STUDY SCHEME 2016-2020
BACHELOR OF COMPUTER AND COMMUNICATION SYSTEMS ENGINEERING

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BACHELOR OF COMPUTER AND COMMUNICATION SYSTEMS ENGINEERING
Department of Computer and Communication Systems Engineering
Faculty of Engineering, Universiti Putra Malaysia

FIRST SEMESTER			SECOND SEMESTER		
CODE	**COURSE**	**CREDIT**	**CODE**	**COURSE**	**CREDIT**
YEAR 1					
ECC3001	Engineering Mathematics I	3(3+0)	ECC3002	Engineering Mathematics II	3(3+0)
ECC3005	Computer Programming	3(2+1)	ECC3103	Digital Logic	4(3+1)
ECC3115	Electrical Circuit Analysis	4(3+1)	ECC3112	Engineering Algorithms	3(2+1)
PRT2008	Agriculture and Man	2(2+0)	BBI2423	Academic Interaction and Presentation	3(2+1)
SKP2101	Malaysian Nationhood	3(3+0)	SKP2203	Islamic Civilization and Asian Civilization	2(2+0)
QKXXXX	Credited Curriculum	1(0+1)	QKXXXX	Credited Curriculum	1(0+1)
	TOTAL	**16**		**TOTAL**	**16**
YEAR 2					
ECC3003	Engineering Mathematics III	3(3+0)	ECC3105	Microprocessor	4(3+1)
ECC3111	Electronic Devices and Circuits	4(3+1)	ECC3106	Electronic Communication Circuits	4(3+1)
ECC3301	Digital Systems Design	4(3+1)	ECC3107	Signals and Systems	3(3+0)
BBI2424	Academic Writing	3(2+1)	ECC3108	Electromagnetic Waves	3(3+0)
SKP2204	Ethnic Relations	2(2+0)			
	TOTAL	**16**		**TOTAL**	**14**
YEAR 3					
ECC3004	Engineering Statistics	3(3+0)	ECC3114	Feedback Control for Computer Systems	3(3+0)
ECC3113	Digital Communications	4(3+1)	ECC3203	Operating Systems	3(3+0)
ECC3202	Computer Architecture	3(3+0)	ECC3303	Embedded Systems Design	3(2+1)
ECC3401	Digital Signal Processing	3(3+0)	ECC3402	Multimedia Systems	3(2+1)
ECC3701	Computer Networks	4(3+1)	ECC3602	Optical Communications	3(3+0)
	TOTAL	**17**		**TOTAL**	**15**
YEAR 4					
ECC4901	Industrial Training [1]	5(0+5)	ECC4949B	Bachelor Project	4(0+4)
ECC4949A	Bachelor Project	2(0+2)	ECV3001	Engineers and Society	3(2+1)
ECC4946	Computer and Communication Systems Design Project	3(0+3)	ECC4XXX	Elective III [2]	3(3+0)
ECC4501	Mobile Radio and Satellite Communications	3(3+0)	ECC4XXX	Elective IV [2]	3(3+0)
ECC4XXX	Elective I [2]	3(3+0)			
ECC4XXX	Elective II [2]	3(3+0)			
	TOTAL	**19**		**TOTAL**	**13**
				TOTAL CREDIT	**126**

NOTA
[1] ECC4901 Industrial Training is conducted for 10 weeks during semester break after the second semester of the 3rd year.
[2] ECC4XXX Elective courses are based on students' selection.

ELECTIVE COURSE

Students should select two courses in First Semester, Year 4 (i.e. one from Elective I and one from Elective II), and two courses (from Elective III & IV) in Second Semester, Year 4. The proposed options for elective courses are as follow:

SEMESTER PERTAMA			SEMESTER KEDUA		
CODE	**COURSE**	**CREDIT**	**CODE**	**COURSE**	**CREDIT**
YEAR 4					
	Elective I			Elective III & IV	
ECC4205	Computer System Administration	3(3+0)	ECC4303	Artificial Intelligence	3(3+0)
ECC4207	Web and Database	3(3+0)	ECC4305	System-on-Chip	3(3+0)
ECC4208	Advanced Programming	3(3+0)	ECC4304	Autonomous Robots	3(3+0)
			ECC4403	Imaging Systems	3(3+0)
	Elective II		ECC4502	Antenna and Propagation	3(3+0)
ECC4503	Access Network Technologies	3(3+0)	ECC4701	Core Network Technologies	3(3+0)
ECC4504	Radio Frequency and Microwave Techniques	3(3+0)	ECC4703	Computer and Network Security	3(3+0)
ECC4601	Photonic Devices	3(3+0)	ECC4705	Internet of Things	3(3+0)

