

**Ahlia University**  
**COLLEGE OF ENGINEERING**  
**BACHELOR'S DEGREE IN COMPUTER AND COMMUNICATION ENGINEERING**  
**BSCCE 17-18**

**BSCCE 17-18 - FIRST YEAR (35 CREDITS)**

**First Semester**

Course	Code	Course Title	Lec	Lab	Cr	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 050 OR MATH 052 OR MATH 053 OR MATH 055
PHYS	101	General Physics I	3	0	3	MATH 050 OR MATH 052 OR MATH 053 OR MATH 055
STAT	101	Introduction to Statistics	3	0	3	MATH 050 OR MATH 052 OR MATH 053 OR MATH 055
					<b>18</b>	

**Second Semester**

Course	Code	Course Title	Lec	Lab	Cr	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	
					<b>17</b>	

**BSCCE 17-18 - SECOND YEAR (33 CREDITS)**

**First Semester**

Course	Code	Course Title	Lec	Lab	Cr	Prerequisite
ECCE	201	Electric Circuits	2	2	3	PHYS 102 AND MATH 102
MATH	201	Discrete Mathematics	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
					<b>15</b>	

**Second Semester**

Course	Code	Course Title	Lec	Lab	Cr	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	221	Linear Algebra	3	0	3	MATH 101
ENGL	202	Academic English IV	3	0	3	ENGL 201
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**BSCCE 17-18 - THIRD YEAR (36 CREDITS)**

**First Semester**

Course	Code	Course Title	Lec	Lab	Cr	Prerequisite
ECCE	303	Computer Architecture and Organization	2	2	3	ECCE 203
MATH	311	Complex Analysis	3	0	3	MATH 102
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	ITCS 214 OR ECCE 203
					<b>15</b>	

**Second Semester**

Course	Code	Course Title	Lec	Lab	Cr	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
PHYS	321	Electromagnetic Theory	3	0	3	MATH 205 AND MATH 311
					<b>18</b>	

**Summer Semester**

Course	Code	Course Title	Lec	Lab	Cr	Prerequisite
INTR	461	BSCCE Internship	0	0	3	Completion of at least 90 credits And Minimum CGPA 2
					<b>3</b>	

**BSCCE 17-18 - FOURTH YEAR (30 CREDITS)**

**First Semester**

Course	Code	Course Title	Lec	Lab	Cr	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	Technical Elective 1	X	X	3	
ECON	424	Engineering Economics	3	0	3	Completion of at least 90 credits
					<b>15</b>	

**Second Semester**

Course	Code	Course Title	Lec	Lab	Cr	Prerequisite
ITCS	409	Operating Systems	3	0	3	ECCE 303 OR ITCS 303
ECCE	499	Major Project	X	X	3	IERM 498 AND ETHC 392
ECTE	424	Wireless Communications	2	2	3	ECTE 324 AND PHYS 321
ECTE	405	Multimedia Communications	3	0	3	ECTE 450
XXXX	XXX	Technical Elective 2	X	X	3	
					<b>15</b>	

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**LIST OF PROGRAMME ELECTIVE COURSES**

<b>Course</b>	<b>Code</b>	<b>Course Title</b>	<b>Lec</b>	<b>Lab</b>	<b>Cr</b>	<b>Prerequisite</b>
ECCE	324	Principles of Control Systems	2	2	3	ECTE 224 AND MATH 205
ECCE	451	Machine Learning	2	2	3	STAT 302 AND MATH 205
ECCE	452	Computer Vision	2	2	3	ITCS 224
ECTE	474	Optical Communications	2	2	3	ECTE 324