

**AY2020-21 CURRICULUM FOR COMPUTER ENGINEERING
WITH NTU UNIVERSITY SCHOLARS PROGRAMME (USP)**

Last Updated : 15-Feb-21

SUMMARY OF ACADEMIC UNIT REQUIREMENT							
Year of Study	Core	MPE	GER-Core	NTU-USP Core	NTU-USP PE	UE	Total AU
1	26	0	2	12	0	0	40
2	27	0	7	0	6	0	40
3	20	3	1	0	6	0	30
4	11	15	0	0	3	3	32
Total	84	18	10	12	15	3	142

YEAR 1 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite
MH1810	Mathematics I	C	3	
CE1103	Introduction to Computational Thinking & Programming	C	3	
CE1113	Physics for Computing	C	2	
CE1105	Digital Logic (Engineering Fundamentals 1)	C	3	
SP0001	Writing and Reasoning	NTU-USP Core	3	
SP0005	Quantitative and Reasoning	NTU-USP Core	3	
GC0001	Sustainability : Seeing Through the Haze	GER-Core	1	online course
HY0001	Ethics and Moral Reasoning	GER-Core	1	online course
HW0001	Introduction to Academic Communication		0	
			19	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite
CE1104	Linear Algebra for Computing	C	3	MH1810
CE1106	Computer Organisation & Architecture	C	3	CE1105 (can be taken concurrently)
CE1107	Data Structures & Algorithms	C	3	CE1103
MH1812	Discrete Mathematics	C	3	
	Engineering Fundamentals 2	C	3	
SP0002	Ethics Seminar	NTU-USP Core	3	
SP0007	Fieldwork and Documentation/Travel Overseas Programme for Scholars (TOPS)	NTU-USP Core	3	
			21	

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite
CE2100	Probability and Statistics for Computing	C	3	MH1810
CE2101	Algorithm Design and Analysis	C	3	CE1107, MH1812
CE2002	Object Oriented Design & Programming	C	3	CE1103
CE3002	Sensors, Interfacing & Control	C	3	CE1106
CE2107	Microprocessor System Design and Development	C	3	CE1106
	USP Prescribed Elective 1 - AHC/STS	NTU-USP PE	3	
ET0001	Enterprise & Innovation	GER-Core	1	online course
			19	

YEAR 2 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite
CE2003	Digital Systems Design	C	3	CE1105
CE2005	Operating Systems	C	3	CE1106, CE1107

CE2006	Software Engineering	C	3	CE2002 (can be taken concurrently)
CE3103	Embedded Programming	C	3	CE2107
	USP Prescribed Elective 2 - AHC/STS	NTU-USP PE	3	
EG0001	Engineers and Society	GER-Core	3	
CE1115	Introduction to Data Science and Artificial Intelligence	GER-Core	3	CE1103
			21	

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite
CE3004	Multidisciplinary Design Project	C	4	Year 3 standing
CE3005	Computing Networks	C	3	CE1104, CE2100
CE3001	Advanced Computer Architecture	C	3	CE1106
	USP Prescribed Elective 3 - AHC/STS	NTU-USP PE	3	
	USP Prescribed Elective 4 - AHC/STS	NTU-USP PE	3	
CE/CZ4XXX	Prescribed Elective 1	MPE	3	
ML0003	Kickstart your Career Success	GER-Core	1	online course
			20	

YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite
CE3079	Professional Internship	C	10	ML0003, Year 3 standing
			10	

YEAR 4 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-Requisite
CE4079	Final Year Project	C	-	Final year standing
CE3102	Signal, Systems and Transform	C	3	
CE/CZ4XXX	Prescribed Elective 2	MPE	3	
CE/CZ4XXX	Prescribed Elective 3	MPE	3	
	USP Prescribed Elective 5 - AHC/STS	NTU-USP PE	3	
	Unrestricted Elective	UE	3	
			15	

YEAR 4 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-Requisite
CE4079	Final Year Project (cont)	C	8	
CE/CZ4XXX	Prescribed Elective 4	MPE	3	
CE/CZ4XXX	Prescribed Elective 5	MPE	3	
CE/CZ4XXX	Prescribed Elective 6	MPE	3	
			17	

Total AU for Graduation : **142**