AY2025-2026 AND LATER COHORTS
CURRICULUM FOR COMPUTER ENGINEERING
With a Second Major in Data Analytics (DA)

SUMMARY OF ACADEMIC UNIT REQUIREMENT								
Year of Study	Major		Data Analytics (DA)	ICC			BDE	Total AU
	Core	MPE		Common - Core	Professional Series	Care, Serve & Learn		
1	23	0	10	6	3	0	3	32
2	30	0	6	8	0	0	0	41
3	7	3	6	0	12	3	0	31
4	14	12	9	0	1	0	0	33
Total	74	15	31	14	16	3	3	156

YEAR 1 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite
SC1003	Introduction to Computational Thinking & Programming	Professional Series/DA-C	3	Nil
SC1013	Physics For Computing	Core	2	Nil
SC1004	Linear Algebra for Computing	Core/DA-C	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
	Broadening and Deepening Elective	BDE	3	Refer to Class Schedule
HW0001	Introduction to Academic Communication	-	-	For student failed QET
HW0002	Calculus	-	-	For student not done Calculus
			18	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite
SC1005	Digital Logic	Core	3	Nil
SC1007	Data Structures & Algorithms	Core/DA-C	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
			14	
		Year 1 Total AU	32	

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/DA-C	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
SC2207	Introduction to Databases	Core/DA-C	3	SC2001 (co-requisite)
ML0004	Career Design & Workplace Readiness in the V.U.C.A 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
SC3102	Signals, Systems and Transforms	Core	3	SC1004
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
	Data Analytics Elective 1	DA-E	3	Refer to syllabus
	Data Analytics Elective 2	DA-E	3	Refer to syllabus
SC3xxx/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
SC4020	Data Analytics and Mining	Core/DA-C	3	Year 3 standing
SC4024/SC4023	Data Visualisation/Big Data Management	DA-C	3	SC1003 and SC2000/SC3020
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Year 3 Standing
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Year 3 Standing
SC3103	Embedded Programming	Core	3	SC2107
ML0015	Profession Preparation	Professional Series	1	Nil
			20	

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 SC3xxx/SC4xxx)	MPE	3	Year 3 Standing
SC4xxx	Major Prescribe Elective (Choose within SC3xxx/SC4xxx)	MPE	3	Year 3 Standing
	Data Analytics Elective 3	DA-E	3	Refer to syllabus
			13	
		Year 4 Total AU	33	

MPE Structure of Computer Engineering (U24 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 to the CE MPE Courses and Elective Focus Areas on CCDS website.			

Data Analytics Course Listing				
Course Code	Course Title	Type	AU	Pre-requisite
SC1003	Introduction to Computational Thinking & Programming	Professional Series/DA-C	3	Nil
SC1004	Linear Algebra for Computing	Core/DA-C	4	SC1003 (co-requisite)
SC1007	Data Structures & Algorithms	Core/DA-C	3	SC1003
SC2000	Probability & Statistics for Computing	Core/DA-C	3	Nil
SC2207	Introduction to Databases	Core/DA-C	3	SC2001 (co-requisite)
SC4020	Data Analytics and Mining	Core/DA-C	3	Year 3 standing
SC4024/SC4023	Data Visualisation/Big Data Management	DA-C	3	SC1003 and SC2000/SC3020
	Data Analytics Elective 1	DA-E	3	Refer to syllabus
	Data Analytics Elective 2	DA-E	3	Refer to syllabus
	Data Analytics Elective 3	DA-E	3	Refer to syllabus

Please Refer to the Second Major in Data Analytics website for Data Analytics Course Listing:
https://www.ntu.edu.sg/engineering/admissions/ug/allprogrammes/highlights/da