4. LIST OF COURSES AND PREREQUISITES

		General Courses		
No.	**Course Code**	**Course Name**	**Credit**	**Prerequisite**
1.	BBI2423	Academic Interaction and Presentation	3(2+1)	BBI2422 or CEL102
2.	BBI2424	Academic Writing	3(2+1)	BBI2423
3.	PRT2008	Agriculture and Man	2(2+0)	None
4.	SKP2101	Malaysian Nationhood	3(3+0)	None
5.	SKP2203	Islamic Civilization and Asian Civilization	2(2+0)	None
6.	SKP2204	Ethnic Relations	2(2+0)	None
7.	ECC3001	Engineering Mathematics I	3(3+0)	None
8.	ECC3002	Engineering Mathematics II	3(3+0)	ECC3001
9.	ECC3003	Engineering Mathematics III	3(3+0)	ECC3002
10.	ECC3004	Engineering Statistics	3(3+0)	None
11.	ECC3005	Computer Programming	3(2+1)	None
12.	ECV3001	Engineers and Society	3(2+1)	None

		Core Courses		
No.	**Course Code**	**Course Name**	**Credit**	**Prerequisite**
1.	ECC3103	Digital Logic	4(3+1)	None
2.	ECC3105	Microprocessor	4(3+1)	ECC3103
3.	ECC3106	Electronic Communication Circuits	4(3+1)	ECC3111
4.	ECC3107	Signals and Systems	3(3+0)	ECC3003
5.	ECC3108	Electromagnetic Waves	3(3+0)	ECC3003
6.	ECC3111	Electronic Devices and Circuits	4(3+1)	ECC3115
7.	ECC3112	Engineering Algorithm	3(2+1)	ECC3005
8.	ECC3113	Digital Communications	4(3+1)	ECC3107
9.	ECC3114	Feedback Control for Computer Systems	3(3+0)	None
10.	ECC3115	Electrical Circuit Analysis	4(3+1)	None
11.	ECC3202	Computer Architecture	3(3+0)	ECC3105 or EEE3201
12.	ECC3203	Operating Systems	3(3+0)	ECC3202
13.	ECC3301	Digital Systems Design	4(3+1)	ECC3103
14.	ECC3303	Embedded Systems Design	3(2+1)	ECC3105
15.	ECC3401	Digital Signal Processing	3(3+0)	ECC3107
16.	ECC3402	Multimedia Systems	3(2+1)	ECC3005 or EEE3103
17.	ECC3602	Optical Communications	3(3+0)	None
18.	ECC3701	Computer Networks	4(3+1)	None
19.	ECC4501	Mobile Radio and Satellite Communications	3(3+0)	ECC3113
20.	ECC4901	Industrial Training	5(0+5)	After completing 6 semesters
21.	ECC4946	Computer and Communication Systems Design Project	3(0+3)	None
22.	ECC4949	Bachelor's Project	6(0+6)	Final year student

Elective Courses				
No.	Course Code	Course Name	Credit	Prerequisite
1.	ECC4205	Computer System Administration	3(3+0)	ECC3203
2.	ECC4207	Web and Database	3(3+0)	ECC3005
3.	ECC4208	Advanced Programming	3(3+0)	ECC3005
4.	ECC4303	Artificial Intelligence	3(3+0)	ECC3112
5.	ECC4304	Autonomous Robots	3(3+0)	ECC3105 or EEE3201
6.	ECC4305	System-on-Chip	3(3+0)	None
7.	ECC4403	Imaging Systems	3(3+0)	ECC3401
8.	ECC4502	Antenna and Propagation	3(3+0)	ECC3108
9.	ECC4503	Access Network Technologies	3(3+0)	None
10.	ECC4504	Radio Frequency and Microwave Techniques	3(3+0)	ECC3108 or EEE3111
11.	ECC4601	Photonic Devices	3(3+0)	ECC3602
12.	ECC4701	Core Network Technologies	3(3+0)	ECC3602
13.	ECC4703	Computer and Network Security	3(3+0)	ECC3203
14.	ECC4705	Internet of Things	3(3+0)	ECC3701