

**AY21-22 Curriculum
Computer Engineering with USP**

SUMMARY OF ACADEMIC UNIT REQUIREMENT

Year of Study	CSC Major		USP Requirement		ICC Requirement		Broadening and Deepening Electives	Total AU
	Core	MPE	USP Core	USP PE	Common Core	Foundational Core		
1	23	0	12	0	2	3	0	40
2	23	0	0	6	5	0	0	34
3	12	0	0	6	0	10	0	28
4	12	12	0	0	0	0	9	33
Total	70	12	12	12	7	13	9	135

1. Suggested Course Schedules

YEAR 1 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-Requisite
MH1810	Mathematics I	C	3	Nil
MH1812	Discrete Mathematics	C	3	Nil
SC1003	Introduction to Computational Thinking & Programming	C	3	Nil
SC1005	Digital Logic	C	3	Nil
SC1013	Physics for Computing	C	2	Nil
SP0001	Writing and Reasoning	USP Core	3	Nil
SP0008	Living Well	USP Core	3	Nil
			20	

YEAR 1 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite
SC1004	Linear Algebra for Computing	C	3	MH1810, SC1003
SC1006	Computer Organisation & Architecture	C	3	SC1005
SC1007	Data Structures & Algorithms	C	3	SC1003
SC1015	Introduction to Data Science & AI	FC	3	SC1003
CC0002	Navigating the Digital World	C-Core	2	Nil
SP0002	Ethics	USP Core	3	Nil
SP0007	Fieldwork and Documentation	USP Core	3	Nil
			20	

YEAR 2 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-Requisite
SC2000	Probability and Statistics for Computing	C	3	MH1810
SC2001	Algorithm Design and Analysis	C	3	SC1007, MH1812
SC2104	Sensors, Interfacing & Digital Control	C	3	SC1006
SC2107	Microprocessor System Design and Development	C	3	SC1006
CC0007	Science & Technology for Humanity	C-Core	3	Nil
	USP Prescribed Elective 1 – AHC/STS	USP PE	3	TBC
			18	

YEAR 2 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite
SC2002	Object Oriented Design and Programming	C	3	SC1003
SC2103	Digital System Design	C	3	SC1005
SC3103	Embedded Programming	C	3	SC2107
EG1001	Engineers in Society	C	2	Nil
ML0004	Career & Entrepreneurial Development for the Future World	C-Core	2	Nil
	USP Prescribed Elective 2 – AHC/STS	USP PE	3	TBC
			16	

YEAR 3 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-Requisite
SC3102	Signal, Systems and Transform	C	3	SC1004
SC2005	Operating Systems	C	3	SC1006, SC1007
SC2006	Software Engineering	C	3	SC2002
SC2008	Computer Networks	C	3	SC1004, SC2000
	USP Prescribed Elective 3 – AHC/STS	USP PE	3	TBC
	USP Prescribed Elective 4 – AHC/STS	USP PE	3	TBC
			18	

YEAR 3 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite
SC3079	Professional Internship	FC	10	Year 3 standing
			10	

YEAR 4 SEMESTER 1

Course Code	Course Title	Type	AU	Pre-Requisite
SC2079	Multidisciplinary Design Project	C	4	Year 3 standing
SC4079	Final Year Project (Continue in next semester)	C	4	Year 4 standing
SC40xx	Major Prescribed Elective	MPE	3	Year 3 standing
SC40xx	Major Prescribed Elective	MPE	3	Year 3 standing
	Broadening and Deepening Electives	BDE	3	
			17	

YEAR 4 SEMESTER 2

Course Code	Course Title	Type	AU	Pre-Requisite
SC4079	Final Year Project (Continue from next semester)	C	4	Year 4 standing
SC40xx	Major Prescribed Elective	MPE	3	Year 3 standing
SC40xx	Major Prescribed Elective	MPE	3	Year 3 standing
	Broadening and Deepening Electives	BDE	3	
	Broadening and Deepening Electives	BDE	3	
			16	