisite
SC4079	Final Year Project (Part 2)	Core	4	Year 4 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
	Broadening and Deepening Elective	BDE	2	Refer to Class Schedule
			15	

Year 4 Total AU 31**MPE Structure of Computer Engineering (U21 and after)**

Course Code	Type	AU	Remarks
SC3xxx/SC4xxx	MPE	3	Choose within SC3xxx & SC4xxx
SC3xxx/SC4xxx	MPE	3	Choose within SC3xxx & SC4xxx
SC3xxx/SC4xxx	MPE	3	Choose within SC3xxx & SC4xxx
SC3xxx/SC4xxx	MPE	3	Choose within SC3xxx & SC4xxx
	Total	12	

Please refer the CE MPE Courses and Elective Focus Areas on SCSE 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