FUTURE UNIVERSITY IN EGYPT جامعة المستقبل

Faculty of Engineering & Technology

Telecommunication Networks

Information :

Course Code :	COM 520	**Level :**	Undergraduate	**Course Hours :**	3.00- Hours

Department : Specialization of Electronics & Communication

Instructor Information :

Title	Name	Office hours
Lecturer	MOHAMED MOUSA SAYED EMAM AHMED	4
Teaching Assistant	Hamdy Sherif Hamdy Amin Elshehaby	

Area Of Study :

ÅDevelop student knowledge about the fundamentals of telecommunication and its terminology.
ÅPrepare students to study and design pulse code modulation systems.
ÅTrain students to evaluate the performance of teletraffic theory and models.

Description :

Introduction to telecommunications, Telegraph and telephone, Switching: telegraph, telephone, telex, data, signaling, ISDN, broad band, private switching. Network multiplexing: analog, digital, wavelength division, Data transmission interface equipment: modems, digital data interface equipment, Codecs: audio, video, Copper lines: open wire, twisted pair cable, coaxial cable, Optical fiber technology: types of optical fibers, cables, applications, Radio relay systems, Mobile radio: service mode technology, Satellites: services, technology, digital subscriber lines.

Course outcomes :

a.Knowledge and Understanding: :	
1 -	a1. Explain the fundamentals of telecommunication networks and their terms.
2 -	a2. Interpret the principles of teletraffic theory and its fundamental models.
3 -	a3. Demonstrate the applications of teletraffic models in network design and analysis.
b.Intellectual Skills: :	
1 -	b1. Design and analyze the performance of telecommunication networks, e.g. pulse code modulation.
2 -	b2. Apply teletraffic theory for modelling basic telecommunication networks
3 -	b3. Design using software tools the parameters of teleraffic networks and evaluate their performance.

Course Topic And Contents :

Topic	No. of hours	Lecture	Tutorial / Practical
Introductory Topics	10	6	4
Transmission and Modulation	10	6	4
Digital Networks and Pulse Code Modulation	15	9	6

Course Topic And Contents :			
Topic	**No. of hours**	**Lecture**	**Tutorial / Practical**
Line Coding and Regenerative Repeaters	15	9	6
Fundamentals of Teletraffic Theory	10	6	4
Some Basic Teletraffic Models	15	9	6

Teaching And Learning Methodologies :
Interactive Lecturing
Problem Solving
Discussion

Course Assessment :			
Methods of assessment	**Relative weight %**	**Week No**	**Assess What**
ÅFinal exam	40.00		
o In Class Quizzes	10.00		
o Mid-Term exams	30.00		
o Performance/Attendance	20.00		