

# COURSE DESCRIPTION FOR COMMUNICATION ENGINEERING

**Total credit hours required: 139**

## SEMESTER III (16.5 c.h.)

Course Codes	Course Title	Credit Hours	Pre-Requisites	Co-Requisites
EECE 2101	Electrical and Computer Eng. Lab I	1	EECE 1101	EECE 2312 EECE 2313
EECE 2311	Digital Logic Design	3	EECE 1312	
EECE 2312	Circuit Analysis	3	EECE 1311	EECE 2101
EECE 2313	Electronic Circuits	3	EECE 1312	EECE 2101
MATH 2310	Differential Equations	3	MATH 1320	
UNGS 2030	The Islamic Worldview	3		
CCXXXX	Co-curricular	0.5		

## SEMESTER IV (16.5 c.h.)

Course Codes	Course Title	Credit Hours	Pre-Requisites	Co-Requisites
EECE 2102	Electrical and Computer Eng. Lab II	1	EECE 2311	EECE 2314
EECE 2314	Computer Organization and Microprocessors	3	EECE 2311	EECE 2102
EECE 2315	Engineering Electromagnetics	3	MATH 1320	
EECE 2316	Signals and Systems	3	EECE 2312	
MATH 2330	Computational Methods and Statistic	3	MATH 2310	

## SEMESTER V (17.5 c.h.)

Course Codes	Course Title	Credit Hours	Pre-Requisites	Co-Requisites
EECE 3311	Introduction to Electrical Power System	3	EECE 2312	
ECOM 3101	Communication Engineering Lab I	1		ECOM 3312 ECOM 3313
ECOM 3312	Fundamentals of Communication Engineering	3	EECE 2316	ECOM 3101
ECOM 3313	Microwave Engineering	3	EECE 2315	ECOM 3101
ECOM 3100	Seminar	1		
MANU 3314	Project and operations management	3	MATH 2330	
UNGS 2050	Ethics and Fiqh for Everyday Life	3	UNGS 2030 UNGS 2040	
CC XXXX	Co-curriculum	0.5		

**SEMESTER VI (16.5 c.h.)**

<b>Course Codes</b>	<b>Course Title</b>	<b>Credit Hours</b>	<b>Pre-Requisites</b>	<b>Co-Requisites</b>
EECE 3102	Electrical and Computer Eng. Lab III	1		EECE 3315
EECE 3314	Digital Signal Processing	3	EECE 2316	EECE 3102
EECE 3215	Instrumentation and Control Systems	3	EECE 2313 EECE 2316	EECE 3102
ECOM 3316	Digital Communication System Design	3	ECOM 3312	EECE 3314
ECOM 3300	Integrated Design Project	3	ECOM 3100	MANU 3318
MANU 3318	Engineering Economics and Management	3	MANU 3314	ECOM 3300
CCXXXX	Co-curriculum	0.5		

**SHORT SEMESTER (5 c.h.)**

<b>Course Codes</b>	<b>Course Title</b>	<b>Credit Hours</b>	<b>Pre-Requisites</b>
EITR 3542	Engineering Industrial Training	5	ECOM 3312 >90 CH completed

**SEMESTER VII (16 c.h.)**

<b>Course Codes</b>	<b>Course Title</b>	<b>Credit Hours</b>	<b>Pre-Requisites</b>	<b>Co-Requisites</b>
ECOM 4101	Communications Engineering Lab II	1	ECOM 3316	ECOM 4311 ECOM 4313
ECOM 4311	Antennas and Wave Propagation	3	EECE 2315	ECOM 4101
ECOM 4312	Optical Communications	3	ECOM 3312	
ECOM 4313	Data Communications and Networking	3	ECOM 3316	ECOM 4101
ECOM 43xx	Elective I	3		
ECOM 4398	Project I	3		

**SEMESTER VIII (17 c.h.)**

<b>Course Codes</b>	<b>Course Title</b>	<b>Credit Hours</b>	<b>Pre-Requisites</b>	<b>Co-Requisites</b>
ECOM 4314	Wireless Communications	3	ECOM 3316 ECOM 4311	
ECOM 43xx	Elective II	3		
ECOM 43xx	Elective III	3		
ECOM 4399	Final Year Project II	3	ECOM 4398	
MANU 4211	Technology Entrepreneurship	2	MANU 3318	
GENE 4300	Engineering Ethics from Islamic Perspective	3	UNGS 2050	

## LIST OF ELECTIVE COURSES FOR COMMUNICATION ENGINEERING

The elective courses are divided into three groups or streams. This is to promote focus towards a particular area.

### COMMUNICATION SIGNAL PROCESSING

Course Codes	Course Title	Credit Hours	Pre-Requisites	Co-Requisites
ECOM 4341	Information Theory and Coding	3	ECOM 3316	
ECOM 4342	Speech & Image Processing	3	EECE 3314	
ECOM 4343	Multimedia System	3	EECE 3314 ECOM 3316	

### WIRELESS COMMUNICATION SYSTEMS

Course Codes	Course Title	Credit Hours	Pre-Requisites	Co-Requisites
ECOM 4344	Satellite Communications Systems	3	ECOM 3316	
ECOM 4345	Radar System and Remote Sensing	3	ECOM 3313	
ECOM 4346	RF Device and Circuits	3	ECOM 3316 EECE 2313	

### COMMUNICATION NETWORKS

Course Codes	Course Title	Credit Hours	Pre-Requisites	Co-Requisites
ECOM 4347	Wireless Technology	3	ECOM 3312	
ECOM 4348	Communication Networks Security	3		
ECOM 4349	Teletraffic Engineering	3	MATH 2330	

### SELECTED TOPICS

Course Codes	Course Title	Credit Hours	Pre-Requisites	Co-Requisites
ECOM 4361	Advanced Instrumentation and Control	3	EECE 2315	
ECOM 4362	Computer Architecture and Design for Communication System	3	EECE 2314	
ECOM 4363	Selected Topics in Communication Engineering	3		