

# CURRICULUM OF BACHELOR OF SCIENCE IN NETWORK ENGINEERING & SECURITY (BNES)

=====YU-COEA A.Y.2021 Jan22 V4=====

## FIRST YEAR (Freshmen)

First Semester				Second Semester			
Code	Course Title	CR	Pre-Requisite	Code	Course Title	CR	Pre-Requisite
CIS 103	Programming Fundamentals I	4	Co-registered in ORN 04C and ORN 04R	CIS 104	Programming Fundamentals II	4	CIS 103 and ORN 05C and ORN 05R
ENG 101	English Essay Writing	3	ORN 05R ORN 05C	ISY 102	Introduction to Information Systems	3	ORN 05C and ORN 05R
PHY 101	Introduction to Physical Science	3	ORN 04R AND ORN 04C	PHY 103	Physics - I (Mechanics)	4	PHY 101
MTH 104	Calculus I	3	MTH 001 and ORN 03C and ORN 03R	STT 103	Probability and Statistics	3	MTH 001 and ORN 03C and ORN 03R
ISL 101	Foundation of Islamic Culture	2	ORN 02-R and ORN 02 C	MTH 105	Discrete Mathematics	4	MTH 001 and ORN 03C and ORN 03R
ARB 102	Communication Skills in Arabic	2	ORN 02-R and ORN 02 C				
<b>Sub-Total</b>		<b>17</b>		<b>Sub-Total</b>		<b>18</b>	

## SECOND YEAR (Sophomore)

First Semester				Second Semester			
Code	Course Title	CR	Pre-Requisite	Code	Course Title	CR	Pre-Requisite
CIS 201	Fundamentals of Web Design	3	CIS 103	SWE 202	Introduction to Software Engineering	3	CIS 104
CIS 202	Data Structures	3	CIS 104	NES 212	Data Communications and Computer Networks	3	CIS 201
ENG 201	Technical Report Writing	3	ENG 101	ISL 201	Foundation of Islamic Economy	2	ORN 02-R and ORN 02 C
PHY 203	Physics - II	4	PHY 103	NES 221	Digital Logic and Design	4	MTH 105
MTH 211	Calculus-II	4	MTH 104	ISY 221	Introduction to Database Systems	3	CIS 104
				ARB 202	Writing Skills in Arabic	2	ORN 02-R and ORN 02 C
<b>Sub-Total</b>		<b>17</b>		<b>Sub-Total</b>		<b>17</b>	

## THIRD YEAR (Junior)

First Semester				Second Semester			
Code	Course Title	CR	Pre-Requisite	Code	Course Title	CR	Pre-Requisite
	1 Humanities Elective (3 CR)	3	ORN 02-R and ORN 02 C	CIS 321	Operating System	3	CIS 304
CIS 304	Computer Architecture	3	NES 221	CIS 386	Project Management	3	ISY 102
MTH 301	Linear Algebra	3	MTH 001 and ORN 03C and ORN 03R	NES 322	Signals and Systems	3	MTH 302
MTH 302	Differential Equations	4	MTH 211	NES 342	Wireless and Mobile Computing	3	NES 341
NES 341	Computer Networks	4	NES 212	CIS 351	Client Server Programming	3	CIS 104
				CIS 381	Computer Ethics	2	ISY 221
<b>Sub-Total</b>		<b>17</b>		<b>Sub-Total</b>		<b>17</b>	

## FOURTH YEAR (Senior)

First Semester				Second Semester			
Code	Course Title	CR	Pre-Requisite	Code	Course Title	CR	Pre-Requisite
CIS 491	Graduation Project I	3	90 CH, NES 322, NES 341	CIS 492	Graduation Project II	3	CIS 491, CIS 351, NES 481
NES 423	Digital Communication Systems	3	NES 322	NES 482	Network Security	4	NES 341
NES 481	Security Policies and Procedures	3	NES 341	NES 483	Forensics and Incident Response	3	NES 481
NES 443	Enterprise Networking	3	NES 341		NES Elective III	3	
	NES Elective I	3			1 Social Science Elective (3 CR)	3	
	NES Elective II	3		CSK 001	Career Skills	0	
<b>Sub-Total</b>		<b>18</b>		<b>Sub-Total</b>		<b>16</b>	

**FOURTH YEAR (Senior)****Summer Semester**

Code	Course Title	CR	Pre-Requisite
CIS 493	Cooperative Assignment (*)	3	90 CH
<b>Sub-Total</b>		<b>3</b>	

(\*) it is recommended to take CSK 001 before CIS 493.

**NES Electives students should register 2 courses**

Course Code	Course Title	Pre-requisites	Credit Hours*
NES 444	Cloud Infrastructure and Services	NES 341	3
NES 445	Network Management	NES 341	3
NES 446	Selected Topics in Networking	NES 341	3
NES 484	Selected Topic in Network Security	NES 482	3
NES 447	Optical Networks	NES 341	3
NES 448	Network Modelling and Simulation	NES 341	2 + 1
NES 449	Broadband Communication and Networks	NES 341	3

**Humanities / Social Science Electives**  
**(Two courses from this list)**

Code	Course Title	CR	Pre-Requisite
SOS 102	Introduction to Social Science	3	ORN 04R & ORN 04C
PHL 101	Critical Thinking	3	ORN 04R & ORN 04C
PSY 101	Principle of Psychology	3	ORN 04R & ORN 04C
SOS 101	Saudi Heritage	3	ORN 04R & ORN 04C
FRE 106	Conversational French 1	3	ORN 04R & ORN 04C
CHI 107	Chinese Language	3	