

AY2025-2026
CURRICULUM FOR COMPUTER ENGINEERING WITH USP

SUMMARY OF ACADEMIC UNIT REQUIREMENT									
Year of Study	Core	MPE	USP Requirements		ICC			BDE	Total AU
			USP Core	USP PE	Common-Core	Professional Series	Care, Serve, Learn		
1	26	0	11	0	0	3	0	0	40
2	27	0	0	6	5	0	0	0	38
3	7	3	0	3	0	10	3	3	29
4	8	12	0	3	0	1	0	7	31
Total	68	15	11	12	5	14	3	10	138

YEAR 1 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite
SC1003	Introduction to Computational Thinking & Programming	PS	3	Nil
SC1004	Linear Algebra for Computing	Core	4	SC1003 (co-requisite)
SC1005	Digital Logic	Core	3	Nil
SC1013	Physics For Computing	Core	2	Nil
EG1001	Engineers in Society	Core	2	Nil
SP0001	Writing & Reasoning	USP Core	3	Nil
SP0008	Living Well	USP Core	2	Nil
HW0002	Calculus	-	-	For student not done Calculus
			19	

YEAR 1 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite
SC1006	Computer Organisation & Architecture	Core	3	SC1005 (co-requisite)
SC1007	Data Structures & Algorithms	Core	3	SC1003
SC1008	C and C++ Programming	Core	3	SC1003
SC2000	Probability & Statistics for Computing	Core	3	Nil
MH1812	Discrete Mathematics	Core	3	Nil
SP0002	Ethics	USP Core	3	
SP0007	Fieldwork & Documentation: Topics In Sustainability	USP Core	3	
			21	

Year 1 Total AU **40**

YEAR 2 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite
SC2001	Algorithm Design & Analysis	Core	3	SC1007 & MH1812
SC2002	Object Oriented Design & Programming	Core	3	SC1003 OR SC1007
SC2006	Software Engineering	Core	3	SC2002 (co-requisite)
SC2008	Computer Network	Core	3	SC2000 & SC1004
SC2107	Microprocessor System Design and Development	Core	3	SC1006
CC0007	Science & Technology for Humanity	C-Core	3	Nil
ML0004	Career Design & Workplace Readiness in the V.U.C.A World	CC	2	Nil
	USP Prescribed Elective	USP PE	3	
			23	

YEAR 2 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite
SC2103	Digital Systems Design	Core	3	SC1005
SC2005	Operating Systems	Core	3	SC1006 & SC1007
SC2104	Sensors, Interfacing & Digital Control	Core	3	SC1006
SC3102	Signals, Systems and Transforms	Core	3	SC1004
	SvLC (service learning course)- Part 1	CSL	-	Nil
	USP Prescribed Elective	USP PE	3	
			15	

Year 2 Total AU **38**

YEAR 3 SEMESTER 1				
Course Code	Course Title	Type	AU	Pre-requisite
SC3103	Embedded Programming	Core	3	SC2107
SC2079	Multidisciplinary Design Project	Core	4	Year 3 Standing
SC3xxx/SC4xxx	Major Prescribe Elective (Choose within SC3xxx/SC4xxx)	MPE	3	Year 3 Standing
	USP Prescribed Elective	USP PE	3	Refer to Class Schedule
	Broadening and Deepening Elective	BDE	3	Refer to Class Schedule
	CSL(service learning course)- Part 2	CSL	3	Nil

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YEAR 3 SEMESTER 2				
Course Code	Course Title	Type	AU	Pre-requisite
SC3920	Professional Internship (Graded)	PS	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
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
	USP Prescribed Elective	USP PE	3	Refer to Class Schedule
ML0015	Profession Preparation	PS	1	Nil
			17	

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
SC4xxx	Major Prescribe Elective (Choose within SC4xxx)	MPE	3	Year 3 Standing
	Broadening and Deepening Elective	BDE	3	Refer to Class Schedule
			13	

Year 4 Total AU

30

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 the CE MPE Courses and Elective Focus Areas on CCDS website.