Bachelor's Degree of Computer and Communication Engineering (BSCCE)

Ref: UC/P 582/2022

As approved by University Council Decision No. UC/2297/15/2021-22 of meeting No. UC/15/2021-22 held on Wednesday the 27th of July 2022.

This revised study plan is to be implemented as of the First Semester of the academic year 2022/2023 and is to supersede the previous version of the study plan (Reference No.: UC/P 556/2022).

BACHELOR'S DEGREE IN COMPUTER AND COMMUNICATION ENGINEERING (BSCCE)
134 Credits

BSCCE - FIRST YEAR (35 CREDITS)

FIRST SEMESTER

COURSE	CODE	COURSE TITLE	LEC.	LAB.	CRE.	PREREQUISITE
ARAB	101	Composition for Native Speakers of Arabic I	3	0	3	
ENGL	101	Academic English I	3	0	3	ENGL 052 AND ENGL 055 or passing placement test
ITCS	101	Introduction to Computers & IT	2	2	3	
MATH	101	Calculus I	3	0	3	MATH 053 or passing placement test
PHYS	101	General Physics I	3	0	3	MATH 053 or passing placement test
STAT	101	Introduction to Statistics	3	0	3	MATH 053 or passing placement test
		TOTAL PER SEMESTER			18	

SECOND SEMESTER

COURSE	CODE	COURSE TITLE	LEC.	LAB.	CRE.	PREREQUISITE
ENGL	102	Academic English II	3	0	3	ENGL 101
HIST	121	Modern History of Bahrain	3	0	3	
ITCS	122	Introduction to Programming Techniques	2	2	3	ITCS 101
MATH	102	Calculus II	3	0	3	MATH 101
PHYS	102	Physics II	2	2	3	PHYS 101
HUMR	101	Principles of Human Rights	2	0	2	
		TOTAL PER SEMESTER			17	

BSCCE - SECOND YEAR (33 CREDITS)

FIRST SEMESTER

COURSE	CODE	COURSE TITLE	LEC.	LAB.	CRE.	PREREQUISITE
ECCE	201	Electric Circuits	2	2	3	PHYS 102 and MATH 102
ITCS	209	Discrete Structures	3	0	3	MATH 101
MATH	205	Differential Equations	3	0	3	MATH 102
ITCS	201	Object-Oriented Programming I	2	2	3	ITCS 122
ENGL	201	Academic English III	3	0	3	ENGL 102

		TOTAL PER SEMESTER			15	

SECOND SEMESTER

COURSE	CODE	COURSE TITLE	LEC.	LAB.	CRE.	PREREQUISITE
ECCE	221	Electronic Circuits	2	2	3	ECCE 201
ITCS	224	Data Structures	2	2	3	ITCS 201
ECCE	203	Digital Logic	2	2	3	ITCS 101
ECTE	224	Signals & Systems	2	2	3	MATH 205
MATH	223	Linear Algebra & Complex Analysis	3	0	3	MATH 101
ENGL	210	Technical Report Writing	3	0	3	ENGL 201
		TOTAL PER SEMESTER			18	

BSCCE- THIRD YEAR (36 CREDITS)

FIRST SEMESTER

COURSE	CODE	COURSE TITLE	LEC.	LAB.	CRE.	PREREQUISITE
ECCE	303	Computer Architecture and Organization	2	2	3	ECCE 203
ITCS	323	Database Systems: Design and Application	2	2	3	ITCS 224
ECTE	314	Communication Systems I	2	2	3	ECTE 224 and ECCE 221
ECCE	326	Digital Logic Design	2	2	3	ECCE 203
ECTE	329	Computer Networks	2	2	3	ECCE 203
		TOTAL PER SEMESTER			15	

SECOND SEMESTER

COURSE	CODE	COURSE TITLE	LEC.	LAB.	CRE.	PREREQUISITE
ECCE	323	Microprocessors	2	2	3	ECCE 303
HU/SS	xxx	Humanities/Social Sciences	3	0	3	
ETHC	392	Ethics and Professional Practice in IT and Engineering	3	0	3	Completion of at least 66 credits
ECTE	324	Communication Systems II	2	2	3	ECTE 314
STAT	302	Applied Probability	3	0	3	STAT 101 and MATH 102
ECTE	322	Antenna and Wave propagation	2	2	3	MATH 205 and MATH 223
		TOTAL PER SEMESTER			18	

INTR	461**	BSCCE Internship	0	0	3	Completion of at least 90 credits And Minimum CGPA 2

BSCCE - FOURTH YEAR (30 CREDITS)

FIRST SEMESTER

COURSE	CODE	COURSE TITLE	LEC.	LAB.	CRE.	PREREQUISITE
ECCE	403	Embedded Systems	2	2	3	ECCE 323
ECTE	450	Digital Signal Processing	2	2	3	ECTE 224
IERM	498	Research Methods in Information Technology & Engineering	3	0	3	Completion of at least 90 credits
XXXX	XXX	Major Elective I	x	x	3	
XXXX	XXX	Major Elective II	x	x	3	
		TOTAL PER SEMESTER			**15**	

SECOND SEMESTER

COURSE	CODE	COURSE TITLE	LEC.	LAB.	CRE.	PREREQUISITE
ITCS	409	Operating Systems	3	0	3	ECCE 303
ECCE	499*	Major Project	0	6	3	IERM 498 and ETHC 392
ECTE	424	Wireless Communications	2	2	3	ECTE 324 and ECTE 322
XXXX	XXX	Major Elective III	x	x	3	
XXXX	XXX	Major Elective IV	x	x	3	
					15	

*Equivalent to 6 practical hours

LIST OF MAJOR ELECTIVE COURSES

COURSE	CODE	COURSE TITLE	LEC.	LAB.	CRE.	PREREQUISITE
ECTE	474	Optical Communications	2	2	3	ECTE 324
ECCE	451	Machine Learning	2	2	3	STAT 302 and MATH 205
ECCE	452	Computer Vision	2	2	3	ITCS 224
ECCE	324	Principles of Control Systems	2	2	3	ECTE 224 and MATH 205
ECTE	406	Multimedia Communications	2	2	3	ECTE 450
ECCE	425	Engineering Management	3	0	3	Completion of 90 credits
ECCE	413	Internet of Things	2	2	3	ECCE 303 & ECTE 329
ECCE	424	Cyber Security	2	2	3	STAT 302
ITMS	437	Cloud Services Development	2	2	3	ITCS 323
ECCE	443	Applied Robotics	2	2	3	ECCE 323